Organization of the Catalog

General Campus Colleges

College of Letters and Science
- African Area Studies
- African Studies
- Afro-American Studies
- American Indian Studies
- Anthropology
- Applied Linguistics
- Archaeology
- Asian American Studies
- Astronomy
- Atmospheric Sciences
- Biology
- Business and Administration
- Chemistry and Biochemistry
- Chicano Studies
- Classics
- Communication Studies
- Comparative Literature
- Cybernetics
- Earth and Space Sciences
- East Asian Languages and Cultures
- East Asian Studies
- Economics
- English
- Folklore and Mythology
- French
- Geography
- Germanic Languages
- History
- History/Art History (see College of Fine Arts)
- Honors Collegium
- Indo-European Studies
- International Relations
- Islamic Studies
- Italian
- Kinesiology
- Latin American Studies
- Law and Society
- Linguistics
- Mathematics
- Microbiology
- Molecular Biology
- Near Eastern Languages and Cultures
- Near Eastern Studies
- Philosophy
- Physics
- 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
- Urban Studies/Organizational Studies
- Women's Studies
- World Arts and Cultures (see College of Fine Arts)

College of Fine Arts
- Art, Design, and Art History
- Dance
- History/Art History
- Music
- Theater, Film, and Television
- World Arts and Cultures

General Campus

Professional Schools

School of Engineering and Applied Science
- Chemical Engineering
- Civil 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

School of Law

Graduate School of Library and Information Science

Graduate School of Management

School of Social Welfare

Health Science Schools

School of Dentistry
- Oral Biology

School of Medicine
- Anatomy
- Anesthesiology (Nurse Anesthesia)
- Biological Chemistry
- Biomathematics
- Medicine
- Microbiology and Immunology
- Neurology
- Neuroscience
- Obstetrics and Gynecology
- Ophthalmology
- Pathology
- Pediatrics
- Pharmacology
- Physiology
- Psychiatry and Biobehavioral Sciences
- Radiation Oncology
- Radiological Sciences (Biomedical Physics)
- Surgery

School of Nursing

School of Public Health
- Environmental Science and Engineering
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### About This Catalog

**Chancellor:** Charles E. Young  
**Assistant Vice Chancellor, Public Communications:** Michael T. McManus  
**Director of Public Affairs:**  
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  **Photography:** Philip Channing, Colin Crawford, Mark Harmel (cover), Terry O’Donnell, Norm Schindler, Frank D. Smith, Art Waldinger, Robin Weisz.

**On the cover:** The Franklin D. Murphy Sculpture Garden, featuring nearly 70 major works by late nineteenth- and twentieth-century masters, is a favorite spot for study, conversation, or just plain relaxation.

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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, Engineering and Applied Science, Law, Library and Information Science, Management, Medicine, Nursing, Public Health, and Social Welfare, and in literature produced by the College of Fine Arts. Further details on graduate programs are available in the Graduate Division publication, Standards and Procedures for Graduate Study at UCLA.

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<td>November 1, 1985</td>
<td>July 1, 1986</td>
<td>October 1, 1986</td>
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<td>Last day to file application for graduate admission, readmission, or renewal of application with complete credentials and application fee, with Graduate Admissions Office, 1247 Murphy Hall</td>
<td>January 15, 1986</td>
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<td>Last day to file graduate petitions for change of major with Graduate Division, 1225 Murphy Hall</td>
<td>January 15</td>
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<td>First day to obtain Student Parking Request forms at Campus Parking Service</td>
<td>May 1</td>
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<td>Distribution of registration materials by letter groups for continuing students</td>
<td>June 9</td>
<td>October 27</td>
<td>February 2</td>
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<td>Schedule of Classes goes on sale at Students' Store, Ackerman Union and North Campus Student Center</td>
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<td>October 29</td>
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<td>June 23- August 15</td>
<td>November 3-26</td>
<td>February 6-25</td>
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<td>Academic counseling for new students is available by appointment in college and school offices</td>
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<td>Enrollment for student health insurance at A2-143 Center for the Health Sciences</td>
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<td>March 23- April 10</td>
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<td>Eligibility date for new and reentrant registration by mail (Statement of Legal Residence must be filed by this date in order to receive Registration Forms by mail)</td>
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*Tentative dates; refer to Schedule of Classes for specific quarter.*
**LATE registration in person with **$50** fee, 8:30 a.m. to 5 p.m.**

Graduate Study List Request should be filed with major department by 4 p.m.; all approved requests due to Registrar, 1134 Murphy Hall, by 5:15 p.m.

Last day:
1. To change Study List (add, drop courses) without fee
2. To check waiting lists for courses on computer
3. To file advancement to candidacy petitions for master’s degree with Graduate Division, 1225 Murphy Hall
4. To file graduate leaves of absence with Graduate Division, 1225 Murphy Hall
5. To file Study List Request without fee
6. To file undergraduate request for fee reduction with college or school

Last day to register for ETS foreign language examinations in French, German, Russian, and Spanish

Registrar mails Official Study List datamailer to all registered students

**WITH APPROVAL OF ACADEMIC DEAN:**

**(1)** Last day for graduates to ADD courses with $3 petition fee

**(2)** Last day for graduates to file Late Study List with $50 fee

**(3)** Undergraduates approved for reduced fees are audited (must be enrolled in 10 units or less to be eligible for reduction)

ETS foreign language examinations in French, German, Russian, and Spanish

Orientation meetings on format for master’s theses and doctoral dissertations (see Theses and Dissertations Adviser, 141 Powell Library)

Last day to declare bachelor’s degree candidacy for current quarter (without fee) with Registrar’s Student Information, 1111 Murphy Hall

**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 for continuing students to file applications for undergraduate scholarships for 1987-88

Last day to submit final drafts of dissertations to doctoral committees for degrees to be conferred in current quarter

Last day:

**(1)** For undergraduates to change grading basis (optional P/NP) with $3 petition fee and **APPROVAL OF ACADEMIC DEAN**

**(2)** To file removal of Incomplete petition ($5 fee) with Registrar’s Student Information, 1111 Murphy Hall

Last day to declare bachelor’s degree candidacy (with $3 fee) with Registrar’s Student Information, 1111 Murphy Hall

Last day to submit final drafts of theses to master’s committees for degrees to be conferred in current quarter

Last day to file completed copies of theses for master’s degrees and dissertations for doctoral degrees to be conferred in current quarter with Theses and Dissertations Adviser, 141 Powell Library

Last day to withdraw

**WITH APPROVAL OF ACADEMIC DEAN:**

**(1)** Last day for graduates to change grading basis (optional S/U) with $3 petition fee

**(2)** Last day for graduates to DROP courses with $3 petition fee

**INSTRUCTION ENDS**

**QUARTER ENDS**

Last day to file applications for graduate merit-based financial support for 1987-88

Unofficial copy of previous quarter’s grades available at Registrar’s Student Information, 1111 Murphy Hall

Commencement

Academic and administrative holidays

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

Humble Beginnings

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 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, the Los Angeles State Normal School was replaced by 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: The 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 underway 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 four hundred 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 Today

Today, 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.

Nearly 150 buildings on 411 acres house 13 colleges and schools and serve over 34,000 students. UCLA's top administrative officer is Chancellor Charles E. Young who has provided dynamic leadership for the campus since he took office in the fall of 1968.

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, snow-capped mountains, and ski resorts are little more than an hour's drive.

The Ambience

UCLA is a place of broad vistas, spacious quadrangles, and landscaped gardens. The stately Tudor Gothic and Italian Romanesque architecture of the early buildings blends with the contemporary and modern design of the newer structures. Royce Hall, one of the original four buildings, was recently renovated and remains the campus symbol. UCLA is a place of contrasts. 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 in 1417 Peter V. Ueberroth Building (206-8147), has a reception area where visitors are met, welcomed, and assisted. The center arranges group or personal 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 (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 you will be 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 30,500 students is equal to that at UC Berkeley, but the UCLA campus is enriched by an additional 3,800 men and women studying in its health science 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 special academic assistance programs for new students, a staff of helpful advisers and counselors in every college 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. Lecture groups of more than 200 — especially in introductory courses — are not unusual, but in such cases students generally also enroll in discussion sections of about 25 students. Seminars and laboratory classes usually have fewer than 20 students. There is an overall ratio of one faculty member for approximately 17 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.

ACADEMICS — UCLA has two colleges and 11 professional schools. The College of Letters and Science and the College of Fine Arts offer programs leading to both undergraduate and graduate degrees, as do the School of Engineering and Applied Science and the School of Nursing. The other professional schools offer graduate programs exclusively: the Graduate School of Architecture and Urban Planning, Graduate School of Education, School of Law, Graduate School of Library and Information Science, 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 102 different disciplines; graduate students may earn one of 77 master's and 92 doctoral and professional degrees.

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 John Simon Guggenheim fellows and many members of both the National Academy of Sciences and the American Academy of Arts and Sciences. During the past academic year 15 faculty members received Fulbright scholarships to conduct research, lecture, and consult abroad, making UCLA the leading university nationwide for the second consecutive year in the number of scholars presented the prestigious award.

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 more than $170 million a year 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 main criteria for faculty promotion, and distinguished teaching awards are among those most highly prized by UCLA professors.

STUDENT BODY — 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 the majority are from California, students come from all 50 states and more than 100 foreign countries to study at UCLA. International students number more than 2,100, making this one of the most popular American universities for students from abroad. Ethnic minorities comprise about one third of the undergraduates and 25 percent of the graduate student population.

NUMEROUS OTHER FACTORS — With nearly 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.

The University played a significant role in the 1984 Summer Olympics in Los Angeles, with a 4,000-athlete Olympic Village, all gymnastics and tennis events, the drug-testing laboratory, and most theatrical events of the Olympic Arts Festival on its campus. 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 of 148,000 students, 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 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.
Academic Resources and Programs

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 3,000 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 basic 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 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 LABORATORY OF BIOMEDICAL AND ENVIRONMENTAL SCIENCES, located in Warren Hall (900 Veteran Avenue, 825-9431) and funded through a contract with the Department of Energy, conducts research in the fields of biomolecular and cellular science, environmental biology, and nuclear medicine. Its major facilities include a cobalt radiation installation, a biomedical cyclotron, an ECAT III scanner, and environmentally controlled growth chambers.

The BRAIN RESEARCH INSTITUTE, center of neuroscience research at UCLA, is located in the Center for the Health Sciences (73-364 BRI, 825-5061). It has the largest investigative program of its kind in the country, with more than 140 scientists working on problems ranging from the nerve cell to human behavior. The institute provides an environment for specific multidisciplinary research and training on the structure and function of the brain.

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 biomaterials, clinical studies, craniofacial biology, immunology/immunogenetics, oral neurology/pain, periodontology, and ultrastructure/cell biology. The Office of the Director is located in 73-016 Center for the Health Sciences (206-8045).

The MENTAL RETARDATION RESEARCH CENTER, located in 58-258 NPI&H (825-5542), 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.

The JULES STEIN EYE INSTITUTE is one of the best equipped centers for research and treatment of eye diseases anywhere in the world. This comprehensive facility, located in the Center for the Health Sciences (825-5051), 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.

In the health sciences, research carried out in ORUs is complemented by research on neurological and neuromuscular diseases in the Jerry Lewis Neuromuscular Research Center, the Reed Neurological Research Center, and the Neuropsychiatric Institute and Hospital. The Jonsson Comprehensive Cancer Center, one of 20 comprehensive centers in the nation, is renowned for the breadth and excellence of its cancer research. The Center for Ulcer Research and Education is a federally funded center doing basic and applied research on the origin and treatment of ulcers.

Life Sciences

The MOLECULAR BIOLOGY INSTITUTE provides the 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 Research Laboratories. Administrative offices are located in 168 MBI (825-1018).

The CENTER FOR THE STUDY OF WOMEN, located in 236A Kinsey Hall (825-0590), coordinates and disseminates interdisciplinary research on women, focusing on three programmatic areas: women, work, and the economy; women, language, and the arts; and women, science, and health. The center promotes innovative research by sponsoring conferences, publications, a visiting scholars program, the Graduate Gender Studies Union, and ongoing colloquia on Women, Culture, and Theory and Women in Science. In collaboration with other UC campuses, women’s studies programs, and community groups, the center seeks to address public policies affecting women’s lives.

Physical Sciences and Engineering

The CRUMP INSTITUTE FOR MEDICAL ENGINEERING, located in a modular unit on Circle Drive South at Westwood Plaza (825-4111), applies theory and engineering practice to problems in clinical medicine. Research focuses on noninvasive physiological monitoring of human subjects from infants to the aged, including development of experimental regimes, methods and equipment for data collection, and new mathematical techniques of data analysis, to assess the stability of these complex systems. Additional research areas include biochemical sensors, drug delivery systems, medical electronics, and biomechanics.

The INSTITUTE OF GEOPHYSICS AND PLANETARY PHYSICS (IGPP) is a Universitywide ORU; the branch at UCLA is engaged in research into the nature of the Earth, moon, and other planetary bodies, interplanetary space, and stellar interiors and their evolution. Laboratory studies include space physics, plasma astrophysics, fluid dynamics, meteoritics, seismology, climate dynamics, glaciology, petrology, geo-chronology, archaeology, and origins of life. The UCLA branch office is located in 3839 Slichter Hall (825-1664).

The WHITE MOUNTAIN RESEARCH STATION is a Universitywide ORU 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 and physical sciences. The administrative office is located in 6713 Geology (825-2093).

Among other interdisciplinary activities in the physical sciences and engineering at UCLA, a newly formed Hazardous Waste Control Laboratory is researching ways to reduce the volume and toxicity of hazardous wastes and dispose of the remainder in a safe manner. On another
frontier, an Artificial Intelligence Laboratory designed exclusively for research in this burgeoning field has opened under the wing of the Computer Science Department.

Social Sciences
The INSTITUTE OF AMERICAN CULTURES promotes the activities of four major ethnic centers whose goals are to study and illuminate the histories of our country's minorities, and to apply the University's capabilities to the analysis and solution of specific minority problems. 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 (3111 Campbell Hall, 825-7403) conducts sponsors research on the Afro-American experience, coordinates the Afro-American Studies curriculum, publishes research results, and sponsors community service programming.

The American Indian Studies Center (3220 Campbell Hall, 825-7315) is one of the largest centers of its kind in the country. It 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 (3232 Campbell Hall, 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 Chicano Studies Research Center (3121 Campbell Hall, 825-2363) facilitates interdisciplinary academic research related to the Chicano experience. The center has research and academic programs and maintains a publications unit and library that are considered leading contributors to Chicano studies nationally.

In addition to the ethnic centers, UCLA has four major interdisciplinary AREA STUDIES CENTERS which coordinate teaching and research activities concerning major geographic areas. Some of the world's leading specialists on area studies have joined these centers, which rank among the best in the nation.

The African Studies Center (10244 Bunche Hall, 825-3666) is the major center for African studies in the Western U.S. It furthers teaching and research on Africa involving economics, linguistics, humanities, social sciences, and theater, film, and television. The center also works with the professional schools of Architecture and Urban Planning, Education, Management, and Public Health.

The Latin American Center (10343 Bunche Hall, 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 Gustave E. von Grunebaum Center for Near Eastern Studies (10286 Bunche Hall, 825-1181) promotes research and training in basic problems related to the Near and Middle East countries in modern and medieval times. It also sponsors lectures, seminars, and conferences and promotes an extensive publications program.

The Center for Russian and East European Studies (334 Kinsey Hall, 825-4060) promotes and coordinates research on Russia and the countries of Eastern Europe through conferences, lectures, seminars, and academic exchange programs with Russian and Eastern European universities.

The INSTITUTE OF INDUSTRIAL RELATIONS, located in 1101G Campbell Hall (825-1964), has an interdisciplinary research and publishing program directed toward the study of 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 Survey Research Center and the Social Science Data Archive. Training in survey research methodology is available to students through participation in the annual Los Angeles area survey. The institute is located in 11252 Bunche Hall (825-0711).

Other interdisciplinary activities in the social sciences involve the study of arms control, nuclear proliferation, and international security in the Center for International and Strategic Affairs. A nationally respected Business Forecasting Project in UCLA's Graduate School of Management forecasts short-run and long-run economic activity both regionally and nationally.

The Center for the Study of Evaluation in the Graduate School of Education is at the forefront of efforts to improve the quality of schooling in America through systematic evaluation practices. And the recently formed Center for Pacific Rim Studies promotes research, course offerings, seminars, and faculty and student exchange programs on the people and nations bordering the Pacific Ocean.

Arts and Humanities
The INSTITUTE OF ARCHAEOLOGY, located in 288 Kinsey Hall (206-8934), develops and coordinates the archaeological research and activities of more than 10 academic departments with field interests in the Americas, Asia, Africa, and Europe. Its major goal is to contribute to a reconstruction of the human past based on archaeological evidence. Activities include management of archives and laboratories such as the Rock Art Archive, public lectures, seminars, a publications program, field surveys, and excavations. The institute's Archaeological Survey coordinates research and data collection on Southern California archaeological sites.

The CENTER FOR THE STUDY OF COMPARATIVE FOLKLORE AND MYTHOLOGY, located in 1037 GSM (825-4242), supports and coordinates the comparative study of 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 Western civilization between A.D. 300 and 1650. Major programs include training research assistants, appointing post-doctoral associates and visiting professors, organizing conferences and colloquia, and sponsoring publication of research. The center is located in 11365 Bunche Hall (825-1970, 825-1880).
The CENTER FOR SEVENTEENTH- AND EIGHTEENTH-CENTURY STUDIES, located in 1157 Bunche Hall (206-8552), coordinates the research activities of more than 60 faculty members studying the development of civilization in the early modern period. It is an extension of and includes the programs of UCLA's William Andrews Clark Memorial Library. Center programs involve appointing predoctoral and postdoctoral fellows and visiting professors, organizing conferences and colloquia, and sponsoring publication of research.

In other research activities, a recently established Center for Bilingual Research and Second Language Education is working to produce a society that is proficient in at least two languages. In the Linguistics Phonetics Lab, one of the best-known labs of its kind in the nation, researchers are finding new ways to analyze speech functions and make voiceprints for use in law enforcement. The University is establishing the Armand Hammer Center for Leonardo Studies and Research where scholars will have access to major resources for the study of the works of Leonardo da Vinci. And the College of Fine Arts has established an Advanced Design Research Group to develop innovative ways to manage and store information.

Resources for Research and Study

The 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, rated second in the nation last year by the Association of Research Libraries. The 19-branch system consists of the University Research Library, the College Library, the Clark Library, and 16 specialized subject libraries. Collectively they contain nearly six million volumes and extensive holdings of government publications, pamphlets, manuscripts, maps, microtext editions, music scores, recordings, photographs, and slides. They regularly receive over 80,000 serial publications.

The main card catalog in the University Research Library lists older holdings in all campus libraries. ORION, the library's on-line information system, provides location and holdings information for materials cataloged since 1977, plus current information for materials on order or in processing. ORION on Fiche, available in all campus libraries, is a quarterly microfiche list of information contained in the ORION database.

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 branches.

The University Research Library

The University Research Library on north campus (825-1201) is a modern six-story building designed primarily as a graduate research library serving the social sciences and humanities. The building houses over two 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 Room, with one of the largest collections of microfilm in the country, carries out the microfilming of books, manuscripts, and other documents. The Library Building houses the Ahmanson-Murphy Collection of Early Italian Printing (1471-1550), with a concentration on Aldine imprints. The department also houses 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 United States government, the State of California, California counties and cities, selected United States 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 at the University 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.

The College Library

The College Library, located in the Powell Library Building (825-1938), is designed to meet the basic study needs of most undergraduates. Its 245,000 books and periodicals are maintained in open stacks, with course reserve materials, lecture notes, past examinations, and APS (Academic Publishing Service) readings available for loan. During academic sessions library hours on weekdays are 8 a.m. to 10 p.m. (5 p.m. Friday), Saturday 10 a.m. to 6 p.m., Sunday noon to 9 p.m. The Photographic Services office, housed in the Powell Library Building, provides a complete photographic reproduction service for duplicating books, periodicals, manuscripts, and maps. The Powell Library Building, with study space for 1,100 students, is open daily until midnight.

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 (825-8301) provides current hours of service for each library.

The Architecture and Urban Planning Library includes materials treating architecture, building technology, city and regional planning, and selected environmental topics. The Art Library supports the department's art, design, and art history programs. For those interested in the Italian Renaissance, one of the greatest research centers in the world for the study of Leonardo da Vinci is the Elmer Belt Library of Vinciana, part of the Art Library.

The Biomedical Library, in the Center for the Health Sciences, is one of the finest libraries of its kind in the country. Its 440,000 volumes and over 7,000 serial subscriptions serve all the UCLA health and life science schools and the UCLA Medical Center.
The Chemistry Library includes material on chemistry, biochemistry, and molecular biology, while education, psychology, teaching English as a second language, and kinesiology are the principal subjects covered by the Education and Psychology Library. Materials for engineering, astronomy, computer science, meteorology, and mathematics are kept in the Engineering and Mathematical Sciences Library. The English Reading Room mainly duplicates the Research Library's holdings in English and American literature, and major subjects covered by the Geology-Geophysics Library include geology, invertebrate paleontology, planetary and space science, and hydrology.

The UCLA Law Library has a substantial collection of over 300,000 volumes selected to further the course of instruction in the School of Law and the legal research needs of the UCLA community, and the Management Library serves the Graduate School of Management and the various subjects related to business and management.

The 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 Western U.S. The 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. Materials in Chinese, Japanese, and Korean are available in the Oriental Library, and the Physics Library covers all aspects of that science, including acoustics and spectroscopy.

The Theater Arts Library is the home of many prestigious collections which have been donated to UCLA, such as those of Charlton Heston, Rosalind Russell, director William Wyler, and animator Walter Lantz. The collections include original scripts, contracts, correspondence, shooting diaries, and much more. And the University Elementary School Library contains contemporary materials for children from kindergarten through junior high school age.

The Clark Library

Supplementing the University Library is the William Andrews Clark Memorial Library, with its collection of some 80,000 volumes and 14,900 manuscripts related to English culture of the seventeenth and eighteenth centuries. Its John Dryden collection is among the most complete in the world. The library, located approximately 10 miles from the UCLA campus, contains noncirculating materials. Leaflets describing the Clark Library and information about University transportation to it are available at the Reference Desk in the Research Library.

Special Archive Collections

Three unique collections, the UCLA Film, Television, and Radio Archives, are a living resource equally respected by industry and scholars. Students use them to learn the finer points of production techniques and to study the careers of leading actors and directors, many of whom also use the archives. All three archive collections are located in 1438 Melnitz Hall and are open Monday through Friday from 9 a.m. to 5 p.m. For information and/or viewing appointments, call 206-8013.

The FILM ARCHIVES, with more than 30,000 titles, is the largest film center west of 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 the nitrate print collection of Twentieth Century-Fox, the pre-1948 studio print holdings of Paramount Pictures, more than 600 Warner Brothers prints, and selected nitrate prints from the Columbia Studios collection.

The TELEVISION ARCHIVES, under joint auspices of the Academy of Television Arts and Sciences and UCLA, constitutes the nation's largest university collection of its kind. Its 25,000 titles include kinescope, telefilm, and videotapes spanning television history, with particular emphasis on drama and comedy from 1947 to the present. A special Collection of Television Technology and Design includes over 300 historical television cameras and receivers dating from the 1930s.

The RADIO ARCHIVES contains more than 40,000 broadcasts from the early 1930s to the present. Significant collections include 700 Hallmark Company broadcasts and personal collections featuring Jack Benny, Bing Crosby, and Dick Powell. The Collections of Clete Roberts and Edward R. Murrow highlight a range of news and documentary material.

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. Major art exhibitions, both traveling and assembled at UCLA, are displayed in the WIGHT ART GALLERY, located in the Dickson Art Center Gallery Building. More than 200,000 visitors each year come to see a series of 12 exhibitions of painting, sculpture, photography, prints and drawings, folk art, architecture, and design. For a schedule of exhibitions, call 825-9345. The gallery is open Tuesday from 11 a.m. to 8 p.m., Wednesday through Friday from 11 a.m. to 5 p.m., and weekends from 1 to 5 p.m. Daily tours are given at 1 p.m. Group tours are by appointment; call 825-3264. The administrative office is located in 1100 Gallery Building (825-1461).

On the second floor of the Wight Gallery Building is the GRUNWALD CENTER FOR THE GRAPHIC ARTS, which houses a distinguished collection of some 30,000 prints, drawings, and photographs. Maintained as a study and research center for the benefit of students and the community, the center's permanent holdings include significant examples from the fifteenth century to the present. It is particularly noted for its collection of German expressionist prints formed by Fred Grunwald and comprehensive holdings of Matisse, Picasso, and Goya. The center, located in 2122 Gallery Building (825-3783), is open weekdays by appointment from 9 a.m. to 5 p.m.

The FRANKLIN D. MURPHY SCULPTURE GARDEN, located north of Bunche Hall, contains a collection of nearly 70 major works by Rodin, Matisse, Calder, Lachaise, Lipchitz, Moore, Miro, Hepworth, and many other late nineteenth- and twentieth-century masters. All works in the growing collection, situated on a picturesque five-acre expanse, are private gifts to the University.

The MUSEUM OF CULTURAL HISTORY is internationally known for the quality of its collections and exhibits. Its collections encompass the arts and material culture ofmuch of the world, with particular emphasis on West and Central Africa, Oceania, and Latin America. The museum, located in 55A Haines Hall (825-4361), offers assistance with instruction and research and sponsors major exhibitions, lecture programs, and symposia. Gallery hours are noon to 5 p.m. Wednesday through Sunday.

Other Resources

The OFFICE OF ACADEMIC COMPUTING (OAC), with administrative offices in 4302 Math Sciences, is responsible for all general-purpose academic computing activities on the UCLA campus. OAC provides a broad range of services, including operation of IBM 3090 and 4341
computers for general campus use; facilities management and operation of the IBM 4381 for the Social Sciences Computing Program and of eight VAX 750 systems for the Program on Computing in the College of Letters and Science; assistance to individuals and departments in the selection and use of microcomputer hardware and software through the Microcomputer Support Office; maintenance of numerous public computing facilities and a large library of application software; instruction in the use of computer hardware and software through free noncredit classes; and professional consulting services.

UCLA's principal computing system is the IBM 3090, available to all colleges, schools, and departments within UCLA. Any registered student can also access the IBM 4341 computer for independent research or to learn computing skills. The campus network of mainframe computers allows students and faculty access to such modern computing services as ORION, the UCLA library information system; BITNET, a rapidly growing computer network connecting universities around the world; and a campuswide electronic mail system. To arrange for use of the IBM 3090 or 4341 computer, apply in the OAC User Relations Office (4302 Math Sciences, 825-7548) weekdays from 8 a.m. to 5 p.m.

The DIVISION OF LABORATORY ANIMAL MEDICINE, located in 1V-211 CHS (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. Several reserves are close enough to campus for daily access. For more information, contact Arthur Gibson, 124 Botany (825-8062).

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 James Northern, 1303 Life Sciences (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 MILDRED E. MATHIAS BOTANICAL GARDEN, located in the southeast corner of campus, contains some 4,000 species of native and exotic plants. It is used for botanical and ornithological teaching and research. This peaceful wooded area, a center for testing the usefulness of woody subtropical plants, is a favorite spot for quiet strolls. The botanical garden also has a research Herbarium containing 250,000 dried plant specimens. The administrative office is located in 124 Botany (825-3620).

The HANNAH CARTER JAPANESE GARDEN in nearby Bel Air, designed and constructed by Japanese artisans and architects using native plants and artifacts, is an authentic Kyoto-style garden. The terraced two-acre 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 conferences and receptions, and by others seeking a serene setting for meditation and solitude. It is open to individual visitors and groups by reservation only. Hours are Tuesday 10 a.m. to 1 p.m. and Wednesday noon to 3 p.m. Friday is reserved for group visits. Call the Visitors Center at 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 50 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 quarter, 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 into your grade-point average. Check with your college or school counselor about the possibility of applying these courses toward minimum unit requirements and for any limitations the 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 quarters, you may attend another college institution for credit while you are enrolled in Summer Sessions. Applications and more information on Summer Sessions are available in 1254 Murphy Hall (100 Dodd Hall after October 1, 1986). 825-8355.

University Extension

Serving approximately 100,000 adult students 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’s 4,600 Extension classes are innovative and experimental in content, format, and teaching methods. Credit and noncredit courses are offered in nearly every academic discipline and in many interdisciplinary areas. 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 information, 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, 10995 Le Conte Avenue (206-6201). To obtain the current UCLA Extension Catalog, call 825-8895. The Registration Office is open 8 a.m. to 6 p.m. weekdays and until 5 p.m. on Friday (825-9971).

Education Abroad Program (EAP)

Each year, more than 650 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 on more than 40 different campuses in 25 countries: Australia, Austria, Brazil, China, Egypt, England, France, Germany, Hong Kong, India, Ireland, Israel, Italy, Japan, Kenya, Mexico, Norway, Peru, Scotland, Sierra Leone, Spain, Sweden, Togo, U.S.S.R., and Wales. 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. A special orientation program and, when necessary, intensive language training are included. During the year UC faculty members at the host campus assist with scholastic or personal problems.

EAP is open to all undergraduate students who have completed a minimum of 32 quarter units (junior standing) prior to departure, at least a B average (3.0 GPA) overall at the time of application, and the support of the UCLA EAP Selection Committee. Some overseas study centers 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 $5,200 to $8,000, but University financial aid is available. Applications must be filed several months in advance. For more information, contact the EAP Office in 2221 B Bunche Hall (825-4889, 825-4995).

Education at Home Program

Students interested in early American history and culture have the opportunity to spend Winter Quarter 1987 “on location” in three Eastern cities. The Education at Home Program, conducted through the UC Riverside campus, is open to graduate students (with prior approval of their adviser) and undergraduates from any campus in the UC system.

Those selected for participation spend nine weeks in Williamsburg, one in Philadelphia, and a concluding week in Washington, D.C. Formal instruction consists of three American history courses (four units each) comprising classroom work and field trips to places of historical interest. An additional four units of independent study may be arranged. For further information, brochures, or applications, write to the Education at Home Program, Department of History, University of California, Riverside, CA 92521, or call (714) 787-3820.

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 these colloquia, call the secretary to the provost of the College of Letters and Science at 825-4621.

African Studies — The African Studies Center annually sponsors at least one interdisciplinary colloquium on Africa which focuses on topics in the social sciences or humanities. It is the policy of the center to organize its colloquia so that they can be taken for course credit at the graduate or undergraduate level or attended as open lectures. For further information, contact the center at 825-2944.

The Jacob Marschak Interdisciplinary Colloquium on Mathematics in the Behavioral Sciences provides a forum for interaction among faculty and students interested in the application 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. An Honors Collegium course (HC 190) is based on the Marschak Colloquium.

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 GSM 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. For further information, contact Lil Prupes at 825-1581.
Student Life

Living Accommodations

Where you live while attending UCLA can play an important role in your total college experience. Nearly half of UCLA freshmen live on campus, but the majority of undergraduates commute. About a quarter of the total student population lives at home.

There are many different housing options available, though the housing shortage on and near the UCLA campus means your first choice may not be available. You should therefore consider all housing options, decide early which ones you plan to pursue, and apply 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, 100 Sproul Hall, (213) 825-4491, provides information and current listings on University-owned apartments, cooperatives, fraternities, sororities, private apartments, roommates, rooms in private homes, room and board in exchange for work, and temporary housing. It also has bus schedules, area maps, neighborhood profiles, and counselors to help resolve landlord-tenant conflicts. A current Registration Card or letter of acceptance and a valid photo identification card are required for service.

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

UCLA Housing Options: Information and Application, a booklet which covers the housing situation in much greater detail, is mailed to all students when they are accepted for admission (you may also request it prior to admission).

On-Campus Housing

Living on campus can add an extra dimension of enjoyment and convenience to your UCLA experience; the demand, however, currently exceeds the space available. Four residence halls (Dykstra, Hedrick, Rieber, and Sproul Halls) and two residential suite complexes (Northern and Southern) accommodate nearly 4,000 undergraduates. There is one residence hall, Mira Hershey Hall, which houses some 335 graduate students. All on-campus housing is coed and within walking distance to classrooms.

Residence hall rooms are shared by two students. Residential suites, shared by four students, consist of two bedrooms, a full bathroom, and a common living room. The residence hall cafeterias, which also accommodate students in the residential suites, serve 19 meals per week.

Applications for on-campus housing are contained in the UCLA Housing Options: Information and Application booklet, available at the UCLA On-Campus Housing Assignment Office, 270 De Neve Drive, (213) 825-4271. Applications should be submitted by:

- March 24 (May 19 for graduate students) for Fall Quarter 1986
- October 31 for Winter Quarter 1987
- January 31 for Spring Quarter 1987
- March 23, 1987 (May 18 for graduate students) for Fall Quarter 1987

On the day following each of these dates, a lottery will be held to determine the order in which students will be offered housing. The full cost for the 1986-87 academic year (Fall, Winter, and Spring Quarters, excluding vacation periods) ranges from $2,885 to $2,950 for residence halls and from $3,500 to $3,600 for suites, plus a $19.50 membership fee in the On-Campus Housing Student Association.

The Office of Residential Life, in the Residential Life Building next to Sproul Hall (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.

Family Student Housing

UCLA maintains nearly 650 off-campus apartments for married and single-parent students at Sawtelle and Sepulveda Boulevards and 60 units on Barrington Avenue, about five miles from campus. Unfurnished one-, two-, and three-bedroom units are available. Rentals for 1986-87, excluding utilities, are expected to range from $314 to $437 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 must accompany your application. Call the Family Student Housing Office at (213) 391-0686 for up-to-date information.
University-Owned Apartments

Nearly 190 shared apartments for single students in three off-campus facilities are maintained by the University. Two of the locations are within walking distance of campus and the third, about five miles south, has free shuttle bus service on weekdays during regular academic sessions. Rental rates vary depending on the location and size of the apartment. There is no waiting list; apartments are rented on a first come, first served basis. Listings are posted in the UCLA Community Housing Office.

Cooperatives

Cooperatives provide 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 five cooperatives within walking distance of campus. Room and board rates for 1985-86 varied between $510 and $850 per quarter. Cooperatives normally have long waiting lists, so apply early. For applications and specific information, write directly to each cooperative. Addresses are available in the UCLA Community Housing Office.

Fraternities and Sororities

Some 2,000 Bruins live in the fraternity and sorority houses which border the campus on the west and east sides respectively. To live in a “Greek” house you must participate in rush and join that particular organization, though membership does not guarantee housing accommodations. For more information, contact the Office of Greek Affairs (118 Men’s Gym, 825-6322) or the Dean of Students Office (2224 Murphy Hall, 825-3871).

Apartments

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 share an apartment. Apartments within three miles of UCLA (Westwood, West Los Angeles, parts of Brentwood and Santa Monica) average $500 per month for efficiency units and $710 for one-bedroom units. Apartments more than four miles away (Palms, Mar Vista, Culver City) usually cost $50 to $100 less. Because they change daily, listings cannot be mailed or given over the phone; they are posted in the UCLA Community Housing Office. A roommate share board is also available.

Temporary 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 temporary housing is available for no more than one to three months, though some may be for longer periods. Housesitting listings are few; 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. In addition, several fraternities have rooms to rent for the summer at low rates. Check with the Office of Greek Affairs, 118 Men’s Gym (825-6322).

Parking Space and Permits

A limited number of parking permits for campus lots are sold to students each quarter, but parking spaces on campus are at a premium and not all students who request a permit will receive one. Obtain a Student Parking Request at the Campus Parking Service (Structure 8, Level 2) and return it by the deadline. Check dates on the Calendar at the beginning of this catalog or in the quarterly Schedule of Classes.

Parking assignments are based on the distance you live from campus, work commitments, and other information you provide. Students with physical disabilities that preclude walking long distances may obtain recommendations for parking permits through Student Health Service. If you do not receive a permit, you must reapply every quarter to be reconsidered. For more information, call the Campus Parking Service at 825-9871.

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.

THE COOPERAGE — On the A Level of Ackerman Union, the Cooperage offers Mexican food, pizza, grill items, croissants, special salads, and soft ice cream. A stage and sound system for live entertainment and a large-screen TV for major events are available. The Cooperage is open weekdays from 8 a.m. to 12:30 p.m. (1:30 p.m. Friday), Saturday 11 a.m. to 1:30 a.m., Sunday noon to 11 p.m.
NORTH CAMPUS STUDENT CENTER — This facility, just south of the Research Library, offers a variety of pastas, deli and garden sandwiches, a wide selection of international-style entrees, hamburgers, and a salad bar. An outside cart offers pizza and organic sandwiches. North Campus is open for breakfast, lunch, and dinner. Hours are 7:30 a.m. to 11 p.m. weekdays (8 p.m. Friday), Saturday 10 a.m. to 6 p.m., Sunday 11 a.m. to 9 p.m.

THE BOMBSHELTER DELI AND BURGER BAR — This unique food service in the center of the Court of Sciences offers an assortment of traditional deli sandwiches, hamburgers, and salads at reasonable prices. “Gypsy breakfasts” are served in the morning. It is open weekdays from 7:30 a.m. to 5 p.m., Saturday 10 a.m. to 3 p.m.

THE TREEHOUSE — Located on the first floor of Ackerman Union, the Treehouse is open for breakfast, lunch, and dinner and features ranch-style chicken, a chili bar, Italian-style dishes, and a variety of traditional American favorites. Grilled-to-order sandwiches are offered at the Hole-in-the-Wall. The Treehouse is open weekdays from 7 a.m. to 7:30 p.m. (3 p.m. Friday).

Adjacent to the Treehouse is the Sandwich Room, where you can find a variety of low-cost, made-to-order sandwiches, including Italian-style hot or cold submarine sandwiches. Hours are 8 a.m. to 4 p.m. weekdays (3 p.m. Friday) and Saturday 10 a.m. to 2:30 p.m.

CAMPUS CORNER — The oldest of the ASUCLA food facilities, the Campus Corner is located just across Bruin Walk from Kerckhoff Hall. Soft frozen yogurt, hamburgers and French fries, and a wide range of pita bread pocket sandwiches are available. It is open weekdays from 7:30 a.m. to 5 p.m. (4 p.m. Friday).

THE KERCKHOFF COFFEE HOUSE, on the second floor of Kerckhoff Hall, offers Baskin-Robbins ice cream specialties and a variety of teas, coffees, and potages (hearty soups). Live entertainment is featured almost every night. The Coffee House is open 7 a.m. to midnight weekdays and 10 a.m. to midnight weekends.

POTLATCH, a lounge on the first floor of the Graduate School of Management, offers a variety of sandwiches, snacks, and beverages. Hours are 8 a.m. to 9 p.m. Monday through Thursday and 9 a.m. to 2 p.m. Friday.

JAMES E. LU VALLE COMMONS, located adjacent to the Graduate School of Management, features gourmet pizza, grilled and deli specialties, and Jimmy’s Coffee House (coffee, teas, and cheesecake). Hours are 7:30 a.m. to 10 p.m. weekdays (8 p.m. Friday), Saturday 10 a.m. to 5 p.m., Sunday 11 a.m. to 8 p.m.

Students’ Store

The ASUCLA Students’ Store, the largest on-campus retail store in the nation, is actually a mini department store with four campus locations. The main store (B Level of Ackerman Union, 825-7711) offers textbooks, general books, and school and art supplies, computers and electronic items, UCLA insignia merchandise (Bearwear), men’s and women’s sportswear, groceries, health/beauty aids, and greeting cards. The Health Sciences Store (13-126 CHS, 825-7721) specializes in books and supplies for dental and medical students, while the Lu Valle Commons Students’ Store (just south of GSM, 825-7238) specializes in law and management books and supplies. The North Campus Shop (in the North Campus Student Center, 206-0751) is a small convenience store offering school supplies and snacks. Main store hours during school sessions are 7:45 a.m. to 7:30 p.m. weekdays (6 p.m. Friday), Saturday 10 a.m. to 5 p.m., Sunday noon to 5 p.m.

Lecture Notes

The Lecture Notes Office (A206 Ackerman Union, 206-0882) publishes concise weekly summaries of about 130 of UCLA’s large lecture classes. Hours during school sessions are 7:45 a.m. to 6:30 p.m. weekdays (6 p.m. Friday), Saturday 10 a.m. to 5 p.m., Sunday noon to 5 p.m.

Job Opportunities on Campus

ASUCLA reserves over 1,800 part-time jobs in food service, the students’ stores, Graphic Services, and other departments for UCLA students. Listings are posted outside the Personnel Office, 205 Kerckhoff Hall (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 (825-7947). Other on-campus jobs may be available through the Placement and Career Planning Center (see “Student Services” later in this chapter).

Check Cashing and Money Orders

Cash is available via Home Federal automatic tellers at the North Campus Student Center and on the A Level of Ackerman Union. Students with current UCLA identification may cash a personal check or traveler’s check for up to $50 a day, with a service charge for each check at the ASUCLA Service Center, 140 Kerckhoff Hall (825-2423). Check cashing hours are 9 a.m. to 4 p.m. weekdays.

Students, staff, and faculty may purchase money orders for up to $300 (cash only) at the same location. There is a service charge of 85¢ for each money order. Students, staff, and faculty may also rent post office boxes there at $12 per quarter for a small box and $15 for a large one. Hours for both services are 9 a.m. to 4 p.m. weekdays.

Graphic Services

ASUCLA Graphic Services, 150 Kerckhoff Hall (206-0894), is the campus center for photographic, printing, copying, typographic, and other graphic services. Portraits, photography, yearbook sittings, passport photographs, film, photo and darkroom supplies, and discount photofinishing are also provided. Hours are 8 a.m. to 6 p.m. weekdays and 10 a.m. to 3 p.m. Saturday. A satellite Graphic Services Center is located in Lu Valle Commons (825-7568).

Meeting Rooms

A variety of meeting rooms are available for use by the entire campus community. To reserve space in Ackerman Union or Kerckhoff Hall, contact the Student Union Operations Office on the A Level of Ackerman Union (825-2311). Contact the Food Service Office at the North Campus Student Center (206-0720) and the Main Office at Lu Valle Commons (825-7238) to reserve space at those locations.

Travel Service

The ASUCLA Travel Service, located on the A Level of Ackerman Union (825-9131), offers a wide range of domestic and international charter flights, land arrangements and charter packages, student tours, scheduled air and rail tickets, and other travel-related services. The Travel Service is open 8:30 a.m. to 6 p.m. weekdays and 11 a.m. to 3 p.m. Saturday.

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 publications. Governed by a 10-member Board of Control, ASUCLA operates and manages Ackerman Union, Kerckhoff Hall, the North Campus Student Center, and the James E. Lu Vallee 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), located on the third floor of Kerckhoff Hall (825-4504), is governed by the Undergraduate Students Association Council. USAC administers the association's $500,000 annual operating budget through a network of student commissions (Academic Affairs, Campus Events, Community Service, Cultural Affairs, Facilities, Financial Supports, and Student Welfare) presided over by the student body president. The undergraduate student body elects officers annually.

A wide variety of student government programs benefit both campus and community. The Community Service Commission (825-2333) serves Los Angeles through such programs as Amigos del Barrio, offering academic and emotional support for Latino students; the Community Theater Workshop for children of low-income families; the UCLA Prison Coalition, providing activities for inmates of juvenile correctional institutions; and the UCLA Special Olympics, to name just a few. More than 1,250 students volunteer annually for community service participation.

Student government also supports the various special interest groups on campus, including the American Indian Students Association, Asian Coalition, Black Students Alliance, Gay and Lesbian Association, MEChA, and the UCLA Jewish Student Union.

The Campus Events Commission (825-1957) is responsible for such events as Mardi Gras and the Speakers Program (see below), as well as movie and concert programs providing campus entertainment at reduced prices.

**Graduate Student Government** — 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 "Administration" in Chapter 3.

**Clubs and Organizations**

Joining a club or organization is an excellent way to make new friends and find your niche on campus. UCLA has about 350 different clubs and registered organizations — more than you will find on almost any other university campus in the country. Political, athletic, recreational, cultural, academic, and religious clubs of almost every description are represented — and if you can’t find one to suit your particular interest, you can start your own.

Clubs focusing on sports and recreation are listed in the University Recreation Association Office, located in the John Wooden Center (825-3701). For a full listing of registered student organizations, contact the Center for Student Programming, 161 Kerckhoff Hall (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. The center assists students with program development and fund-raising, monitors financial activities of student organizations, and interprets and enforces University rules and regulations.

Groups registered through the Center for Student Programming are eligible to use the services of the Campus Activities Service Office (CASO), 12 Royce Hall (825-8981). CASO offers technical advice in the public events area and operates most campus public assembly facilities, classrooms, and auditoriums. Official and general purpose bulletin boards on campus, general assignment lockers, and the sale of UCLA padlocks are administered by CASO.

**Fraternities and Sororities**

Serving as small, cohesive communities within the larger UCLA community, fraternities and sororities offer unique experiences and opportunities for personal growth. Some of the more than 5,000 Greek student members are leaders in scholarship, community service, student government, athletics, and other facets of UCLA organizational activity.

You can find out more about UCLA’s fraternities and sororities by contacting the Office of Greek Affairs (118 Men’s Gym, 825-6322) or the Dean of Students Office (2224 Murphy Hall, 825-3871).

**Mardi Gras**

UCLA’s annual Mardi Gras has become 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 65 booths featuring games, food, and live entertainment. There are celebrity judges, carnival rides, clowns, balloons, fireworks, and much more.

The three-day event generates well over $100,000 annually for UCLA’s official charity, UniCamp, a summer camp for underprivileged children in Los Angeles. For more information, contact the Mardi Gras Committee in 129 Kerckhoff Hall (825-8001) or the Campus Events Commission in 300A Kerckhoff Hall (825-1957).

**UCLA Campus Events Speakers Program**

Headed by the Campus Events Commission, the Speakers Program brings many of the foremost literary and political leaders and entertainers to the campus. Past speakers have included Jack Lemmon, Itzhak Perlman, Jane Fonda, David Letterman, Joan Rivers, Bob Hope, Gilda
Radner, Sean Penn, and Bette Davis from the entertainment world; Jimmy Carter, Jerry Brown, Gerald Ford, Justice William O. Douglas, and Senator Gary Hart representing government and politics; and authors Gore Vidal, John Irving, William F. Buckley, Jr., Gloria Steinem, and Hunter S. Thompson.

Publications and Broadcast Media

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

The Daily Bruin, with a circulation of 20,000, is the fourth largest daily newspaper in Los Angeles. As the principal outlet for campus news, the Bruin is published each weekday of the regular academic year (twice weekly during the summer) and is distributed free from kiosks around campus. Students work as reporters, editors, proofreaders, photographers, and advertising sales representatives; new staff members are always welcome. Bruin offices are located in 112 Kerckhoff Hall (825-9898).

Six student special interest papers are published twice each quarter to serve special segments of the campus community: Ha'Am for Jewish students, La Gente for Chicanos and Latinos, Nommo for black audiences, Pacific Ties for Asian readers, TenPercent for gay and lesbian groups, and Together for women. Each includes news and features on political and cultural affairs — both on and off campus — of interest to its audience. Prospective staffers are welcome. The offices of the special interest periodicals are located in 112 Kerckhoff Hall.

The UCLA yearbook, Bruin Life, is one of the largest student publication efforts on campus. Available each fall, it contains photographs and information on graduating seniors, athletes, fraternities and sororities, and campus activities. If you would like to participate on the yearbook staff, contact the office in 112F Kerckhoff Hall (825-2640).

Like many other large universities, UCLA has its own radio station. KLA Radio provides music, news, and sports 24 hours a day during the academic year (12 hours daily during Summer Sessions). The carrier current signal is sent to the residence halls and parts of Ackerman Union and Kerckhoff Hall on 53 AM and to many parts of the Los Angeles area on 99 Cable FM. The studios are located at the rear of the Grand Ballroom in 2400A Ackerman Union (825-9104; request line: 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, Dance, and Theater, Film, and Television Departments of the College of Fine Arts provides opportunities for student involvement and personal growth.

The Music Department offers more than 20 performance organizations. Instrumentalists are invited to play with one of seven different bands and orchestras. An extensive ethnomusicology program allows you to perform with various non-Western and ethnic groups. Campus choral organizations include an A Cappella Choir, the Madrigal Singers, Men's and Women's Glee Clubs, and the University Chorus which, with 120 members, is the largest of the 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.

The Theater, Film, and Television Department, one of the finest in the country, offers students several opportunities for artistic expression. Each year the Theater Division presents a series of major productions to the general public. The Motion Picture/Television Division produces about 300 student-directed films each year 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

If you'd rather be entertained than do the entertaining, UCLA's Center for the Performing Arts stages more than 200 public concerts and events each year. Ever since Royce Hall was dedicated in 1929, UCLA has been a premiere West Coast showcase for both new talent and the world's leading artists. The Los Angeles Philharmonic and Chamber Orchestras perform regularly each season, as do several major dance ensembles, theatrical companies, and performance artists. Numerous celebrities have appeared on UCLA stages, from Luciano Pavarotti to Isaac Stern, Cleo Laine to Pierre Boulez, and Liv Ullman. 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 1984-85 the UCLA men's athletic program placed third in the national all-around excellence competition and has won the award six times. The women's program placed first in polls conducted by the Santa Monica Evening Outlook and the Knoxville Journal. 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 (1981-82).
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 48 NCAA men's championships — second highest in the nation — including 15 in tennis, 11 in volleyball, and 10 in basketball under the legendary John Wooden. In addition, the basketball team, led by Coach Walt Hazzard, won the 1985 National Invitational Tournament (NIT) Championship, and the soccer team won the 1985 NCAA title. You can participate on the varsity level in football, basketball, track, baseball, tennis, crew, volleyball, gymnastics, swimming, water polo, golf, soccer, and cross-country. For more information, contact the Men's Athletic Office at 825-8699.

WOMEN'S INTERCOLLEGIATE SPORTS — With 10 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 many national, regional, and conference titles, including the 1981-82, 1983-84, and 1984-85 NCAA championships in softball, the 1981-82 and 1982-83 track and field crowns, and the 1984 and 1985 volleyball titles. Other nationally ranked teams are those in basketball, swimming, tennis, cross-country, and gymnastics. Athletic grants-in-aid are available on a selective basis in most sports. For more information, contact the Women's Athletic Office at 825-8699.

INTERCOLLEGIATE ATHLETIC FACILITIES — UCLA's major indoor arena is the famed Edwin W. Pauley Pavilion, which seats 12,800 for UCLA basketball, volleyball, and gymnastics events. It was the site of the 1984 Summer Olympics gymnastics competition. Immediately adjacent, the Elvin C. Drake Stadium is the home of UCLA track and field competitions and site of many outdoor events including Commencement. The Los Angeles Tennis Center, a new 5,800-seat outdoor tennis stadium and clubhouse, was the site of the 1984 Olympic tennis competition. The refurbished J.D. Morgan Intercollegiate Athletics Center houses the newly established UCLA Athletic Hall of Fame. Off-campus facilities include the Jackie Robinson Stadium for varsity baseball, the Marina del Rey Boathouse for the UCLA crew and sailing programs, and the renowned Rose Bowl in Pasadena, home of the UCLA football team.

Athletics for Everyone
Whether you want to practice your favorite sport or learn a new one, you can do it all at UCLA. The extraordinary scope of athletic opportunities ranges from intercollegiate team play to an enjoyable jog around campus.

INTRAMURALS — Competitive intramural teams at UCLA are open to students, faculty, and staff. There are 40 activities in men's, women's, and coed competition, and many are divided into size or skill divisions so students at any level can get involved. For more information, contact the Intramural Sports Office in 2131 John Wooden Center (825-3701).

RECREATIONAL CLUBS AND CLASSES — Recreational clubs are formed at UCLA to bring people interested in a particular sport or activity together. More than 30 different clubs with a combined membership of some 2,000 students, you can learn and meet people who enjoy bowling, waterskiing, karate, rugby, or lacrosse, to name just a few. For club information, contact the Recreation Program Office in the John Wooden Center (825-3701).

You'll also find a broad range of noncredit recreation classes in aquatics, boating and sailing, dance, fine arts, outdoor studies, physical fitness, and sports skills. For class information, contact the Recreation Instruction Program Office in the John Wooden Center (825-3701).

RECREATION FACILITIES — UCLA students have several major facilities in which to practice and play. The John Wooden Recreation and Sports Center is a comprehensive student activities building with several gymnasia, 10 racquetball/handball courts, a weight training facility, and exercise and martial arts workout rooms. The Sunset Canyon Recreation Center, open seven days a week the year round, features an Olympic-sized swimming pool, a family pool, picnic-barbeque areas, multipurpose play fields, an outdoor amphitheater, and various meeting rooms and lounges. Students also have the use of Pauley Pavilion, Drake Stadium, and the Los Angeles Tennis Center for recreational sports.
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 college and school to assist prospective and currently enrolled graduate students.

Placement and Career Planning Center

The Placement and Career Planning Center (PCPC) offers career guidance and placement services to all UCLA students. Services are located in the PCPC Building (825-2981) and in two satellite locations: 1349 GSM (specializing in management, 825-3325) and 5289 Boelter Hall (specializing in engineering and the physical sciences, 825-4606).

Career Development — A staff of career counselors assists you in career exploration and the job search. Information on planning further education and alternative careers is available in the Career Resources Library. In addition to bringing graduate school representatives to campus, the Campus Interview Program brings employer representatives to discuss career opportunities with seniors and graduate students, and career-related summer employment with continuing students. The direct referral service posts a large number of currently available jobs in a variety of organizations.

Student Employment — A job listing and referral system helps students and their spouses find part-time, temporary, or vacation employment. Career-related opportunities include internships and cooperative education possibilities.

Educational Career Services — This is a specialized source of information and counsel for students and alumni interested in university, college, and secondary and elementary school positions. Current lists of educational job opportunities, internships, and a professional file service are available.

Student Health Service

The Student Health Service (SHS) is designed to offer the health care and information you may need as a UCLA student. Services are provided on an appointment basis at little or no cost to all registered students on presentation of Registration and UCLA Student I.D. Cards. You are encouraged to select a clinician who will provide ongoing health care. Additional information on all phases of SHS is available in the UCLA Student Health Service booklet produced by SHS, or by calling SHS information at 825-4073.

Location and Hours — General and emergency care is available in A2-130 Center for the Health Sciences. Office hours are 8 a.m. to 5 p.m. weekdays except Tuesday, when service begins at 9 a.m. Emergency care is also available for athletic injuries at Gate 10 in Pauley Pavilion (825-5704) from 1:30 to 6:30 p.m. weekdays. For emergency care when these facilities are closed, you may obtain treatment at the UCLA Medical Center Emergency Room on a fee-for-service basis.

Primary Care Clinics provide outpatient treatment, consultation for most general health care needs. Call 825-2463 to schedule an appointment.

Specialty Clinics provide specialized care when you are referred by the Primary Care Clinics. Services include dermatology, orthopedics, surgery, gynecology, internal medicine, allergy, chest, ENT (ear, nose, and throat), ophthalmology, urology, and neurology. Routine physicals, health clearances, immunizations, and travel shots are available for a moderate fee. Call 825-0861.

Women’s Health Service provides care for routine women’s health needs and treatment of gynecological problems. Family planning (birth control) services are available, as are testing, counseling, and referrals for pregnancy. Counseling for sexual problems and relationship concerns is also provided. Call 825-0854.

Men’s Health Clinic, the newest SHS service and the first of its kind in the UC system, treats genital and urinary problems, both sexual and nonsexual in nature. The clinic also provides sexual counseling for UCLA’s male students. Call 825-0861.

Dental Clinic services are available by appointment without need of a referral. While the primary function of this clinic is to treat dental emergencies, a limited number of general dentistry and dental hygienic services are available. Fees are charged for all services. Call 825-5858.

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 all aspects of health care. Call 825-4730.

Supplemental Health Insurance is recommended for all fully enrolled students because certain major expenses, including hospitalization, surgery, and emergency room costs, are not covered by the regular SHS program. The University requires, as a condition of registration, that international students attending UCLA on nonimmigrant visas have adequate health insurance, and it reserves the right to make the same requirement of all students.

A low-cost insurance policy is available for purchase at SHS at the beginning of each quarter. Students are not automatically enrolled in the plan nor is coverage automatically renewed. The deadline for purchasing insurance for Fall Quarter is October 10. For information on insurance available through SHS, call 825-1856.

Student Psychological Services

Student Psychological Services offers short-term personal counsel and psychotherapy at two locations. The Mid-Campus Office is located in 4223 Math Sciences (825-0768, 825-4207); the South Campus Office is in A3-068 CHS (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 quarter. Appointments are made on weekdays between 8 a.m. and 5 p.m. Emergency counseling is also available.

**Helpline**

Helpline (825-HELP) provides information, referrals, crisis intervention, and a friendly ear when you don’t know where else to turn. It is open daily from 5 p.m. to midnight (1 a.m. on Friday and Saturday). For more information, contact Clive D. Kennedy, Student Psychological Services, 4223 Math Sciences (825-4207).

**Dean of Students Office**

The Dean of Students Office, located in 2224 Murphy Hall (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, student debts, and sexual harassment.

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 Dean of Students Office 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 infractions of those policies or regulations can result in disciplinary action. See “Student Conduct: Violation of University Policies” in the Appendix for more information.

**Ombudsman**

The Ombudsman is responsible for listening and responding to grievances from any member of the campus community (i.e., students, faculty, administrators, staff), for investigating those grievances where resolution has not been to the satisfaction of the concerned individual or where there are no established guidelines for resolution, and for resolving those grievances (including sexual harassment). The office, located in 274 Kinsey Hall (825-7627), is independent in operation and is open from 8 a.m. to 5 p.m. weekdays; all matters are handled confidentially.

**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 on a walk-in basis from 9 a.m. to 12:30 p.m. weekdays in 70 Dodd Hall (825-9894).

**Central Ticket Office**

Tickets are available at two locations on the UCLA campus: the ticket office on the ground floor of the James E. West Center (825-2101) and the trailer at 650 Westwood Plaza (825-2953). Tickets for all UCLA events are sold at both locations. In addition, each location provides special ticket services as follows:

- The West Center location offers student discount tickets to campus athletic events and local motion picture theaters. You may also purchase tickets to off-campus events through Ticketmaster and Ticketron, as well as student discount tickets for RTD buses and tokens for the Santa Monica bus system.

- The 650 Westwood Plaza location offers student discount tickets for on-campus cultural events, subsidized by the Student Committee for the Arts (Registration and UCLA Student I.D. Cards must be shown). There is a limit of two tickets per person. Watch the Daily Bruin ads for ticket sale dates.

**Services for International Students**

The Office of International Students and Scholars (OISS) works closely with the International Student Center to provide services and programs specifically for UCLA’s 6,500 international students and postdoctoral scholars. Together they provide a comprehensive orientation program for these students which helps them to pursue their academic goals, and a series of programs which allow them to share their viewpoints with American students and the community.

The OISS staff, located in 105 Men’s Gym (825-1681), includes professional and peer counselors especially prepared to assist with questions about immigration, employment, government regulations, financial aid, cross-cultural adjustment, and personal matters.

The International Student Center, 1023 Hilgard Avenue (208-4587), focuses on student-community relations and helps with language, housing, and other problems in addition to sponsoring cultural, educational, and social programs.

**Services for Disabled Students/Veterans**

The Special Services/Veterans Affairs Office, A255 Murphy Hall (825-1501), provides information for veterans and their dependents about V.A. educational benefits, tutorial assistance, and V.A. work-study and loan programs. The office issues fee waivers to dependents of California veterans who are deceased or disabled because of service-connected injuries and who meet certain income restrictions. Fee waivers are also issued to eligible dependents of California police and fire department personnel who died in the line of duty.
Services provided by the office for disabled and handicapped students include assistance with registration and class enrollment, parking permits, fee deferments authorized by the California Department of Rehabilitation, readers for the blind, interpreters for the deaf, note takers, and examination proctors. Ramps, elevators, and specially equipped rest rooms for the handicapped are provided in all campus buildings.

The Computer Program for the Disabled provides two IBM PC/XT computer workstations with special equipment and training for UCLA students, faculty, and staff with physical disabilities, low vision, or blindness. The workstations are located in the Social Sciences Microcomputer Laboratory, 2434 Franz Hall. For further information, call 825-6227.

**Women's Resource Center**

The Women's Resource Center, located in 2 Dodd Hall (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, 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. A library includes specialized publications on women's issues. Internships are offered in areas such as creative writing, editing, legislative research, publicity, and program development.

The Women's Resource Center, committed to improving the status of women on campus, works with other campus agencies to help women reach their full potential.

**Child Care Services**

The Child Care Center provides full- and part-time care for children aged two months to six years. Fees range from $181 to $390 per month depending on care. Some grants are available for eligible student families. The center is located in Parking Lot 1 at 10833 Le Conte Avenue (825-5086).

The Outreach Program helps parents make off-campus child care arrangements. The Outreach Coordinator meets parents each Monday from noon to 1 p.m. in 2 Dodd Hall. For more information, call 825-8474.

The UCLA Parent Toddler Group is a cooperative nursery school open to children two to three and one-half years of age. Participating parents must work at school on a weekday morning in every four that their child attends. The school, open 9 a.m. to noon weekdays, is located in the Family Student Housing complex four miles south of campus at 3327 South Sepulveda Boulevard. For more information, call 391-9155 or 398-8739.

The University Parents Cooperative Nursery School offers a supportive educational environment to children of the UCLA community aged three to six years. Hours are 8:30 a.m. to noon and/or noon to 4 p.m. weekdays, with extended care available until 5:30 p.m. The nursery school is located in the Family Student Housing Community Center, 3327 South Sepulveda Boulevard (397-2735).

**Safety and Security**

**Emergency: Campus Police** — If you need to call the Campus Police Department, just dial two digits — 35 — from any campus phone. For nonemergency information, contact them at 601 Westwood Plaza (825-1491).

**Escort Service** — The Department of Community Safety provides free escort service every day of the year from dusk to 1 a.m. Uniformed escorts — specially trained UCLA students — are available to walk students, faculty, and staff members between campus buildings and local living areas or Westwood Village. To obtain an escort, call 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. Five vans operate Sunday through Thursday from 5 p.m. to midnight (6 p.m. to midnight in Spring Quarter) and serve many campus areas, including the residence halls, sororities, libraries, and living areas west of campus. For further information, call 825-1493.

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

**CPR** — Free three-hour day or evening cardiopulmonary resuscitation classes (composed of a two-hour lecture and slide presentation and an hour of hands-on practice on Resusci-Annie torsos) are offered to UCLA students, staff, faculty, and visitors. For more information and scheduling, call 206-8886.

**Important Phone Numbers**

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<thead>
<tr>
<th>Service</th>
<th>Phone Number</th>
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<tbody>
<tr>
<td>UCLA Police Department (24 hours)</td>
<td>825-1491</td>
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<tr>
<td>Police Emergency (from campus phones)</td>
<td>dial 35</td>
</tr>
<tr>
<td>UCLA Emergency Medical Center (24 hours)</td>
<td>825-2111</td>
</tr>
<tr>
<td>UCLA Escort Service (dusk to 1 a.m.)</td>
<td>825-1493</td>
</tr>
<tr>
<td>Helpline (5 p.m. to midnight)</td>
<td>825-HELP</td>
</tr>
<tr>
<td>Crime Information (5 p.m. to 7 a.m.)</td>
<td>825-7661</td>
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**UCLA Alumni Association**

The UCLA Alumni Association, which celebrated its 50th anniversary in 1984, serves to advance the University's interests and to benefit students and alumni. With nearly 47,000 members, it ranks among the six largest dues-paying alumni groups in the country. Students, graduates, parents, faculty, staff, and University Extension students are all eligible to join one of approximately 90 regional clubs, professional and school organizations, and support and honorary clubs. Alumni participate in the many general interest programs as well.

The Alumni Association awards scholarships to freshmen and continuing students each year; sponsors UCLA's Homecoming festivities and holds "Dinners for Twelve Strangers," which bring together students, alumni, and faculty; and supports student events such as the Chancellor's Freshman and Graduate Receptions, Spring Sing, and Mardi Gras. The Alumni Travel Program enables alumni to participate in educational and cultural travel and to support UCLA athletic teams at major away games. The Governmental Relations Program promotes constructive relations between the University and government officials.

Benefits of Alumni Association membership include free library privileges as well as discounts on UCLA Fine Arts Productions, athletic events, group medical insurance, and travel programs. Graduating seniors who join receive special discounts on cap and gown rental, diploma laminating, graduation announcements, and an Extension class of their choice. The Alumni Association is located in the James E. West Center, 325 Westwood Plaza (825-3901).
Undergraduate Admission

Information:
Undergraduate Admissions and Relations with Schools
1147 Murphy Hall
(213) 825-3101

The Office of Undergraduate Admissions and Relations with Schools (UARS) invites you to visit UCLA to discuss your prospects as a student and to experience the campus firsthand. The UARS Office schedules frequent student-guided individual and group tours of the campus which are both enjoyable and informative. Feel free to call the UARS Office at (213) 825-8764 for tour information; (213) 825-3101 for general information.

Preparing for University Work

A carefully planned program of high school courses best prepares you for University work. It can give you a definite edge in your undergraduate studies and a head start in your selected field. Most important, if you master certain basic skills in high school, you increase your chance of success at the University.

As a prospective UCLA freshman, you should give priority to completing the high school courses required for admission — the academic pattern and quality of courses, and not the specific major, you want to pursue. If you can make this decision early, you can take additional high school courses related to your field.

You should understand that the academic requirements for admission are minimum entrance standards. Completing the required high school courses with satisfactory grades will not automatically determine whether you will be selected for admission to UCLA, as students are chosen from a large number of highly competitive applicants. Most of these applicants will have met the minimum requirements; thus selection depends on additional factors.

Many elements are considered in the selection process, but the primary ones are (1) academic preparation — pattern and quality of courses, (2) performance in courses completed, and (3) scores received on the standardized college tests (Scholastic Aptitude Test or American College Test and achievement tests).

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 courses. Overall performance must be well above average.

You must begin preparation for college at least by the ninth grade in order to allow you to progress through more than just the minimum required courses. If possible, you should begin academic coursework in the seventh and/or eighth grades, as this allows you to complete five or six years of college preparatory work. With the strength of solid preparation, students applying to UCLA will be in a competitive position for admission.

Applying for Admission

The first step in applying for admission is to obtain an Undergraduate Application Packet containing all necessary forms and instructions from your California high school or community college counselor or from any University of California Admissions Office. One application is used to apply to all UC campuses. You may apply to two UC campuses for the initial $35 application fee; for each additional campus you select, you must pay an extra $20 fee per campus. These fees are not refundable.

Complete the application, taking care to list the college or school you wish to attend at UCLA and your desired major. Send the completed application, along with the nonrefundable application fee, to University of California, P.O. Box 6600, Albany, CA 94706-0600.

Checks or money orders should be made payable to The Regents of the University of California. (If you have applied previously and were ineligible, or if you were admitted previously and did not register, you must file a new application for the quarter you want to attend and submit a new application fee.)

If you are in high school when you apply (freshman applicant), do not send your sixth and/or seventh semester high school transcripts. A final transcript, including a statement of graduation or proficiency, will be required at a later date. You must also submit official results of the Scholastic Aptitude Test (SAT) or American College Test (ACT) and three achievement tests.

If you have attended or are attending another college when you apply (transfer applicant), request that transcripts of all your high school and college work be sent to UCLA. It is your responsibility to arrange for transcripts to be sent and to assure that they arrive promptly; hand-carried transcripts are not acceptable for final evaluation. Transcripts and other documents cannot be returned or forwarded to other institutions.

When to Apply

The filing periods for applications are as follows:

- **Winter Quarter 1987:**
  - File July 1-31, 1986 (Intercampus transfers only)
  - Spring Quarter 1987:
    - File October 1-31, 1986 (Junior-level transfers only)
  - Fall Quarter 1987:
    - File November 1-30, 1986 (Freshmen and transfers only)

(Applications for admission to Fall Quarter 1986 would have had to be filed during November 1985.)

Some departments, majors, colleges, or schools at UCLA may close to new applicants as enrollment targets are met. You should inquire just prior to the filing period to determine if your area of interest is open.

Notification of Admission

You will be mailed a notice, which you should keep, acknowledging receipt of your application. Later, you will receive a letter explaining your admission status. The length of time before admission notification varies depending on how complete your application is and how quickly your records are received. In general, most Fall Quarter applicants are notified by March 15.

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 $50 deposit, also required at this time, will be applied to your University registration fee if you register in the quarter to which you are admitted.
Entrance Requirements

All campuses of the University of California have the same undergraduate admission requirements. The requirements are based on two principles: (1) the best indicator of success in the University is a record of high grades in previous schoolwork; (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 admission requirements, however, does not necessarily assure admission to the campus of your first choice. Some UC campuses with enrollment limits, including UCLA, cannot admit all qualified undergraduate applicants. Many departmental programs of study attract more qualified applicants than can be accommodated each year. The selection of applicants is based on demonstrated high scholarship in preparatory work, which often goes well beyond the minimum eligibility requirements.

Note, too, that admission requirements vary for California residents and nonresidents. Since the University of California is partially state-funded, admission requirements are necessarily somewhat more restrictive for out-of-state applicants. The term “resident” as used here should not be confused with the definition of legal residence for tuition purposes as defined in the Appendix.

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 Scholarship 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, of which seven 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 — One year of United States history, or one-half year of United States history and one-half year of civics or American government.

(2) English — Four years of university preparatory courses in English composition and/or literature, with no more than one year accepted from the ninth grade.

(3) Mathematics — Three years of university preparatory courses (elementary algebra, geometry, and intermediate algebra).

(4) Laboratory Science — A one-year course in one laboratory science, taken in the tenth, eleventh, or twelfth grade.

(5) Foreign Language — Two years of one foreign language with a written literature.

(6) College Preparatory Electives — Four units, in addition to those required above, to be selected from at least two of the following subject areas: history, English, advanced mathematics, laboratory science, foreign language, social science, and fine arts. In general, elective courses should involve considerable reading and should develop your analytical and reasoning ability and skill with written and oral exposition.

Scholarship Requirement

Eligibility for admission to UCLA is based on a combination of your grade-point average (GPA) in the academic subject requirements and your American College Test (ACT) or Scholastic Aptitude Test (SAT) scores. For detailed scholarship requirements, see the Undergraduate Application Packet or contact Undergraduate Admissions and Relations with Schools (UARS).

Examination Requirement

All freshman applicants must submit scores from the following tests:

(1) One Aptitude Test:
   (a) The American College Test (ACT), composite score, OR
   (b) The Scholastic Aptitude Test (SAT), total score.

(2) Three College Board Achievement Tests (ACH) which must include:
   (a) English composition AND
   (b) Mathematics, level 1 or 2, AND
   (c) Either English literature, foreign languages, sciences, or social sciences.

For detailed information on admission requirements for freshman students, see the Undergraduate Admission Packet or contact UARS.

Admission as a Transfer Student

A transfer applicant has 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.

Requirements for admission as a transfer student vary depending on your high school record and the date of your high school graduation, though a GPA of 2.0 or better is required in transferable courses. If you wish to transfer to UCLA, you should follow these general guidelines:

(1) See your college counselor, who can help you identify the courses you should take to prepare for your intended major, and make certain the courses you are currently taking are transferable.

(2) Take as many English and mathematics courses as possible. UCLA’s academic program is rigorous and requires a strong background in both critical and quantitative skills. English and mathematics are the most important subjects you can take.

(3) Begin to satisfy general education (breadth) requirements and fulfill prerequisites for your intended major. Because a sound liberal arts education encompasses more than an in-depth knowledge of one field, most colleges and schools at UCLA require that students take coursework in areas outside their major. Before transferring to UCLA, you can take courses to satisfy these general education requirements as well as fulfill some of the required “prerequisite” courses for your major.
For more detailed information on admission requirements for transfer students, see the Undergraduate Application Packet 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. For further information, see “Intercampus Transfer” in Chapter 4.

**Senior-Level Applicants**

Students attaining senior standing are not generally admitted by the University.

**Second Bachelor’s Degree Applicants**

By policy, second BAs are not generally granted by the University.

**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 Admissions and Relations with Schools (UARS).

College credit for examinations given by national testing services is generally not allowed, except for the Advanced Placement examinations given by the College Board. 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 pass the English as a Second Language Placement Examination (ESLPE) given by the University. If you do not pass the ESLPE, you are required to enroll in one or more ESL 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.

All new and reentering international students must obtain clearance in person at the Student Health Service by completing and returning a Health Evaluation form, by verifying adequate health insurance coverage, and by establishing absence of active tuberculosis. In addition, all international students must obtain an annual health insurance clearance each fall at the SHS Insurance Office. For information, call (213) 825-4073.

**Readmission**

Undergraduate students are required to apply for readmission only if they were absent from the University for more than one quarter. Thus, if you complete a quarter and then withdraw, cancel, or fail to register for the next quarter, registration materials will be available for you for the term immediately following.

If you are absent for two or more consecutive quarters, you must file an application for readmission with the Registrar. During the 1986-87 academic year, all such students returning in the same standing (undergraduate) must file applications for readmission as follows:

<table>
<thead>
<tr>
<th>Filing Deadlines</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 15 for Fall Quarter 1986</td>
</tr>
<tr>
<td>November 25 for Winter Quarter 1987</td>
</tr>
<tr>
<td>February 25 for Spring Quarter 1987</td>
</tr>
</tbody>
</table>

Applications are available at the Registrar’s Office, 1134 Murphy Hall. Your completed application must be accompanied by a $35 application fee (nonrefundable) and transcripts of records from any other institutions (including University Extension) you attended during your absence. Within enrollment limitations, readmission is generally approved if you were in good academic standing (2.0 grade-point average) when you left the University, if coursework completed elsewhere in the interim is satisfactory, and if applications for readmission are filed on time. Contact the Registrar’s Office at (213) 825-1091 for further information on readmission.
Information:
Registrar's Office
1134 Murphy Hall
(213) 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 quarter. To obtain a copy by mail, write to ASUCLA Students' Store, 308 Westwood Plaza, Los Angeles, CA 90024. Attn: Mail Out. Include a check or money order for $2 payable to ASUCLA.

Registration consists of paying fees and enrolling in classes. The Registration Form, issued by the Registrar, is used for paying fees and for requesting enrollment in classes. You must complete both processes by the established deadlines to be officially registered and enrolled for the quarter.

Registration may be accomplished by mail or in person. You may use a combination of both processes to pay fees and enroll in classes, but all eligible students are encouraged to register by mail or use the Cashier's Drop Slot. It will save you the time and trouble of waiting in line.

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 a 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.

Enrolling in classes, like paying fees, is accomplished most effectively and most easily by mail. Because enrollment by mail is processed according to a postmarked date, you will increase your chances of getting the classes you want if you send your Study List Request to the Registrar's Office on the first mailing date. Consult the Schedule of Classes for firm dates and for all details on enrollment procedures.

You may enroll in classes in person on certain days preceding the beginning of classes each quarter. Hours are 8:30 a.m. to 5 p.m. on the following days:

<table>
<thead>
<tr>
<th>Enrollment in Classes in Person</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 23-26 for Fall Quarter 1986</td>
</tr>
<tr>
<td>December 4-6 for Winter Quarter 1987</td>
</tr>
<tr>
<td>March 12-14 for Spring Quarter 1987</td>
</tr>
</tbody>
</table>

Study List Changes

Tentative Study Lists showing enrollment results are mailed to each student 10 days before the term begins. Before the first day of class, you may make program changes (add/drop courses, switch sections, or change grading options) by keeping the appointment to enroll which is printed on your Tentative Study List. Once instruction begins, and through the tenth day (second week) of classes, you may make as many program changes as you wish, without appointment and without fee, at the enrollment terminals in the Ackerman Union second-floor lounge.

Viewing Terminal — If you want to take an up-to-date look at your Study List or obtain an extra copy of it, you may do so before instruction begins or during the first 10 days of classes at the viewing terminal on the east balcony of Ackerman Union or at 1134 Murphy Hall. On each visit to the terminal, you will receive a copy of your Study List showing enrolled courses and waiting list courses, including your position on the waiting list. You may also use the viewing terminal to drop courses or change the grading basis of courses, but in order to add courses or switch sections you must use a regular enrollment terminal.

On the tenth day of instruction the Study List of enrolled courses becomes "official" and a computerized Official Study List is mailed to each registered student. (If you do not receive yours on time, obtain a copy in the Registration/Enrollment Office, 1134 Murphy Hall.) You are responsible for all courses and the grading basis as listed on the Official Study List, and you cannot receive credit for courses not listed. Unapproved withdrawal from or neglect of a course entered on the Study List will result in a failing grade.

Changes to your Official Study List require an Enrollment Petition from your college or school. Each petition costs $3, but you may make any number of changes on the same form. If you plan to add a course, you must bring a Permission to Enroll form from the instructor or ask the instructor to sign the petition. 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. The deadline to drop classes is the end of the fourth week of instruction (see Calendar).

Change of College or Major

Changing your college or major requires the approval of the college or department you want to attend. Applications are made by petition, which is available without charge from the college or school office. You may not change majors after the opening of the last quarter 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 $1,362 per quarter (for a full definition of residence and nonresidence, see the Appendix of this catalog).

At the time of registration each quarter, all undergraduates must pay the following fixed fees. Fees for Fall Quarter 1986 are current as of publication date but are subject to change without notice by The Regents.

<table>
<thead>
<tr>
<th>Quarterly Expenses, Fall 1986</th>
</tr>
</thead>
<tbody>
<tr>
<td>University registration fee</td>
</tr>
<tr>
<td>Education fee</td>
</tr>
<tr>
<td>Ackerman Student Union fee</td>
</tr>
<tr>
<td>Associated Students (ASUCLA) fee</td>
</tr>
<tr>
<td>Wooden Recreation Center fee</td>
</tr>
<tr>
<td>Total for California residents</td>
</tr>
<tr>
<td>Nonresident tuition fee</td>
</tr>
<tr>
<td>Total for nonresidents</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.

Other Fees

Miscellaneous fees charged to UCLA undergraduates include a $50 charge for late payment of registration fees or late filing of the Study List (after the tenth day of classes). 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 refer to the Schedule of Classes.

Reduced Fee Programs

UCLA recognizes the need for part-time study in special circumstances. If you have 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 one-half the education fee. You must file the Request for Fee Reduction form with your college or school by the tenth day of instruction. Fee assessment is based on total units enrolled as of Friday of the third week of instruction.

Lapse of Status

Your status may lapse if you fail to settle financial obligations when due (or make satisfactory arrangements with the Main Cashier if payment cannot be made) or if you fail to respond to official University notices. With lapsed status you are not entitled to any University services except assistance toward reinstatement. After you have satisfied the obligation, a petition for reinstatement must be approved by the office recommending the lapse of status and filed with the Registrar's Office, 1111 Murphy Hall, with a $10 reinstatement fee.

Estimated Annual Budgets for California Residents

<table>
<thead>
<tr>
<th></th>
<th>Single, Commuter, Living at Parents' Home</th>
<th>Single, Living in UCLA Residence Hall, Co-Op, Sorority, or Fraternity</th>
<th>Single, Living in Off-Campus Apartment or House</th>
<th>Married, Living in UCLA Family Student Housing</th>
<th>Married, Living in Off-Campus Apartment or House</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Fees</td>
<td>$1,295</td>
<td>$1,295</td>
<td>$1,295</td>
<td>$1,295</td>
<td>$1,295</td>
</tr>
<tr>
<td>Books and Educational Supplies</td>
<td>525</td>
<td>525</td>
<td>525</td>
<td>525</td>
<td>525</td>
</tr>
<tr>
<td>Food and Rent</td>
<td>1,180</td>
<td>2,960*</td>
<td>4,400</td>
<td>6,500</td>
<td>8,200</td>
</tr>
<tr>
<td>Transportation</td>
<td>600</td>
<td>100</td>
<td>400</td>
<td>400</td>
<td>400</td>
</tr>
<tr>
<td>Personal</td>
<td>950</td>
<td>950**</td>
<td>950</td>
<td>2,300</td>
<td>2,300</td>
</tr>
<tr>
<td>Total Budget</td>
<td>$4,550</td>
<td>$5,830</td>
<td>$7,570</td>
<td>$11,020</td>
<td>$12,720</td>
</tr>
</tbody>
</table>

*If you are assigned a room in a residential suite, add $600. **Includes $100 for extra meals during breaks.

For more information on housing, see Chapter 1 or contact the UCLA Community Housing Office in 100 Sproul Hall (825-4491).
Living Expenses

Printed on the previous page are the estimated yearly budgets for undergraduate California residents. Nonresidents must add the $4,086 annual tuition fee to their total expenses for an accurate estimate. Expenses cover the three regular session quarters of the 1986-87 academic year and do not include Summer Sessions. The budgets are designed to serve as a guide only.

Financial Support

Information:
Financial Aid Office
A107 Murphy Hall
(213) 206-0432

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 your high school counselor or from the Financial Aid Office, A107 Murphy Hall, University of California, Los Angeles, CA 90024.

Applying for Financial Aid

The deadline for filing all undergraduate financial aid applications for academic year 1987-88 is early February 1987 (applications for 1986-87 would have had to be filed by February 1986). 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 Undergraduate Application Packet during the filing period (see "Undergraduate Admission" at the beginning of this chapter). On the application, check the boxes requesting financial aid and scholarship application materials.

Continuing students may obtain UCLA Scholarship and Financial Aid Application Packets at the Financial Aid Office in December of each year. Continuing students from foreign countries may obtain a Financial Aid Application for International Students at the Financial Aid Counseling Window, A107 Murphy Hall. No financial aid can be awarded to international students in their first year of attendance at UCLA.

Student Aid Application for California (SAAC)

One of the key assumptions of financial aid is that parents of a student 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 Student Aid Application for California (SAAC). If you are financially independent, your own financial circumstances are analyzed rather than those of your parents (see the Financial Aid Handbook for the definition of financial independence).

The SAAC is used to apply for Pell Grants, funds administered by UCLA, and Cal Grants administered by the California Student Aid Commission. It is available at California high schools and colleges and the UCLA Financial Aid Office, and should be filed in early February with the College Scholarship Service, P.O. Box 70, Berkeley, CA 94701. Be sure to indicate that a report is to be sent to UCLA.

Kinds of Financial Aid

There are four basic kinds 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 money that is a gift (scholarship or grant) and some that will have to be paid back or worked for. If you indicate a preference for work or loan, we will attempt to honor it.

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 and department.

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.

With the exception of the Regents and Alumni Association Scholarships, financial need is a prerequisite for UCLA scholarships. Each year approximately $300,000 is awarded from the many different scholarship funds. Awards usually range from $100 to $1,500 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; scholars receive a yearly honorarium of $500 if they have no financial need. Scholars who establish financial need by filing the SAAC 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.

UCLA Alumni Association Scholarships

Alumni Scholarships are available to California high school graduates who will be UCLA freshmen in the Fall Quarter. No financial need is involved, but you must show academic promise. Alumni Scholarships are merit-based and competitively awarded. Amounts for 1986-87 range from $1,000 to $10,000. The Ralph Bunche Scholarship, also awarded by the UCLA Alumni Association and named in honor of the Nobel Peace Prize laureate and UCLA alumnus, is awarded to students who meet the University's Student Affirmative Action definition.

Prizes

The generosity of alumni and friends of the University provides for competitive prizes and awards in several fields. Selections are made by committees in appropriate academic departments. See your departmental adviser for details.

Grants

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

Pell Grants are federal aid programs 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 1986-87 range from $250 to $2,300 and are determined by your own and your family's financial resources. U.S. citizens, permanent residents, and refugees are eligible to apply by filing the SAAC. The University requires all eligible undergraduates to apply for a Pell Grant.

Cal Grants A and B

California residents who have not completed more than nine quarters or six semesters of college work prior to September 1986 are eligible to apply for a California Student Aid Commission Cal Grant award. The SAAC and Cal Grant Supplements are the official applications for these programs. "Cal Grant A" awards are applied toward education and registration fees. They are based on need and academic achievement and are renewable each year. "Cal Grant B" awards are intended to assist low-income families and are renewable annually.

Grants-in-Aid

Grants-in-Aid provide eligible students with financial assistance from University funds. Awards range from $100 to $5,010. All students may apply.

Supplemental Educational Opportunity Grants

These awards are federally funded and are granted only to undergraduates with financial need. Awards range from $200 to $1,500.

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. The loans come from revolving funds; most repayments are immediately reloaned to current students.

It is essential that borrowers realize their commitment and responsibility to repay according to repayment schedules. Before accepting a loan, you should assess your total educational debt and your ability to repay following graduation. If you are a first-time borrower, schedule an appointment with a financial aid counselor. The University will make every effort to assist you during the repayment of your obligation, but University services, including registration and the release of official transcripts, will be withheld if your loan becomes delinquent. Seriously delinquent accounts are referred to a professional collection agency for action.

All loan recipients must come to the Student Loan Services Office (A227 Murphy Hall) for a loan exit interview before leaving UCLA for any reason. This interview will help you understand your loan agreement and your rights and responsibilities. If you fail to participate in an exit interview, the University will place a hold on your academic records and registration materials. Call 825-9864 for an interview appointment before leaving UCLA for any reason.

National Direct Student Loans (NDSL)

These low-interest loans are available to all students who are U.S. citizens, permanent residents, or refugees and who are carrying at least one-half the full-time academic workload. Repayment begins nine months after you terminate at least half-time study. Minimum repayment is $90 per quarter, including interest, for a maximum of 10 years.

Nursing Loans

To be eligible for a nursing loan, you must be a U.S. citizen, permanent resident, or refugee and a student in the School of Nursing. Up to $2,500 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.
## Undergraduate Majors and Degrees

<table>
<thead>
<tr>
<th>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.</td>
<td></td>
</tr>
<tr>
<td>Asian American Studies</td>
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<td>Biology</td>
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<td>Chemistry/Materials Science</td>
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<td>Chicano Studies</td>
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<td>Classics</td>
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<td>Classical Civilization</td>
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<td>Greek</td>
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<td>Latin</td>
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<td>English/Greek</td>
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<td>English/Latin</td>
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<td>Communication Studies</td>
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<td>Cybernetics</td>
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<td>Diversified Liberal Arts</td>
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<td>Certificate Program (taken jointly with an organized major)</td>
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<td><strong>Earth and Space Sciences</strong></td>
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<td>Geology</td>
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<td>Geology (Engineering Geology)</td>
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<td>Geology (Geochemistry)</td>
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<td>Geology (Nonrenewable Natural Resources)</td>
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<td>Geology (Paleobiology)</td>
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<td>Geophysics (Applied Geophysics)</td>
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<tr>
<td>Geophysics (Geophysics and Space Physics)</td>
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<tr>
<td><strong>East Asian Languages and Cultures</strong></td>
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<td>Chinese</td>
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<td>Japanese</td>
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<td>East Asian Studies</td>
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<tr>
<td>Economics</td>
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<td>Economics/Business</td>
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<td>Economics/International Area Studies</td>
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<td>Economics/System Science</td>
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<td>English</td>
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<td>French and Linguistics</td>
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<tr>
<td>Geography</td>
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<td>Geography/Ecosystems</td>
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<tr>
<td><strong>Germanic Languages</strong></td>
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<tr>
<td>German</td>
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<td>Scandinavian Languages</td>
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<tr>
<td>History</td>
<td>B.A.</td>
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<tr>
<td>History/Art History</td>
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<td>Individual Field of Concentration</td>
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<tr>
<td><strong>International Relations</strong></td>
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<td>Special Program (taken jointly with the Political Science major)</td>
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<tr>
<td>Italian</td>
<td>B.A.</td>
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<td>Italian and Special Fields</td>
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<td>Kinesiology</td>
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<td>Latin American Studies</td>
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<tr>
<td>Law and Society</td>
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<td>Special Program (taken jointly with the Political Science major)</td>
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<td><strong>Linguistics</strong></td>
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<tr>
<td>African Languages</td>
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<tr>
<td>Linguistics and Computer Science</td>
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<tr>
<td>Linguistics and East Asian Languages and Cultures</td>
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<tr>
<td>Linguistics and English</td>
<td>B.A.</td>
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<td>Linguistics and French</td>
<td>B.A.</td>
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<tr>
<td>MAJORS</td>
<td>DEGREES</td>
<td>OTHER</td>
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<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>Linguistics and Spanish</td>
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<td>Applied Mathematics</td>
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<td>Mathematics/Applied Science</td>
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<td>Mathematics/Computer Science</td>
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<td>Microbiology</td>
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<td>Near Eastern Languages and Cultures</td>
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<td>Program (taken jointly with an organized major)</td>
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<tr>
<td>Ancient Near Eastern Civilizations</td>
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<tr>
<td>Arabic</td>
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<td>Hebrew</td>
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<td>Jewish Studies</td>
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<td>Near Eastern Studies</td>
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<tr>
<td>Philosophy</td>
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<td>Physics</td>
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<tr>
<td>General Physics</td>
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<td>Political Science</td>
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<td>Psychology</td>
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<td>Cognitive Science</td>
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<td>Psychobiology</td>
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<td>Religion, Study of</td>
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<td>Slavic Languages and Literatures</td>
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<tr>
<td>Russian Civilization</td>
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<td>Russian Linguistics</td>
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<td>Sociology</td>
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<td>Spanish and Portuguese</td>
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<td>Portuguese</td>
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<td>Spanish</td>
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<td>Spanish and Linguistics</td>
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<td>Spanish and Portuguese</td>
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<tr>
<td>Urban Studies or Organizational Studies</td>
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<td>Women's Studies</td>
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<td>Special Program (taken jointly with an organized major)</td>
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<td>World Arts and Cultures</td>
<td>B.A.</td>
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**College of Fine Arts**

Art, Design, and Art History
- Art                                     | B.A.    |
- Art History                             | B.A.    |
- Design                                  | B.A.    |
- Dance                                   | B.A.    |
- History/Art History                      | B.A.    |
- Individual Field                         | B.A.    |
- Music                                   | B.A.    |
- Theater, Film, and Television           |         |
- Motion Picture/Television                | B.A.    |
- Theater                                 | B.A.    |
- World Arts and Cultures                  | B.A.    |

**School of Engineering and Applied Science**

Aerospace Engineering                      | B.S.    |
Chemical Engineering                        | B.S.    |
Civil Engineering                           | B.S.    |
Computer Science and Engineering            | B.S.    |
Electrical Engineering                      | B.S.    |
Engineering                                | B.S.    |
Materials Engineering                       | B.S.    |
Mechanical Engineering                      | B.S.    |

**School of Nursing**

Nursing                                    | B.S.    |
Getting Your Bachelor’s Degree

Colleges and Schools

The UCLA campus consists of 13 colleges and schools, most of which are subdivided into departments. The courses of instruction are administered within the departments.

Colleges at UCLA provide a broad, nonprofessionally oriented curriculum leading to both undergraduate and graduate degrees. UCLA has two colleges: the College of Letters and Science and the College of Fine Arts.

Schools provide training for specific professions and are authorized to grant professional degrees (e.g., Master of Business Administration, Master of Engineering, Doctor of Education). UCLA has 11 professional schools, two of which offer undergraduate degree programs: the School of Engineering and Applied Science and the School of Nursing.

Each of the colleges and schools 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. There are no undergraduate minors at UCLA, but 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 stay informed of rules, regulations, and policies affecting your life as a UCLA student and your academic standing, and to comply with them. 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 will possibly 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 or school 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 with advisers in the Placement and Career Planning Center.

A few words of warning: certain majors, especially in fine arts, engineering, and the sciences, require early declaration. Some have enrollment quotas and will allow application by new majors only during a specified quarter. 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 minimum and maximum number of units required for graduation. The Orientation program for new students will take you through a step-by-step plan for 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 coursework for the bachelor’s degree at UCLA. A maximum of 208 units is allowed in the College of Fine Arts and the School of Nursing; in the College of Letters and Science a maximum of 216 units (228 for double majors and special programs) is allowed. (If you have credit for English 1 taken Fall Quarter 1978 through Summer Quarter 1984 at UCLA, the minimum and maximum unit requirements are increased by two units: 182 for the minimum and 210, 218, or 230 for the maximum.) In the School of Engineering and Applied Science, the minimum units allowed are between 185 and 201 (depending on the program), 213 maximum units are allowed.
In working toward a bachelor's degree, you should be aware that in addition to unit requirements there are three levels of requirements which you must satisfy. The first level 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, and American History and Institutions);

(2) College or school requirements (e.g., credit and scholarship, English composition, general education requirements);

(3) Departmental 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 level 2 requirements, and then to the individual departments within each college and school for level 3 requirements.

**University Requirements**

The University of California has established two requirements which all undergraduates must satisfy in order to graduate: Subject A, 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 quarter in residence. You may meet this requirement by:

(1) Scoring 3, 4, or 5 on the College Entrance Examination Board (CEEB) Advanced Placement Test in English, OR

(2) Scoring 600 or better on the CEEB Achievement Test in English Composition, OR

(3) Presenting transfer credit for an acceptable college-level course in English composition at another institution, OR

(4) Passing a Subject A Placement Test required of all students who have not otherwise met the requirement.

If you do not meet the requirement in one of the ways described above, during your first quarter in residence at UCLA you must enroll in either English A or B (determined by performance on the Subject A Placement Test). Each course must be taken for a letter grade and passed with a grade of C or better. No credit toward a degree is granted for either English A or B (determined by performance on the Subject A Placement Test) unless the Subject A requirement is satisfied.

**English as a Second Language (ESL) Students:** If your native language is not English, you are required to take the English as a Second Language Placement Examination (ESLPE) even if you have received transfer credit for an acceptable college-level course in English composition at another institution (you are exempt from the Subject A examination). You may satisfy the Subject A requirement by (1) passing the ESLPE or (2) completing English (ESL) 33C with a grade of C or better (C- or a Passed grade is not acceptable). If you do not meet the requirement by either of the above methods, you must take (during your first quarter in residence at UCLA) either English (ESL) 33A, 33B, or 33C, depending on your ESLPE results. You must proceed in the English (ESL) 33 series until you complete course 33C with a grade of C or better. All units apply toward graduation but cannot be applied toward general education requirements.

**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 United States under the federal and state constitutions. Candidates for a teaching credential, but not for a master’s degree, must take one of the following courses: History 7A, 7B, 151A, 151B, Political Science 172A, or 172B. Students attending the University on an F-1 or J-1 visa may petition for exemption from this requirement by showing proof of temporary residency in the United States.

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

**Course Credit and Minimum Scholarship**

In acceptable courses, the grades C through D — yield unit credit toward the degree but 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 quarter. 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.

You may terminate probation at the end of a regular quarter 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 quarters, you may become subject to dismissal from the University.
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 quarter is less than 1.5, OR
(2) If you do not earn at least a C (2.0) average in any quarter when you are on probation, OR
(3) If you do not end probation within two quarters.

Note: In some colleges and schools, you may be subject to disqualification for failing to meet minimum progress requirements. Check with your college or school counselor.

If you are subject to dismissal, your transcript will carry the notation "Academic Probation, Continuance Subject to Dean's Approval." 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
UCLA is a full-time educational institution, and students are expected to complete their undergraduate degree requirements and graduate within four years. Maintaining the recommended study load will enhance your learning experience and the coherence of your studies.

The normal program for undergraduate students is three to four courses (12 to 16 units) per quarter; colleges and schools enforce minimum enrollment or minimum progress regulations. 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.

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 colleges, 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 taught in existing academic departments. Many involve nontraditional educational concepts, interdisciplinary topics, and subjects on the leading edge of faculty interest.

Each quarter 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 (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, A213 Ackerman Union (825-0831).

Government Internship Program — More than 2,700 UCLA students have learned about the inner workings of government while serving in this program, the largest of its kind in any university in the nation. Bruins serve full-time internships for one or more quarters on the staffs of elected officials, public interest groups, and government agencies in Sacramento, Washington, and overseas. Others are participating in business, banking, and the arts in New York and San Francisco. The positions carry a small stipend.

International Opportunity Counseling Service — The EXPO Center counsels students on study, travel, and work opportunities outside the United States, offering information on some 1,800 overseas study programs open to UCLA students. EXPO also maintains a library of current materials related to study and travel opportunities abroad. International Student Identity Cards and Youth Hostel memberships are issued at the center.

Volunteer Income Tax Assistance Program (VITA) — Each winter the VITA program provides free income tax aid to UCLA students and a variety of disadvantaged people off campus. Student volunteers receive extensive training by the IRS in preparing tax returns and tax counseling.

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, community service, or cooperative education programs. The office is located in 70 Powell Library (825-7867).

Departmental Field Studies Development — Coherent field programs for academic credit have been developed in anthropology, business and administration, Chicano studies, communication studies, English, geography, history, kinesiology, political science, psychology, sociology, and women's studies. Departmental coordinators work with you to develop field projects and find placements and academic sponsors.

Independent Field Studies — You may design internships and field study opportunities to meet your specific academic, personal, and career goals. A field study coordinator helps you with your plans on a one-to-one basis and helps arrange academic credit for an appropriate field studies project.

Developmental Disabilities Immersion Program (DDIP) — Co-sponsored by Field Studies Development and the Departments of Psychology and Psychiatry, DDIP offers an intensive living, studying, and working experience in developmental disabilities. One session is offered each year during Winter and Spring Quarters. For more information, call 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. For a complete description of this program, see Chapter 5 on the College of Letters and Science.

Professional Schools Seminar Program

This program offers seminars that explore topics bridging various academic disciplines and professional practice. Students seeking to define their own academic and career goals will gain valuable exposure to (1) research frontiers in the professions, (2) policy and ethical issues, and (3) historical and sociological perspectives on professional practice.
Seminar are offered in the Fall, Winter, and Spring Quarters. Enrollment is limited to allow students close contact with professional school faculty members; lower division students are preferred. For further information, contact the Program Office in 80 Powell Library (825-5467).

**Individual Classes**

Most departments offer the individual study (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 Officer 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 is designed to provide UCLA undergraduates with opportunities to work with senior faculty on research projects. You select a faculty sponsor and the two of you agree on a contract detailing the nature of your work and the specific research tasks to be completed. Your involvement can be either voluntary or, in some instances, for academic credit through an individual studies 199 course. In addition, you will be eligible to have "Student Research Program" and a designation of the research department appear on your transcript.

All undergraduates in good academic standing are eligible to participate. Research opportunities exist in most academic departments within the College of Letters and Science. For further information, contact the SRP Office in A316 Murphy Hall (825-6443).

**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 will introduce 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, 825-1865 or 825-3382 (Division of Honors — A311 Murphy Hall, 825-1553 or 825-3786)

**College of Fine Arts** — A239 Murphy Hall, 825-9705

**School of Engineering and Applied Science** — 6426 Boelter Hall, 825-2826

**School of Nursing** — 2-200 Louis Factor Building, 825-7181

**Counseling Assistants**

Counseling assistants (CAs) are UCLA graduate students who have been specially trained to help new students with the transition into University life. Although employed in the College of Letters and Science, they represent a number of academic disciplines in several colleges and schools on campus. CAs help new students during Orientation with program planning and course selection, and are available throughout the year for follow-up visits and to provide help with program planning, skill building, and personal support. You may make an appointment with a CA in A316 Murphy Hall (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 at these outdoor campus locations: Campbell Hall (southwest corner), Placement and Career Planning Center, Powell Library (southeast corner), and Royce/Powell Quad, weekdays 10 a.m. to 2 p.m.; Murphy Hall and Schoenberg Hall, weekdays 9 a.m. to 3 p.m. During registration weeks every quarter, ASK counselors also are available from 8 a.m. to 5 p.m. daily in the computer room and Grand Ballroom in Ackerman Union.

**Preparatory Programs for New Students**

The Office of Preparatory Programs, located in A316 Murphy Hall (206-1217), administers six important programs to help new students adjust and succeed academically at UCLA: Orientation, Freshman Summer Program, Transfer Summer Program, Academic Advancement Program, ARC Math/Science Tutorials, and ARC Composition Tutoring Lab and ESL Service Courses Tutorials. Since most of the courses which new students take are offered by the College of Letters and Science, the Office of Preparatory Programs is a part of that academic unit; however, the programs are open to new students enrolled in any college or school on campus.

**Orientation**

Orientation at UCLA provides a comprehensive introduction to campus life. During the summer and before the beginning of the 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. You 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 some colleges and schools. Sessions for parents are also offered.
During the summer, Orientation offers three-day, two-night dormitory live-in programs for freshmen and both three-day, two-night and two-day, one-night programs for transfer students. Prior to the Winter and Spring Quarters, one-day on-campus programs are offered. There is a fee for participation. For more information, contact the Orientation Office in A316 Murphy Hall (206-6685).

Freshman Summer Program (FSP)
The Freshman Summer Program is a seven-week instructional program designed to help entering freshmen meet UCLA's high academic standards by improving composition, mathematical, and general learning skills.

Several hundred new freshmen get a head start every summer through the program's classroom instruction, tutorials, and academic advising workshops held for four hours each day. Special English courses — English A and B — help students improve writing skills and meet the University's initial composition requirement. The program's math courses prepare students for subsequent university-level math courses — including calculus — required for many majors at UCLA. Moreover, students receive guidance on academic planning and are assured enrollment in Fall Quarter classes.

FSP offers a firsthand introduction to UCLA. You can live in the residence halls (optional), take part in academic and personal counseling sessions, and generally get to know the campus and its facilities. The application fee is $10; if you have applied and are eligible for financial aid, there are no additional registration or tuition fees. (If you are not financial aid-eligible, you will have to pay a portion of the program's expense.) Other program costs are relatively low. You are eligible for the program if you have scored below 600 on the CEEB English Achievement Test and/or below 530 on the SAT Math, and if you have not taken advanced placement calculus. For more information, contact the Freshman Summer Program Office in 2235 Campbell Hall (206-1585).

Transfer Summer Program (TSP)
The Transfer Summer Program is an intensive seven-week instructional program to improve the composition and general learning skills of new transfer students. Its goal is to prepare such students for UCLA through approximately 16 hours per week of classroom instruction, tutorial assistance, and workshops.

The Transfer Summer Program consists of combinations of a composition course and an upper division course which, if completed successfully, yield credit toward your bachelor's degree. You have the option of residence hall living (strongly recommended) or commuter status; cultural, social, recreational activities, and counseling are available to help you adjust to UCLA. Academic advising sessions will help you plan — and guarantee your enrollment in — Fall Quarter classes. The application fee is $10; if you have applied and are eligible for financial aid, there are no additional registration or tuition fees. (If you are not financial aid-eligible, you will have to pay a portion of the program's expense.) Other program costs are relatively low.

For details on TSP, contact the Transfer Summer Program Office in 2235 Campbell Hall (206-1586).

Academic Advancement Program
The Academic Advancement Program (AAP), formerly EOP, is the primary student affirmative action program at UCLA. AAP provides academic and personal support each year to approximately 4,600 students from low-income families and ethnic groups historically underrepresented at UCLA. Its major goals are to help these students adjust to the University and to increase the likelihood of their college graduation. Among its services are peer counseling for all new students, professional/academic/personal counseling, individual and group tutoring sessions, and seminars to prepare students for graduate school entrance examinations.

Applicants must meet regular University requirements for undergraduate admission and must be U.S. citizens or permanent residents who are also residents of California (American Indians excepted). For more information, contact the AAP Office in 1209 Campbell Hall (825-1481).

ARC Math/Sciences Tutorials
The Academic Resources Center Math/Sciences Tutorials (3973 Math Sciences) provide an organized by-appointment tutorial program for most math courses between Mathematics A and 32A, Chemistry 2, 11A, and 11B, Physics 6A, 6B, 8A, 8B, and 10, and Biology 2 and 5. 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 four weeks of the quarter; early registration is advised.

For math and science courses not served by the appointment tutorials and for additional help with specific problems, the Math/Sciences Tutors also coordinate a drop-in tutorial facility in 3970 and 3974 Math Sciences.

ARC Composition Tutoring Lab and ESL Service Courses Tutorials
The Academic Resources Center Composition Tutoring Lab, developed in collaboration with the UCLA Writing Programs, provides individual assistance to students enrolled in English A, B, and 3 and, as available, to students writing for other UCLA courses. The lab is staffed by trained undergraduate peer tutors who have shown outstanding ability in advanced composition courses.

The ARC ESL Service Courses Tutorials assist nonnative-speaking students with English grammar, idiom, pronunciation, and listening comprehension. Priority is given to students enrolled in English (ESL) 33A, 33B, and 33C, and other ESL courses. The tutors are all graduate students in the ESL section.

Both of these services are located in 339 Kinsey Hall. For tutoring appointments and further information, call 206-1491.

Learning Resource Centers (LRC)
The Learning Resource Centers include the Language Laboratory, the Multimedia Learning Laboratory, and the Instructional Media Library. All of these resources rely on the new information technologies to help you improve academic skills, augment traditional classroom instruction, and enrich your educational experiences. For general information, contact the LRC Office in 46 Powell Library (206-1248).

Language Laboratory — Students enrolled in foreign language classes are assigned by faculty to practice pronunciation and comprehension skills in the laboratory, 190 Powell Library (206-8855). Audiotape programs which accompany specific texts used in classes and listening, recording, and monitoring equipment are available.

Multimedia Learning Laboratory — Today many academic programs in the sciences, arts, and humanities depend on materials that are available only in video or audio formats or as computer software. You can use these resources at your own pace in the Multimedia Learning Laboratory located in 290 Powell Library (206-1211). The noncirculating collection includes materials placed on reserve by faculty and assigned for independent study, as well as materials designed to help you develop a wide range of learning skills.

Instructional Media Library maintains a large collection of educational films, videotapes, and slide/tape modules which it lends to regularly scheduled UCLA classes and campus organizations. Reference books and catalogs from educational and feature film distributors are available. The library staff offers assistance in researching films on any subject and obtaining materials from outside sources. Two preview rooms, located in 46 Powell Library, are available by appointment (825-0755).
Petitions

A petition is a piece of paper representing your need or desire to be excepted from any standard rule or regulation in the University. It is the only way to obtain formal approval from the department, the college or school, the Registrar, or whoever has authority over your particular request. Some petitions carry a small fee; others are free.

An approved petition for a waiver or substitution in degree requirements represents an agreement between you, your college or school and, in some cases, the department chair, granting you an exception from the existing regulations.

Academic Excellence

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

Dean's Honors List

The Colleges of Letters and Science and Fine Arts, and the School of Engineering and Applied Science, all award Dean's Honors to deserving students each quarter. 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 with the Bachelor's Degree

Your college or school awards graduation honors according to your overall GPA at the beginning of your last quarter of academic work or at graduation. To be eligible, you must have completed at least 90 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 all campus units except the School of Engineering and Applied 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 may nominate exceptionally promising juniors and seniors as Departmental Scholars to pursue bachelor's and master's degree programs simultaneously. Nominations are submitted to the college or school dean 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 quarter of your freshman year, or a cumulative 3.5 GPA at the end of the second and/or third quarters. Invitations are issued in Winter Quarter, and initiation is held during Spring Quarter. For more information, contact the Dean of Students Office, 2224 Murphy Hall (825-3871).

Phi Beta Kappa

Phi Beta Kappa is a national honorary society in the humanities, 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 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 the Phi Beta Kappa Office, Division of Honors, A311 Murphy Hall (825-0192).

Mortar Board

Mortar Board is a national honor society for college seniors which recognizes scholastic ability (a 3.0 GPA is required), outstanding and continual leadership, and dedicated service to the community. Membership applications are available in the Dean of Students Office, 2224 Murphy Hall (825-3871), during Winter Quarter.

Phi Beta Kappa

Phi Beta Kappa is a national honorary society in the humanities, 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 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 the Phi Beta Kappa Office, Division of Honors, A311 Murphy Hall (825-0192).

Outstanding Senior Award

The Outstanding Senior Award offers recognition to graduating seniors who have demonstrated scholastic excellence, creativity in the department, and service to the University and community. Nominations are accepted during Fall Quarter, and awards are presented at the annual Alumni Awards Ceremony in June. For more information, contact the UCLA Alumni Association in the James E. West Center, 325 Westwood Plaza (825-3901).
Graduate Study

Victoria A. Fromkin
Dean of the Graduate Division,
Vice Chancellor — Graduate Programs
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, 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 classroom, 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 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 first stage of graduate education leads to 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. The master's program is intended to develop your mastery of a field and prepare you for the practice of a profession.

The second stage leads to a doctoral degree (Ph.D., Ed.D., etc.) and 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 certain graduate professional degree programs. It oversees graduate recruitment and admissions, fellowships, teaching and research assistantships 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 — graduate programs.

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, it establishes policy for graduate education at UCLA, including requirements, standards for admission, and graduate degree programs. It also makes recommendations regarding fellowships and apprentice personnel. A major responsibility of the Graduate Council is the periodic review and evaluation of all graduate programs.

The Graduate Adviser

After admission to a department, program, or school, each graduate student is assigned a graduate adviser who approves Official Study Lists and assists the student in program planning and completing degree requirements. The graduate adviser is available for counseling whenever needed, but departments usually require at least one student consultation each quarter. 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)

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 Control 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) and publication of the monthly GSA newsletter, Grad Voice. The GSA Office is located in 301 Kerckhoff Hall (296-8512).
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. 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 a four-year degree, diploma, or higher certificate from a technical, vocational, or postsecondary specialized school, should not apply for graduate admission. Persons with memberships in professional associations such as Institutes of Chartered Accountants, the Institute of Chartered Secretaries and Administrators, 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, colleges, 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 Application for Graduate Admission, Fellowship and Financial Aid to the Graduate Division. You may obtain this form, in person or by mail, from your prospective school or department.

Applications are generally accepted for Fall, Winter, and SpringQuarters, 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 in the Graduate Admissions Office by the following dates:

- October 1, 1986, for Winter Quarter 1987
- December 31, 1986, for Spring Quarter 1987
- January 14, 1987, for Fall Quarter 1987

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 $35 nonrefundable application fee, are specified in the application packet. Unless the $35 fee was paid at another UC campus, applications received without the fee will not be processed. 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>1986-87 GRE Test Dates</th>
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<tbody>
<tr>
<td>October 11, 1986</td>
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<tr>
<td>December 13, 1986</td>
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<td>February 7, 1987</td>
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<tr>
<td>April 11, 1987</td>
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<tr>
<td>June 6, 1987 (general only)</td>
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</table>

GRE applications and information are available from offices of the Educational Testing Service, either at CN 6000, Princeton, NJ 08541-6000, or at 1947 Center Street, Berkeley, CA 94704. For information on GRE Fee Waivers, write to the Associate Program Director at the New Jersey address.

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

International Applicants

Applicants who have credentials from universities and colleges in foreign countries should submit applications at least two months before the dates listed above. International applicants should have an academic degree or professional title 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 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 and pass the TOEFL, administered by the Educational Testing Service in some 95 foreign centers. 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, even if you have received transfer credit for an acceptable college-level course in English composition at another institution. Depending on your ESLPE results, you may have to complete one course sequencing. Such restrictions are stated in this catalog's departmental listings and in the application packet.

(continued on page 44)
## Graduate Majors and Degrees

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<thead>
<tr>
<th>MAJORS</th>
<th>DEGREES</th>
<th>OTHER</th>
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<tbody>
<tr>
<td>African Area Studies</td>
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<td>Afro-American Studies</td>
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<tr>
<td>American Indian Studies</td>
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<tr>
<td>Anatomy</td>
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<td>Anesthesiology</td>
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<td>Applied Linguistics</td>
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<td>Archaeology</td>
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<td>M.Arch. I, M.Arch. II,</td>
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<tr>
<td>Art (Art, Design)</td>
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<td>Asian American Studies</td>
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<td>Astronomy</td>
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<td>Biomathematics</td>
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<td>Chemistry and Biochemistry</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>Earth and Space Sciences</td>
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<td>Geology</td>
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<td>Geophysics and Space Physics</td>
<td>M.S., Ph.D.</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>Economics</td>
<td>M.A., C.Phil., Ph.D.</td>
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<tr>
<td>Education</td>
<td>M.Ed., M.A., Ed.D., Ph.D.</td>
<td>Credential Programs in Multiple and Single Subject Instruction, Bilingual Emphasis, Pupil Personnel Services, Administrative Services, School Psychologist, Severely Handicapped Specialist</td>
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<td>Special Education</td>
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<tr>
<td>Engineering and Applied Science</td>
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<td>Certificate of Specialization (Engineering and Applied Science)</td>
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<td>Aerospace Engineering</td>
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<td>Computer Science</td>
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<td>Engineering</td>
<td>M.S., M.Engr., Engr., Ph.D.</td>
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<tr>
<td>Manufacturing Engineering</td>
<td>M.S.</td>
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<tr>
<td>Materials Science and Engineering</td>
<td>M.S., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>M.S., Ph.D.</td>
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</tr>
<tr>
<td>Nuclear Engineering</td>
<td>M.S., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>MAJORS</td>
<td>DEGREES</td>
<td>OTHER</td>
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<tr>
<td>-------------------------------</td>
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</tr>
<tr>
<td>English</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>English as a Second Language</td>
<td></td>
<td>Certificate Program</td>
</tr>
<tr>
<td>English Teaching as a Second Language</td>
<td>M.A.</td>
<td></td>
</tr>
<tr>
<td>Environmental Science and Engineering</td>
<td>D.Env.</td>
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</tr>
<tr>
<td>Folklore and Mythology</td>
<td>M.A., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>French</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Geography</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>German Languages</td>
<td>C. Phil., Ph.D.</td>
<td></td>
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<tr>
<td>German</td>
<td>M.A.</td>
<td></td>
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<tr>
<td>Scandinavian</td>
<td>M.A.</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Individual Ph.D. Program</td>
<td>Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Indo-European Studies</td>
<td>C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Islamic Studies</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Italian</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
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<tr>
<td>Kinesiology</td>
<td>M.A.</td>
<td></td>
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<tr>
<td>Latin American Studies</td>
<td>M.A.</td>
<td></td>
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<tr>
<td>Management</td>
<td>M.B.A., Executive M.B.A., M.S., C.Phil., Ph.D.</td>
<td>Certificate of Postgraduate Medical Study</td>
</tr>
<tr>
<td>Mathematics</td>
<td>M.A., M.A.T., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Medicine</td>
<td>M.D.</td>
<td></td>
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<tr>
<td>Microbiology</td>
<td>M.A., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Microbiology and Immunology</td>
<td>M.S.*, Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Molecular Biology</td>
<td>Ph.D.</td>
<td></td>
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<tr>
<td>Near Eastern Languages and Cultures</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Neuroscience</td>
<td>Ph.D.</td>
<td></td>
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<tr>
<td>Nursing</td>
<td>M.N.</td>
<td></td>
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<tr>
<td>Pathology</td>
<td>M.S., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Pharmacology</td>
<td>M.S.*, Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Philosophy</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Physics</td>
<td>M.S., M.A.T., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Political Science</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Psychiatry and Biobehavioral Sciences</td>
<td>M.S.P. (not admitting new students at this time)</td>
<td></td>
</tr>
<tr>
<td>Social Psychiatry</td>
<td>M.A.*, C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Public Health</td>
<td>M.P.H., M.S., Dr.P.H., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Biostatistics</td>
<td>M.S., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Preventive Medicine and Public Health</td>
<td>M.S.</td>
<td></td>
</tr>
<tr>
<td>Radiological Sciences</td>
<td>M.S., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Biomedical Physics</td>
<td>M.S., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Romance Linguistics and Literature</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Slavic Languages and Literatures</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Social Welfare</td>
<td>M.S.W., D.S.W.</td>
<td></td>
</tr>
<tr>
<td>Sociology</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
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<tr>
<td>Spanish and Portuguese</td>
<td></td>
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</tr>
<tr>
<td>Hispanic Languages and Literatures</td>
<td>C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Portuguese</td>
<td>M.A.</td>
<td></td>
</tr>
<tr>
<td>Spanish</td>
<td>M.A.</td>
<td></td>
</tr>
<tr>
<td>Theater, Film, and Television</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theater Arts (Motion Picture/Television, Theater)</td>
<td>M.A., M.F.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
</tbody>
</table>

*The department admits only applicants whose objective is the Ph.D.*
or more courses in the English (ESL) 33A through 33C series, beginning in your first quarter in residence at UCLA. These courses must be passed with a grade of C or better. 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 ESL courses. If you do not pass 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 — 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. Teachers with a master's degree who wish some refresher study, or international students on a year's stay in the United States, may wish to apply in this manner. Requirements for admission are the same as those for degree programs.

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, 1254 Murphy Hall (100 Dodd Hall after October 1, 1986). Also refer to the sections on "Academic Residence" and "Transfer of Credit" later in this chapter.

Renewal of Application

An offer of admission is valid for a specific quarter only. If you were not admitted, or failed to register in the quarter for which you were first accepted, you should file a Renewal of Application form for admission to a later quarter. Forms are available from the departments and should be submitted to the Graduate Admissions Office, 1247 Murphy Hall. Filing dates are the same as those for new applications. Forms should be accompanied by official transcripts, in duplicate, of any graduate work completed since the former application and by a $35 application fee. You may file only one Renewal of Application without the $35 fee. Acceptance for admission at any earlier date does not guarantee approval of the renewal. Since application records are kept no longer than two years, you may apply for admission after this period only by completing a new application and providing all necessary documents.

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 quarter 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 Readmission. Forms are available from the departments and should be submitted to the Graduate Admissions Office, 1247 Murphy Hall. The following materials must accompany the Application for Readmission:

1. A check or money order for $35 (nonrefundable) made payable to The Regents of the University of California.

2. Official transcripts of record, in duplicate, for all graduate work completed since your last registration at UCLA. If you are returning to UCLA after more than 10 years, submit transcripts of all academic work previously submitted.

3. 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 Readmission.)

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.
### Enrollment in Classes in Person

<table>
<thead>
<tr>
<th>Enrollment Period</th>
<th>Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 23-26</td>
<td>Fall Quarter 1986</td>
</tr>
<tr>
<td>December 4-6</td>
<td>Winter Quarter 1987</td>
</tr>
<tr>
<td>March 12-14</td>
<td>Spring Quarter 1987</td>
</tr>
</tbody>
</table>

### Change of Major

Continuing graduate students may petition for a change of major after discussing plans with — and obtaining the acceptance of — the new department. Forms for this purpose are available from, and should be filed with, the Graduate Division, Student and Academic Affairs Section, 1225 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 graduate courses (or 12 units) per quarter are considered the normal enrollment for graduate students. A minimum of eight units is required for full-time standing for all students, including teaching assistants, research assistants, and fellowship awardees.

#### Teaching and research assistants

are required to take at least two courses per quarter, or the equivalent of eight units, throughout their appointments. Those assistants who take a leave of absence or withdraw, terminate their appointments. Course 375 for teaching assistants and independent studies at the 500 level may be included in reaching the eight-unit load.

#### Graduate students holding fellowships

must be enrolled full-time students, both before and after advancement to candidacy. The two courses required per quarter 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 Veterans Administration regulations is available in the Office of Special Services/Veterans Affairs, A255 Murphy Hall.

### Continuous Registration

Graduate students are normally required to register in all three quarters of each academic year, including the quarter 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 below), you are exempt from this requirement. You must be registered in order to use University facilities or to 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 quarter may register “in absentia” and pay one-half the registration fee, plus all other fees in full. Petitions for the reduced fee are available from the department and from the Graduate Fellowship and Assistantship Section, 1228 Murphy Hall.
Registration in the Final Quarter for the Award of the Degree

(1) You must register in the final quarter 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, or (d) participating in the In-Candidacy Fee Offset Grant Program and were not registered the quarter immediately preceding the quarter in which your dissertation is filed. 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 quarter, you may be eligible to pay the filing fee instead of registering (see below).

(3) If you were registered in the preceding quarter and have completed all degree requirements, including final examinations and filing your thesis/dissertation, during the interval between quarters 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 quarter.

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 of one-half the registration fee instead of registering and paying all required fees. Applications are available at the Graduate Division, Student and Academic Affairs Section, 1225 Murphy Hall. For eligibility conditions and further information on the filing fee and registration in the final quarter, please consult Standards and Procedures for Graduate Study at UCLA, available in 1225 Murphy Hall or in individual departments.

Health Evaluation

New students enrolling in the School of Dentistry, Education, Medicine, Nursing, or Social Welfare must complete and return to the Student Health Service the Health Evaluation form provided by their departments.

All new and reentering international students must obtain clearance in person at the Student Health Service by completing and returning a Health Evaluation form, by verifying adequate health insurance coverage, and by establishing absence of active tuberculosis. In addition, all international students must obtain an annual health insurance clearance each fall at the SHS Insurance Office. For information, call 825-4073.
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 $1,362 per quarter (for a full definition of residence and nonresidence, see the Appendix of this catalog).

At the time of registration each quarter, all graduate students (except Law School students*) must pay the following fixed fees. Fees for Fall Quarter 1986 are current as of publication date but are subject to change without notice by The Regents.

<table>
<thead>
<tr>
<th>Quarterly Expenses, Fall 1986</th>
</tr>
</thead>
<tbody>
<tr>
<td>University registration fee</td>
</tr>
<tr>
<td>Education fee</td>
</tr>
<tr>
<td>Ackerman Student Union fee</td>
</tr>
<tr>
<td>Graduate Students Association (GSA) fee</td>
</tr>
<tr>
<td>Wooden Recreation Center fee</td>
</tr>
<tr>
<td>Total for California residents</td>
</tr>
<tr>
<td>Nonresident tuition fee</td>
</tr>
<tr>
<td>Total for nonresidents</td>
</tr>
</tbody>
</table>

*Students in the School of Law should refer to that school's announcement for explanation of fees per semester.

Other Fees

Miscellaneous fees charged to UCLA graduate students include a $50 charge for late payment of registration fees or late filing of the Study List (after the tenth day of classes); $25 for advancement to doctoral candidacy; and $5 or less 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 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 refer to the Schedule of Classes.

Nonresident Tuition Waivers

A limited number of nonresident tuition waivers are awarded each year to graduate students with distinguished academic records. Details of eligibility are available in your department or the Graduate Fellowship and Assistantship Section, 1228 Murphy Hall.

Lapse of Status

Your status may lapse if you fail to settle financial obligations when due (or make satisfactory arrangements with the Main Cashier if payment cannot be made) or if you fail to respond to official University notices. With lapsed status you are not entitled to any University services except assistance toward reinstatement. After you have satisfied the obligation, a petition for reinstatement must be approved by the office recommending the lapse of status and filed with the Registrar's Office, 1111 Murphy Hall, with a $10 reinstatement fee.

Estimated Annual Budgets for California Residents

<table>
<thead>
<tr>
<th></th>
<th>Single, Commuter, Living at Parents' Home</th>
<th>Single, Living at UCLA Residence Hall, Co-Op, Sorority, or Fraternity</th>
<th>Single, Living in Off-Campus Apartment or House</th>
<th>Married, Living in UCLA Family Student Housing</th>
<th>Married, Living in Off-Campus Apartment or House</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Fees</td>
<td>$1,346</td>
<td>$1,346</td>
<td>$1,346</td>
<td>$1,346</td>
<td>$1,346</td>
</tr>
<tr>
<td>Books and Educational Supplies</td>
<td>675</td>
<td>675</td>
<td>675</td>
<td>675</td>
<td>675</td>
</tr>
<tr>
<td>Food and Rent</td>
<td>1,180</td>
<td>2,960</td>
<td>5,400</td>
<td>6,500</td>
<td>8,200</td>
</tr>
<tr>
<td>Transportation</td>
<td>600</td>
<td>100</td>
<td>400</td>
<td>400</td>
<td>400</td>
</tr>
<tr>
<td>Personal</td>
<td>949</td>
<td>1,549*</td>
<td>949</td>
<td>2,299</td>
<td>2,299</td>
</tr>
<tr>
<td>Total Budget</td>
<td>$4,750</td>
<td>$6,630</td>
<td>$8,770</td>
<td>$11,220</td>
<td>$12,920</td>
</tr>
</tbody>
</table>

*Includes $100 for extra meals during breaks.

For more information on housing, see Chapter 1 or contact the UCLA Community Housing Office in 100 Sproul Hall (825-4491).
Living Expenses
Printed on the previous page are the estimated yearly budgets for graduate California residents. Nonresidents must add the $4,086 annual tuition fee to their total expenses for an accurate estimate. Expenses cover the three regular session quarters of the 1986-87 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.)

Financial Support
Information:
Graduate Fellowship and Assistantship Section
1228 Murphy Hall
(213) 825-3521
As a major center for graduate study, UCLA offers its qualified graduate students substantial support through several types of financial assistance. Awards are based on either academic merit or financial need, but the two types are not mutually exclusive. You are strongly urged to apply in all categories for which you may qualify.

Entering graduate students interested in University-administered awards should complete the Application for Graduate Admission, Fellowship and Financial Aid. Readmitted students should request the Graduate Application for Readmission form, and continuing graduate students should complete the Fellowship and Assistantship Application for Continuing Students. Completed applications must be returned by January 15. (Some departments have earlier deadlines; consult the application packet for details.)

Graduate Student Support, a booklet describing the full range of financial assistance available, is published annually for continuing students by the Graduate Fellowship and Assistantship Section. Contact your department for more detailed information.

Awards Based on Academic Merit
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.

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 quarter in the form of an interest-free advance loan check. Interested students should apply to their departments.) Research Assistantships give students experience working on faculty-supervised research projects.

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

In-Candidacy Fee Offset Grant Program
The In-Candidacy Fee Offset Grant Program pays the education fee for eligible doctoral students who have been advanced to candidacy. This program is described in detail in Standards and Procedures for Graduate Study at UCLA, available in 1225 Murphy Hall or in individual departments.

Graduate Affirmative Action Awards
These programs were established to increase the graduate enrollment of students from groups which, as a result of societal inequities, have been traditionally underrepresented in graduate education. These include American Indians, blacks, Chicanos, Filipinos, and Puerto Ricans. In addition, women are eligible in fields where they are underrepresented.

There is one need-based financial aid program (GAP), as well as several merit-based fellowship programs. Students are encouraged to apply for both need- and merit-based assistance; fellowship awards will reduce the size of financial aid support. All applicants for merit-based awards must be U.S. citizens. For more information on these programs, contact the Graduate Affirmative Affairs Office, 1242 Murphy Hall (825-2780).

(1) Graduate Advancement Program (GAP) — Awards are made on the basis of need as demonstrated by normal University financial aid standards and must meet GAP criteria. These awards differ from ordinary financial aid in that grants may be slightly larger and work-study awards do not require matching funds by employers.

(2) Graduate and Professional Opportunity Program (G*POP) — For 1986-87 awards provide stipends and fees to students in the fields of management, urban planning, biology, psychology, social welfare, and engineering. Continuation of this program is contingent on annual federal support.

(3) Graduate Opportunity Fellowship Program (GOFP) — Merit-based fellowships provide stipends and registration fees to students from groups traditionally underrepresented in graduate programs (e.g., women are eligible for fellowships in such fields as engineering and physical science).

(4) Dorothy Danforth Compton Fellowship — UCLA is one of 10 universities selected to receive a grant from the Danforth Foundation to support outstanding black, Mexican American, American Indian, and Puerto Rican students committed to careers in college and university teaching. A limited number of fellowships are awarded to Ph.D. students in the humanities, social sciences, health sciences, and fine arts. Applicants must be in departments offering a doctoral program having teaching or research provisions.

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 awards include educational grants, low-interest loans, and work-study employment. Students are usually awarded a financial aid "package" which is a combination of these forms of assistance. Further information is available at the Financial Aid Office, A107 Murphy Hall.
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 principally by means of the qualifying and comprehensive examinations. Achievement in research is judged by the merits of the thesis or dissertation.

The Master's Degree

University Minimum Standards

The requirements described here 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. You are advised to consult the appropriate school announcement or your graduate adviser.

Academic Residence

The minimum residence requirement consists of three academic quarters in graduate standing at the University of California, including at least two quarters at UCLA. Academic residency is established by successfully completing at least one graduate or upper division course (four units) during a quarter.

You may earn one quarter 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.

University Minimum Standards For Advanced Degrees*

<table>
<thead>
<tr>
<th>REQUIREMENT</th>
<th>MASTER'S DEGREE</th>
<th>DOCTORAL DEGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACADEMIC RESIDENCE</td>
<td>One year (three quarters) in graduate standing at University of California, two quarters at UCLA.</td>
<td>Two years (six quarters) in graduate standing at University of California, including three consecutive quarters at UCLA.** In most cases a longer period of residence is necessary.</td>
</tr>
<tr>
<td>PROGRAM OF STUDY</td>
<td>Nine graduate and upper division courses (36 units) in graduate standing, including at least five graduate courses.</td>
<td>No specific course requirements. Program is planned with adviser and guidance committee.</td>
</tr>
<tr>
<td>SCHOLARSHIP</td>
<td>B average required in all courses taken in graduate standing at UC and in all courses applied toward the master's degree.</td>
<td>B average required in all courses taken in graduate standing at UC.</td>
</tr>
<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>
</tr>
<tr>
<td>ADVANCEMENT TO CANDIDACY</td>
<td>All requirements for advancement, including foreign language examinations, must be satisfied. Forms must be filed by second week of the quarter in which degree is to be awarded.</td>
<td>The departmental written and University Oral Qualifying Examinations must be passed; departmental, course, and language requirements must be completed. Advancement is officially granted when you obtain your committee chair's signature, pay the $25 fee, and return the application to the Graduate Division.</td>
</tr>
<tr>
<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>
</tr>
</tbody>
</table>

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

** If the master's degree was earned at UCLA, one year of residence will have been satisfied.
Courses and Grades

The master's program at UCLA consists of at least nine graduate and upper division courses (or any number of fractional courses totaling 36 units) completed in graduate standing, of which at least five must be graduate. To maintain satisfactory progress toward the master's degree, UCLA requires at least a B average in all courses taken in graduate standing at the University and in all courses applied toward the master's degree.

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 Departmental Scholar. 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 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.

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 graduate adviser about applying Summer Sessions courses to your graduate program.

From University Extension — University Extension courses (100 series) taken before July 1, 1969, may apply on approval of the department and dean of the Graduate Division. No more than two such courses (eight units) may be applied.

Extension courses taken after July 1, 1969, can be applied only if they were 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 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.

Foreign Language Requirements

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

Depending on your department's regulations, you may fulfill foreign language requirements either by passing the Educational Testing Service (ETS) Graduate School Tests in French, German, Russian, or Spanish (or in languages not offered by ETS) by passing examinations given by UCLA language departments. You may register for the ETS examination at the University Extension Cashier's Office, 10995 Le Conte Avenue. UCLA enrollment is not required. Consult University 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, refer to Standards and Procedures for Graduate Study at UCLA or see your graduate adviser.

Advancement to Candidacy

When you have completed approximately half the program for the master's degree (usually at least two quarters), you should formally apply for advancement to candidacy. Application forms are available from your department or the Graduate Division, Student and Academic Affairs Section (1225 Murphy Hall), and must be filed in your major department no later than the second week of the quarter 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 quarter in which you plan to receive the degree is by petition only.

Plans of Study

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

A thesis committee, consisting of at least three faculty members who hold regular professorial appointments at the University, is nominated by the department and appointed by the dean of the Graduate Division for each student (consult Standards and Procedures for Graduate Study at UCLA 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.
The Doctoral Degree

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 are the University’s minimum standards for doctoral degrees. Each department may adopt additional requirements according to the demands of the field of study. Consult your graduate adviser for details.

Academic Residence

The minimum residence requirement for the doctoral degree is two years (six quarters) 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 is established by successfully completing one graduate or upper division course (four units) during a quarter.

You may earn one quarter of residence for summer study in either of these ways: (1) enroll in two consecutive 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.

Program of Study and Scholarship

Programs of study for doctoral degrees are more individualized than those for master’s degrees, permitting a higher degree of specialization. The University does not specify course requirements for doctoral programs. However, individual programs have coursework or other requirements which must be completed before taking the University Oral Qualifying Examination. You will determine your course of study in consultation with the adviser and guidance committee who supervise your activities until the doctoral committee is appointed.

Satisfactory progress toward the doctoral degree requires that you maintain at least a B average in all courses taken in graduate standing on any University of California campus.

Foreign Language Requirements

Most departments require doctoral 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 Oral Qualifying Examination. See “Foreign Language Requirements” under the Master’s Degree for information on fulfilling these requirements.

Examinations Before Advancement to Candidacy

A doctoral program generally involves two stages, separated by advancement to candidacy. The first stage is spent in fulfilling 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 five faculty members nominated by your department, is appointed by the dean of the Graduate Division (consult Standards and Procedures for Graduate Study at UCLA for details on committee membership). To determine your qualifications for advancement to candidacy, the committee administers the University Oral Qualifying Examination and, at its option, a written examination.

Advancement to Candidacy

You are eligible for advancement to doctoral candidacy after passing the University Oral Qualifying Examination with no more than one negative vote, completing four quarters 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 $25 advancement to candidacy fee, and submit the form to the Graduate Division, Student and Academic Affairs Section. You are officially advanced to candidacy on the date the completed form is submitted.

Writing the Dissertation

Once the doctoral committee approves the subject for your dissertation, the second or in-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.

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 advisor for further information.

Filing the Dissertation

You are responsible for following instructions on the preparation of the dissertation and for observing filing deadlines. For guidance in the preparation and submission of the dissertation and accompanying abstract, you may:

1. Consult the Theses and Dissertations Adviser, Office of the University Archivist, 141 Powell Library.
2. Read Regulations for Thesis and Dissertation Preparation, available in the Graduate Division, Student and Academic Affairs Section, or in the Archivist’s Office.
3. Attend an orientation meeting on manuscript preparation and filing procedures conducted soon after the start of each quarter (see the Calendar at the beginning of this catalog).

When your final dissertation has been approved by the doctoral committee 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 Section, 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 approximately two weeks before the degree is to be awarded. Deadlines for this academic year are:

- December 1 for Fall Quarter 1986
- March 9 for Winter Quarter 1987
- June 1 for Spring Quarter 1987

Individual Ph.D. Program

Although the University of California offers an extraordinary range of established doctoral programs, these cannot meet the needs and specific career goals of every student. The Individual Ph.D. Program therefore makes it possible for superior students to design their own coherent programs of interdisciplinary studies leading to the Ph.D. degree.

To qualify for this program, you must have been a full-time graduate student at UCLA for at least one year, making satisfactory progress toward a doctoral degree. After at least three faculty members have agreed to sponsor your proposal for an individual program of study, you may submit it to the Graduate Council for review. University minimum standards regarding courses, scholarship, residence, and dissertation apply. Further information on this program is available in the Graduate Division, Student and Academic Affairs Section, 1225 Murphy Hall.

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 26 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 under the College of Letters and Science, with the exceptions of Environmental Science and Engineering which is in the School of Public Health and Neuroscience which is in the School of Medicine. For further information, contact the chair or graduate adviser of the specific program that interests you.

- African Area Studies (M.A.)
- Afro-American Studies (M.A.)
- American Indian Studies (M.A.)
- Applied Linguistics (Ph.D.)
- Archaeology (M.A., Ph.D.)
- Asian American Studies (M.A.)
- Comparative Literature (M.A., Ph.D.)
- Environmental Science and Engineering (D.Env.)
- Folklore and Mythology (M.A., Ph.D.)
- Indo-European Studies (Ph.D.)
- Islamic Studies (M.A., Ph.D.)
- Latin American Studies (M.A.)
- Molecular Biology (Ph.D.)
- Neuroscience (Ph.D.)
- Romance Linguistics and Literature (M.A., Ph.D.)

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 Program
- Articulated Degree Program

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:

- Architecture and Urban Planning, M.A. — Law, J.D.
- Education, M.A., Ph.D., M.Ed., or Ed.D.— Law, J.D.
- History, M.A. — Library and Information Science, M.L.S.
- Latin American Studies, Interdepartmental M.A. — Architecture and 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.S.
- Management, M.B.A. — Public Health, M.P.H.

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. — Theater, Film, and Television, M.F.A. in Motion Picture/Television
- Latin American Studies, Interdepartmental M.A. — Education, M.Ed. in Curriculum
- Latin American Studies, Interdepartmental M.A. — Engineering and Applied Science, M.S.
- Latin American Studies, Interdepartmental M.A. — Library and Information Science, M.L.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 Section, for information on designing your own articulated programs.
Special Programs and Training

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.

If you have completed at least one quarter of graduate study at UCLA 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 in the Graduate Division, Student and Academic Affairs Section, should be completed before the start of the term in which the course is offered.

Intercampus Exchange Program

If you have completed one quarter of graduate study at any campus of the University, 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 other privileges at the host campus. Grades are transferred to your home campus and entered on your official record.

Applications are available in the Graduate Division, Student and Academic Affairs Section, 1225 Murphy Hall, and should be filed at least four weeks before the beginning of the quarter in which you expect to enter the program.

Graduate students may also take advantage of the Education Abroad and Education at Home Programs, described in Chapter 1 of this catalog.

Postdoctoral 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. Postdoctoral Scholar standing, which does not lead to any degree, is limited to a maximum of three years and must begin within three years after the doctoral degree is awarded. 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 for a limited time, normally no more than one year. Visiting Scholars are distinguished from Postdoctoral Scholars and academic appointees in that they usually have adequate support funds from sources outside the University.

Further information on both Postdoctoral and Visiting Scholars is available in the Fellowship and Assistantship Section, 1228 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 quarters 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.

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 Instruction and Degree Requirements. 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 a student or group of students should be made at the dean of Students Office, 2224 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 about a violation of University policy regarding the conduct of one or more faculty members should be made to the Charges Committee of the Academic Senate, 3125 Murphy Hall.
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:

<table>
<thead>
<tr>
<th>Undergraduate Students</th>
<th>Graduate Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>A = Superior Achievement</td>
</tr>
<tr>
<td>B</td>
<td>B = Satisfactorily demonstrates potential for professional achievement</td>
</tr>
<tr>
<td>C</td>
<td>C = Passed but work does not indicate potential for professional achievement</td>
</tr>
<tr>
<td>D</td>
<td>D = Poor</td>
</tr>
<tr>
<td>F</td>
<td>F = Failure</td>
</tr>
<tr>
<td>P</td>
<td>P = Passed (achievement at grade C level or better)</td>
</tr>
<tr>
<td>NP</td>
<td>NP = Not Passed</td>
</tr>
<tr>
<td>I</td>
<td>I = Incomplete</td>
</tr>
<tr>
<td>IP</td>
<td>IP = In Progress</td>
</tr>
<tr>
<td>DR</td>
<td>DR = Deferred Report</td>
</tr>
</tbody>
</table>

For Undergraduates — The grade A may be modified by a minus (−) suffix, and the grades B, C, and D by a plus (+) or minus (−) suffix, to either raise or lower your grade-point average. 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 quarter for you to remain in good academic standing. An F grade yields no unit or course credit.

For Graduate Students — The grades A, B, and C may be modified by a plus or minus suffix. The grades A, B, and S denote satisfactory progress toward the degree, but a C grade must be offset by higher grades in the same quarter 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).

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

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>4.0</td>
</tr>
<tr>
<td>A</td>
<td>4.0</td>
</tr>
<tr>
<td>A−</td>
<td>3.7</td>
</tr>
<tr>
<td>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>2.3</td>
</tr>
<tr>
<td>C</td>
<td>2.0</td>
</tr>
<tr>
<td>D+</td>
<td>1.3</td>
</tr>
<tr>
<td>D</td>
<td>1.0</td>
</tr>
<tr>
<td>D−</td>
<td>0.7</td>
</tr>
<tr>
<td>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, and IP, 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.)

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. For example, suppose you take three four-unit courses and receive grades of A−, B−, and C+. 

<table>
<thead>
<tr>
<th>Grade Points</th>
<th>Course Units</th>
<th>Total Grade Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A− = 3.7</td>
<td>4</td>
<td>14.8</td>
</tr>
<tr>
<td>B− = 2.7</td>
<td>4</td>
<td>10.8</td>
</tr>
<tr>
<td>C+ = 2.3</td>
<td>4</td>
<td>9.2</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>34.8</td>
</tr>
</tbody>
</table>

To determine your GPA for the quarter, 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 University Extension). Individual departments may require higher standards of achievement.

Only grades earned in regular session or Summer Sessions at any UC campus are computed in your UCLA grade-point average. Grades earned at another institution or in UCLA Extension 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 - 89.9</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 coursework for the bachelor's degree at UCLA. A maximum of 206 units is allowed in the College of Fine Arts and the School of Nursing; in the College of Letters and Science a maximum of 216 units (228 for double majors and special programs) is allowed. (If you have credit for English 1 taken Fall Quarter 1979 through Summer Quarter 1984 at UCLA, the minimum and maximum unit requirements are increased by two units: 182 for the minimum and 210, 218, or 230 for the maximum.) In the School of Engineering and Applied Science, the minimum units allowed are between 185 and 201 (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 quarter on a P/NP basis (two courses if you have not elected the P/NP option in the preceding quarter). 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 fourth week of instruction (see the Calendar at the beginning of this catalog for exact dates); changes after the first two weeks of class require a petition ($3), available from your college or school.

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 quarter, 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 Calendar at the beginning of this catalog); changes after the first two weeks of class require a petition ($3), available in the Graduate Division Office.

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

**Incomplete (I) Grades**

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 replace it with a passing grade and receive unit credit and grade points by satisfactorily completing the coursework as specified by the instructor. If the work is not completed by the end of the next full quarter in residence, the grade will lapse to an F, NP, or U as appropriate. Your college or school may extend this deadline in unusual cases.

Petitions for Removal of Incomplete Grade ($5) are available in your school or department office and should be filed no later than the sixth week of instruction in the next quarter of registration. (Note: Once an I grade is assigned, it remains on your transcript along with the passing grade you may later receive for the course.)

**In Progress (IP) Grades**

For certain courses extending over more than one quarter (identified by T1, T2, T3, or T4 in the Schedule of Classes), evaluation of student performance is deferred until the end of the final quarter of the course. Provisional grades of IP are assigned in the intervening quarter(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 Dean of Students Office 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 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 was given, including repeated courses, will be used in computing the grade-point average.
Correction of Grades

All grades except I, IP, and DR 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. 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 this 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 apply 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 ($5 each) 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).

Undergraduates

During the summer or during a quarter 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 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 also 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 will be computed into your 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 in the UARS Office.

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. 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 count community college courses beyond 105 quarter units, but you may still receive subject credit to satisfy lower division requirements. Consult your college or school counselors for possible further limitations. (To convert semester units into quarter units, multiply the semester units by 1.5.)

Graduates

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 “The Master’s Degree,” 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.

Unofficial copies of student transcripts are issued several weeks after the end of each quarter (to learn your grades more quickly, leave postcards with your instructors). You should pick up your transcript and inform the Registrar immediately of any omissions or other discrepancies. Student copies are available at no charge from the Registrar’s Office, 1111 Murphy Hall (students in the College of Fine Arts, the Schools of Nursing, Public Health, and Architecture and Urban Planning should pick up their transcripts in the respective college or school office). The Registrar verifies current quarter registration and full-time enrollment status for loan forms and other noncampus certifications, beginning on the first day of classes for undergraduates and the twelfth day of classes for graduates.

To have official transcripts sent to other schools or institutions, fill out a Request for Transcript of Record form at the Registrar’s Office (transcripts cannot be issued without your signed request). The fee is $3 for the first copy and $1 for each additional transcript requested at the same time. Rush transcript service is available for an additional $5 charge. Transcripts become available within 48 hours after your last date of attendance. Transcripts of work completed elsewhere must be requested directly from the campus or institution concerned.

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, 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 most University services. 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 five days) will be issued without fee at the Registrar’s Office, 1134 Murphy Hall. After the quarter begins, you may replace lost, destroyed, or mutilated cards at the Registrar’s Office for a $3 fee. You must show proof of identity for verification or replacement cards.

UCLA Student I.D. Card

This card with photo is issued in your first term of registration and is valid with the current Reg Card as long as you remain in the same standing (graduate or undergraduate). It is required for most University services and student activities.

You will need a current Reg Card and other valid identification (driver’s license, passport, or DMV I.D. card) to get your Student I.D. Card. Distribution hours and location will be announced in the registration issue of the Daily Bruin. You may replace lost or destroyed cards at 140 Kerckhoff Hall for a $3 fee.

Change of Name or Address

If you wish to change your name on your official record, fill out a name change form at the Registrar’s Office in 1111 Murphy Hall. If you change your address, notify the Registrar’s Office in 1134 Murphy Hall as soon as possible. Veterans receiving benefits must also notify the Office of Special Services/Veterans Affairs, A255 Murphy Hall.
Leaving UCLA

Intercampus Transfer
Undergraduate students registered in a regular session (or those previously registered who have not since registered at any other school) may apply for transfer to another campus of the University. There is a $35 nonrefundable fee, and deadlines are the same as admission application deadlines (see “Undergraduate Admission” in Chapter 2). Intercampus Transfer Applications and further information on requirements and procedures are available from the Registrar's Office, 1111 Murphy Hall.

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

Absence During a Quarter
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 will be required to complete all coursework. If you cannot complete the work on time because your absence is late in the quarter or prolonged, you may request that the instructors assign an incomplete grade (see "Incomplete Grades" earlier in this chapter).

One Quarter Absence for Undergraduates
Undergraduate students who have completed at least one quarter at UCLA and fail to register for a quarter may return to the University the following quarter and preregister and preenroll as continuing students. If you plan to attend another institution (including University Extension) during your absence, you should consult your college or school counselor or before enrolling elsewhere. When you return to UCLA you must provide the Office of Undergraduate Admissions and Relations with Schools with a transcript of any courses taken (see “Concurrent Enrollment and Transfer of Credit” earlier in this chapter). If you are absent for two or more consecutive quarters, you are no longer considered a continuing student and must compete for readmission with all other applicants.

Leave of Absence for Graduate Students
Graduate students in good standing may be granted leaves of absence, normally for periods of one to three quarters, on approval from the appropriate department and the Graduate Division. Leaves, which may be extended up to five years at the discretion of your department, must be requested before the end of the second week of class. Request forms are available at the Graduate Division, Student and Academic Affairs Section, 1225 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. Leaves of absence as described here do not apply to undergraduates.

Graduate students who fail to register for a quarter 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 submitting a written notice, together with your current Registration Card and Student I.D. Card, to the Registrar's Office, 1134 Murphy Hall. A $10 service charge will be deducted from your fee refund.

Undergraduates who return to the University for the following quarter may preregister and preenroll as continuing students. If you are absent longer than one quarter, you must apply for readmission. If you cancel in your first quarter at UCLA, you must reapply for admission when you return.

Graduate students who cancel their registration and do not receive 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 quarter, you need to file a Notice of Withdrawal, available from your college, school, or Graduate Division office. Submit your Registration Card and Student I.D. 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, 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

Claims for refund must be presented within the academic (fiscal) year to which the claim is applicable. See the current Schedule of Classes for further details.

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 quarter 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.

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 quarter. 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 quarter following withdrawal, you may preregister and preenroll as a continuing student. If you return later than the following quarter, you must apply for readmission.

Graduate Students — If you do not complete a quarter, 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, two thirds 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 a multistep procedure which involves your participation.

1. The Degree Candidacy portion of your Registration Form must be completed and filed when you are a junior (minimum 90 quarter units earned) to let the Registrar's Office know when you intend to graduate. The "degree expected term" indicated on the form must be the same as the term in which you wish to graduate in order for your degree progress to be audited by the Registrar's Office. You cannot graduate without such an audit.

2. Degree Checks are conducted by your school or college and the Registrar's Office to inform you of degree requirements remaining to be satisfied. If you have filed the Degree Candidacy portion of your Registration Form, you should receive your first degree check ("Status in Reference to the BA/BS Degree") about three quarters before you graduate and an updated one each subsequent quarter. Consult your college or school, or the Registrar's Office, 1111 Murphy Hall, if you have any questions or problems.

3. Announcement of Candidacy is posted on the Registrar's bulletin board about four weeks into the quarter. Although this is not a guarantee of graduation, your name should appear on the list posted during your final quarter. If not, inform the degree clerk at 1111 Murphy Hall.

4. Important Degree Notice is mailed to you only if your records indicate you will not have satisfied all degree requirements by the end of your last quarter. If you receive such a notice, contact your degree clerk as soon as possible for further information and instructions.

5. Certificate of Completion is official proof that you have graduated. It is sent to you four to five weeks after your final quarter ends if you have successfully completed all courses that quarter and met all degree requirements.

Graduate Students
Candidates for both master's and doctoral degrees must be advanced to candidacy and complete all degree requirements, including the master's thesis or comprehensive examination, or doctoral dissertation, before the degree is conferred. A Certificate of Completion, certifying the award of the degree, is issued to all students four to five weeks after the end of the quarter in which all degree requirements are met. For full details on degree requirements and procedures for graduate students, see Chapter 3 on Graduate Study.

Degree Date
Degrees are awarded at the end of each quarter (Fall, Winter, Spring) and at the end of the second Summer Session. Refer to University calendars for the actual date of the final day in each quarter or Summer Session.

Diplomas
Diplomas for both undergraduates and graduate students are not distributed at Commencement but become available six to eight weeks after graduation. The Registrar's Office will notify you by mail when your diploma is ready. If you wish, the diploma can be sent to you by certified mail at a cost of $3 ($6 outside the U.S.). There is no diploma fee, although if the original is lost or stolen, there is a $25 charge for a duplicate diploma.

Commencement
Commencement exercises honoring candidates for undergraduate and graduate degrees will be held June 14. Students who have earned degrees in Summer Sessions 1986 or any quarter during the 1986-87 academic year are welcome to participate.

On Commencement Day at 10 a.m. all students, faculty, and guests gather in Drake Stadium for the conferring of degrees. This colorful pageant features an address by the Chancellor, student speakers, recognition of candidates who have achieved high academic distinction, and the awarding of the UCLA Medal. Following the formal ceremony, many departments, schools, and colleges hold informal gatherings at which prizes and honors are awarded and students and their families meet faculty members.

Academic regalia (caps, gowns, and hoods) become available through ASUCLA two weeks prior to Commencement. The rental fee is $14.50 for bachelor's candidates; $24 for master's and doctoral candidates. For further information, consult the Commencement Handbook, which is mailed to each candidate by the end of May. You may purchase graduation announcements at the ASUCLA Campus Photo Studio (150 Kerckhoff Hall).
Colleges and Schools

Organization

This catalog is organized into the 13 colleges and 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: the College of Fine Arts and the School of Engineering and Applied Science. The graduate professional schools of Architecture and Urban Planning, Education, Law, Library and Information Science, Management, and Social Welfare follow in alphabetical sequence. The health science 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 quarter.

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 quarter or every year. Where possible, the quarters in which a course is offered have been indicated in parentheses after the instructor's name (F = Fall, W = Winter, Sp = Spring, Sum = 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 11A-11F, Musicianship (2 units each), indicates six 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.

Courses numbered 98 and 198 are group study courses set up on a one-time basis in subjects for which no regular courses have been established. Because they vary in content and are offered irregularly, they are not listed in the catalog.

Individual special studies courses (numbered 199, 199F, 199H, and 199I) involve supervised independent study and research requiring adequate background in the subject proposed for study. These courses 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 the department chair.

Undergraduates may enroll in a maximum of eight units of 199, 199F, 199H, or 199I courses per quarter. After completing 16 units of 199 or 199H credit on a letter grade basis, you must take any additional 199 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 199 I course, you may not register for another until the 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 501 are not individual study and research but are cooperative programs held in conjunction with other institutions.) See individual departmental listings for specific limitations on 500-series courses.

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

University Extension Courses

In general, you may not attend University of California 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 University 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, Byzantine Civilization is offered by the Department of Classics (Classics M170A) and the Department of History (History M122A). 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 these four 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 nearly 20,000 students and 900 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 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). In addition, certain circumstances, a group of courses selected to meet your special need (individual major). The pursuit of such definite courses of study often requires knowledge of courses known as prerequisites.

Counseling Services

The Counseling Services is located in A316 Murphy Hall. The staff is 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 825-1965. If you would like to confer with a counselor regarding overall degree requirements, academic difficulty, program planning, or assistance in selecting a major, you can arrange an appointment at the information window. Appointments with counseling assistants can be scheduled by calling 206-6681. Group counseling sessions on a variety of academic issues are offered throughout the year.

For information on the Learning Resource Centers, ASK peer counselors, and Preparatory Programs, see Chapter 2.

Your Major

Many entering freshmen are unsure about specific academic goals and request to be admitted to the college as "undeclared." These students often 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 and file the form at the College Counseling Service Office.

You can obtain help with your academic planning from a variety of resources, including the College Counseling Service in A316 Murphy Hall (825-1687 or 825-1965) and the Placement and Career Planning Center (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. "Degree checks" are available by appointment. Departmental counselors can advise you regarding progress and completion of your major requirements. A final audit of degree requirements will be sent to you by the Registrar's Office toward the end of your studies. However, it is important that you maintain an accurate assessment of progress toward your degree by utilizing departmental and College Counseling Service resources.

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 quarter.

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 requiring 50 percent time 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 with 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 78 departmental majors currently offered by the college.
### Majors and Degrees Offered

- African Area Studies (M.A.)
- African Languages (B.A.)
- Afro-American Studies (B.A., M.A.)
- American Indian Studies (M.A.)
- Ancient Near Eastern Civilizations (B.A.)
- Anthropology (B.A., M.A., Ph.D.)
- Applied Linguistics (C.Phil., Ph.D.)
- Applied Mathematics (B.S.)
- Arabic (B.A.)
- Archaeology (M.A., C.Phil., Ph.D.)
- Asian American Studies (M.A.)
- Astronomy (B.S., M.S., M.A.T., Ph.D.)
- Atmospheric Sciences (B.S., M.S., C.Phil., Ph.D.)
- Biochemistry (B.S., M.S., C.Phil., Ph.D.)
- Biology (B.S., M.A., C.Phil., Ph.D.)
- Chemistry (B.S., M.S., C.Phil., Ph.D.)
- Chemistry/Materials Science (B.S.)
- Chicano Studies (B.A.)
- Chinese (B.A.)
- Classical Civilization (B.A.)
- Classics (B.A., M.A., C.Phil., Ph.D.)
- Cognitive Science (B.A.)
- Communication Studies (B.A.)
- Comparative Literature (M.A., C.Phil., Ph.D.)
- Cybernetics (B.S.)
- East Asian Languages and Cultures (M.A., C.Phil., Ph.D.)
- East Asian Studies (B.A.)
- Economics (B.A., M.A., C.Phil., Ph.D.)
- Economics/Business (B.A.)
- Economics/International Area Studies (B.A.)
- Economics/System Science (B.S.)
- English (B.A., M.A., C.Phil., Ph.D.)
- English/Greek (B.A.)
- English/Latin (B.A.)
- Folklore and Mythology (M.A., Ph.D.)
- French (B.A., M.A., C.Phil., Ph.D.)
- French and Linguistics (B.A.)
- General Chemistry (B.S.)
- General Physics (B.A.)
- Geochemistry (M.S., C.Phil., Ph.D.)
- Geography (B.A., M.A., C.Phil., Ph.D.)
- Geography/Ecosystems (B.A.)
- Geology (B.S., M.S., C.Phil., Ph.D.)
- Geology — Engineering Geology (B.S.)
- Geology — Geochemistry (B.S.)
- Geology — Nonrenewable Natural Resources (B.S., M.S.)
- Geology — Paleobiology (B.S.)
- Geophysics — Applied Geophysics (B.S.)
- Geophysics and Space Physics (B.S., M.S., Ph.D.)
- German (B.A., M.A.)
- Germanic Languages (C.Phil., Ph.D.)
- Greek (B.A., M.A.)
- Hebrew (B.A.)
- Hispanic Languages and Literatures (C.Phil., Ph.D.)
- History (B.A., M.A., C.Phil., Ph.D.)
- History/Art History (B.A.)
- Indo-European Studies (C.Phil., Ph.D.)
- Islamic Studies (M.A., C.Phil., Ph.D.)
- Italian (B.A., M.A., C.Phil., Ph.D.)
- Italian and Special Fields (B.A.)
- Japanese (B.A.)
- Jewish Studies (B.A.)
- Kinesiology (B.S., M.S., Ph.D.)
- Latin (B.A., M.A.)
- Latin American Studies (B.A., M.A.)
- Linguistics (B.A., M.A., C.Phil., Ph.D.)
- Linguistics and Computer Science (B.A.)
- Linguistics and East Asian Languages and Cultures (B.A.)
- Linguistics and English (B.A.)
- Linguistics and French (B.A.)
- Linguistics and Italian (B.A.)
- Linguistics and Philosophy (B.A.)
- Linguistics and Psychology (B.A.)
- Linguistics and Scandinavian Languages (B.A.)
- Linguistics and Spanish (B.A.)
- Mathematics (B.S., M.A., M.A.T., C.Phil., Ph.D.)
- Mathematics/Applied Science (B.S.)
- Mathematics/Computer Science (B.S.)
- Mathematics of Computation (B.S.)
- Microbiology (B.S., M.A., Ph.D.)
- Molecular Biology (Ph.D.)
- Near Eastern Languages and Cultures (M.A., C.Phil., Ph.D.)
- Near Eastern Studies (B.A.)
- Philosophy (B.A., M.A., C.Phil., Ph.D.)
- Physics (B.S., M.S., M.A.T., Ph.D.)
- Political Science (B.A., M.A., C.Phil., Ph.D.)
- Portuguese (B.A., M.A.)
- Psychobiology (B.S.)
- Psychology (B.A., M.A., C.Phil., Ph.D.)
- Religion, Study of (B.A.)
- Romance Linguistics and Literature (M.A., C.Phil., Ph.D.)
- Russian Civilization (B.A.)
- Russian Linguistics (B.A.)
- Scandinavian (M.A.)
- Scandinavian Languages (B.A.)
- Slavic Languages and Literatures (B.A., M.A., C.Phil., Ph.D.)
- Sociology (B.A., M.A., C.Phil., Ph.D.)
- Spanish (B.A., M.A.)
- Spanish and Linguistics (B.A.)
- Spanish and Portuguese (B.A.)
- Teaching English as a Second Language (M.A.)
- World Arts and Cultures (B.A.)
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 24 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.

“Requirements for the Bachelor's Degrees”

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 quarters 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 dean of the Division of Honors 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 memorandum column of your official transcript; your diploma will read “Individual Field of Concentration.” For further details about individual majors, contact the Division of Honors in A311 Murphy Hall (825-1553).

Supplemental Programs

The college offers no “minors”; instead, you may choose from nine different programs which are not degree-granting majors, but are sequences of supplemental courses designed to enhance your work in certain areas. Each of these programs must be taken jointly with an organized departmental or interdepartmental major:

- African Studies
- Asian American Studies
- Asian American Studies
- Asian American Studies
- Asian American Studies
- African American Studies
- African American Studies
- African American Studies
- African American Studies

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 both be completed within the maximum limit of 228 units, and the College of Letters and Science administers them. A senior thesis is required. The consent of the dean of the Division of Honors is 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. An interdepartmental major consists 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 memorandum column of your official transcript; your diploma will read “Individual Field of Concentration.” For further details about individual majors, contact the Division of Honors in A311 Murphy Hall (825-1553).

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 quarter.

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 quarter. For exceptions, see “Minimum Progress” earlier in this section. Three courses are recommended for students in the first quarter of the freshman year. All other students who have a C average or better may carry four and one-half courses (18 units) without petition. After the first quarter, you may petition to enroll in as many as five courses if you attained at least a B average the preceding quarter in a program of at least three graded courses. First-quarter 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 quarters at UCLA; however, they are not encouraged to do so.

Requirements for the Bachelor's Degrees

Each student must meet three levels of requirements for the Bachelor of Arts degree: University requirements, college requirements, and department requirements (including preparation for the major and major requirements). For details on the latter level, 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 six types of requirements which must be satisfied for the award of the degree: unit, major and scholarship, residence, foreign language (effective Fall Quarter 1988), English composition, and general education requirements.
Unit Requirements
You must satisfactorily complete for credit a minimum of 180 units (45 courses) for the bachelor’s degree. A maximum of 216 (228 for double majors and special programs) units is allowed. After having credit for 216 (or 228) units, you will not be permitted to continue except in rare cases which must be approved by the college. If you have credit for English 1 taken Fall Quarter 1979 through Summer Quarter 1984 at UCLA, you will be required to complete satisfactorily 182 units (45½ courses); a maximum of 218 (or 230) units is then allowed. If you have advanced placement (transfer) credit, you may exceed the unit maximum by the amount of that credit.

For students entering in Fall Quarter 1982 or later, at least 72 units (18 courses) of the above requirement must be upper division (numbered 100-199). Students entering prior to Fall Quarter 1982 must complete at least 52 units (13 courses) in upper division.

Scholarship and Major Requirements
You must attain at least a 2.0 (C) grade-point average in all courses undertaken at this University for the 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.

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 68 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 residence requirements apply to all students, both continuing and transfer.

Foreign Language Requirements
The College of Letters and Science does not have a collegewide requirement for foreign language at this time, but one will become effective in Fall Quarter 1988 (see “General Education Requirements” below). Specific departments or majors within the college, however, may impose such requirements at present. Credit will not be allowed for a less advanced course in grammar and/or composition after you have completed a more advanced course. For other limitations, see “Credit Limitations” later in this section.

College credit for an international student’s native language and literature is allowed for (1) courses taken in native colleges and universities within the United States or (2) upper division 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).

The composition requirement may also be satisfied by scoring 4 or 5 on the College Entrance Examination Board (CEEB) Advanced Placement Test in English or by passing the English 3 Proficiency Examination. Students scoring 660 or better on the CEEB English Achievement Test are eligible for this proficiency exam.

You must satisfy the composition requirement within your first three quarters in residence.

Transfer Students: If you have completed an English composition course graded Passed, you may take the English 3 Proficiency Examination by presenting a letter of authorization from the college to the Freshman Writing Program. If you have received a grade of C or better in a college composition course that has not satisfied the requirement, you may be eligible for the proficiency examination after a Freshman Writing Program interview. Eligible students must register for the examination in the Freshman Writing Program Office, 271 Kinsey Hall, before the first day of enrollment for the quarter.

If you have credit for 90 or more units and have not satisfied the requirement, you are expected to include an acceptable composition course on your Study List during your first quarter in residence. If you are required to take English B to satisfy the Subject A requirement, you should, on completion of that requirement, take an acceptable composition course in your second quarter in residence.

English as a Second Language (ESL) Students: If your native language is not English, you may satisfy the English Composition requirement by completing English (ESL) 36 with a grade of C or better. Admission into course 36 is determined by a Composition Placement Test administered the first day of class each quarter. A low score on the test may require that you enroll in English (ESL) 35 prior to course 36.

General Education and Breadth Requirements

Effective Fall Quarter 1986, all entering students are required to fulfill the general education requirements. Continuing UCLA students in the College of Letters and Science who completed 16 or more units before Fall Quarter 1983 are eligible to follow the breadth requirements as described in previous catalogs.

Structure of a Degree
Three levels 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) General Education

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

Residence Requirement
See “Residence Requirements” later in this section.

Upper Division Unit Requirement
For students entering in Fall Quarter 1982 or later, at least 72 units (18 courses) must be upper division (numbered 100-199).
General Education Requirements

The general education requirements are intended to define a “core” of knowledge necessary to a liberal arts education. Majors are classified in the four divisions of the college; GE requirements specify a limited number of courses within smaller subgroups. This arrangement is designed to provide a conceptual overview of core areas without a formal core curriculum.

The requirements consist of two parts. You must (1) demonstrate basic proficiency in quantitative reasoning, foreign language, and English composition and (2) complete course requirements in each of the four divisions of the college: humanities, physical sciences, social sciences, and life sciences.

(1) Basic Proficiency Levels

Note: All courses taken to satisfy GE proficiency requirements must be completed with a grade of Passed or C or better.

(a) Quantitative Reasoning: May be satisfied by achieving an SAT mathematics score of 600 or better, a CEEB mathematics score of 550 or better, or by completing one of the following courses: Anthropology 186A; Computer Science 10C or 10F; Economics 40; Mathematics 2 or any other numbered course except 38A, 38B, and 104; Philosophy 31; Political Science 6; Program in Computing 10A, 10B, 10C; Public Health 100A, 100B, 100C, 100D; or Sociology 18.

(b) Foreign Language: This requirement becomes effective for students entering UCLA in Fall Quarter 1988 and thereafter. At that time it may be satisfied by passing college-level language instruction through level three or by achieving a score indicating competence equivalent to level three on the Educational Testing Service Advanced Placement (AP) or UCLA departmental placement examination.

(c) English Composition: Same as the college English Composition requirement described above. Transfer students should consult the college concerning application of transfer courses toward these requirements and read individual course descriptions to avoid possible duplication. Local community college counselors have lists of courses applicable toward UCLA requirements.

(2) Course Requirements

As specified on the chart labeled “Courses to Fulfill GE Requirements” on the next page, you must pass 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.

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 of which is in their major subgroup. 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.

Advanced Placement Credit: For application of advanced placement (AP) credit on the general education requirements, see the chart later in this section or consult the College Counseling Service.

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

A1: Literature

<table>
<thead>
<tr>
<th>African Languages</th>
<th>Arabic</th>
<th>Chinese</th>
<th>Classics</th>
<th>English</th>
<th>English/Greek</th>
<th>English/Latin</th>
<th>French</th>
<th>German</th>
<th>Greek</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japanese</td>
<td>Latin</td>
<td>Portuguese</td>
<td>Scandinavian Languages</td>
<td>Slavic Languages and Literatures</td>
<td>Spanish</td>
<td>Spanish and Portuguese</td>
<td>World Arts and Cultures</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A2: Philosophy

Philosophy

A3: Language and Linguistics

French and Linguistics

Linguistics (including all Linguistics and special fields majors)

Russian Linguistics

Spanish and Linguistics

A4: Culture and Civilization

Ancient Near Eastern Civilizations

Classical Civilization

Jewish Studies

Near Eastern Studies

Religion, Study of Russian Civilization

(B) Physical Sciences

Applied Mathematics

Astronomy

Atmospheric Sciences

Biochemistry

Chemistry

Chemistry/Materials Science

Cybernetics

Economics/System Science

General Chemistry

General Physics

Geology (including all specialization options)

Geophysics (including all specialization options)

Mathematics

Mathematics/Applied Science

Mathematics/Computer Science

Mathematics of Computation

Physics

(C) Social Sciences

C1: Historical Analysis

History

History/Art History

C2: Social Analysis

Afro-American Studies

Anthropology

Chicano Studies

Communication Studies

East Asian Studies

Economics (including all specialization options except Economics/System Science)

Geography

Geography/Ecosystems

Latin American Studies

Political Science

Sociology

(D) Life Sciences

Biology

Cognitive Science

Kinesiology

Microbiology

Psychobiology

Psychology
## Courses to Fulfill GE Requirements*

### (A) Humanities

Four courses, with at least one from Group A1 and no more than two courses from any single group:

1. **Literature**
   - Classics 141, 142, 143, 144
   - East Asian Languages and Cultures 140A, 140B, 140C, 141A, 141B
   - English 10A, 10B, 10C, 70, 75, 80, 85, 90, 100A, 100B, 100C, 102
   - French 12, 114A, 114B, 114C, 144A, 144B, 144C
   - German 101A, 101B, 101C
   - Humanities 1A, 1B, 1C, 2A, 2B, 2C
   - Italian 50A, 50B
   - Russian 100, 119, 120, 125, 126

2. **Philosophy**
   - Philosophy 1, 2, 4, 5A, 6, 7, 8, 10, 21, 22

### (B) Physical Sciences

Three courses from the following:

- Astronomy 3, 3H, 4, 81, 82
- Atmospheric Sciences 2, 3, 6
- Chemistry 2, 11A, 11B
- Earth and Space Sciences 1 or 100, 2, 5, 9, 15
- Engineering 11
- Geography 1
- Mathematics 3A, 3B, 3C, 3E, 31A, 31B, 32A, 32B
- Physics 3A, 3B, 3C, 6A, 6B, 6C, 8A through 8E, 10, 11

### (C) Social Sciences

Four courses, two from each group:

1. **Historical Analysis**
   - Classics 10, 20
   - Economics 107
   - History 1A, 1B, 1C, 2, 3A, 3B, 3C, 4, 6A, 6B, 6C, 7A, 7B, 8A, 8B, 8C, 9A, 9B, 9C, 9D, 10A, 10B
   - Political Science 111A, 111B, 111C, 114A, 114B

2. **Social Analysis**
   - Anthropology 5 or 22, 6, 33
   - Communication Studies 10
   - Economics 1 and/or 2 or 100**, 110
   - Geography 3, 4
   - Political Science 1, 20, 50
   - Psychology 10
   - Sociology 1

### (D) Life Sciences

Three courses from the following:

- Anthropology 1 and/or 2 or 11**
- Biology 2, 5, 6, 7, 8, 10, 13, 20, 25
- Earth and Space Sciences 115
- Geography 2, 5
- Kinesiology 12A, 12B, 13, 14
- Microbiology 6
- Psychology 15

Honors Collegium: Inquire at the Division of Honors (A311 Murphy Hall) for information on courses which satisfy any of the areas of the general education requirement.

*All students are required to fulfill either general education or breadth requirements, but not both. Refer to the box on page 71 to determine which of the sets of requirements you are required to fulfill.

**Check course descriptions for possible credit duplication.
Credit Limitations

**Note:** Transfer students with credit from other institutions (advanced standing credit) receive an evaluation 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 quarter before graduation. Consult a counselor in the College Counseling Service if you have questions.

**Subject A**
No degree credit will be granted for Subject A whether completed at UCLA or another UC campus. Consult a college counselor regarding Subject A equivalent courses from other UC campuses.

**Community College**
After completing 105 quarter units (26 1/4 courses) toward the degree in all institutions attended, you will be 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 University Extension unless you have petitioned the college for approval before enrollment. Such petitions are rarely granted.

**Performance Courses**
No more than 12 units of music and/or dance performance courses (Dance 70 through 76B, 79A through 79Z, 171B through 176B, and Music 80A-80N and 81A-81Z) may be applied toward the bachelor's degree whether taken at UCLA or another institution. Letters and Science students electing these courses must enroll on a Passed/Not Passed basis only. For further information on these limits, see “Passed/Not Passed Grades” in Chapter 4.

**College Level Examination Program**
Credit earned through the College Level Examination Program (CLEP) will not be applied toward the bachelor's degree.

**Advanced Placement (AP) Tests**
Advanced Placement (AP) Test credit will not be applied toward a degree unless you had less than 36 units of credit at the time of the examination(s).

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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>
<th>Credit Allowed on Breadth Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art</td>
<td>10 units</td>
<td>No application for art</td>
<td>10 units toward humanities</td>
</tr>
<tr>
<td>Art History</td>
<td></td>
<td></td>
<td>No application for art</td>
</tr>
<tr>
<td>Art Studio: General Portfolio or Drawing Portfolio</td>
<td>10 units for either general or drawing portfolio</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biology</td>
<td>Biology 2 (4 units) plus 6 unassigned units</td>
<td>Credit for Biology 2 (4 units)</td>
<td>Credit for Biology 2 (4 units) plus 6 units toward life science</td>
</tr>
<tr>
<td>Chemistry</td>
<td>10 units</td>
<td>No application for chemistry</td>
<td>10 units toward physical science</td>
</tr>
<tr>
<td>Computer Science</td>
<td>Score 3, 4, or 5 — 5 units</td>
<td>Satisfies quantitative reasoning requirement</td>
<td>No application for computer science</td>
</tr>
<tr>
<td>English</td>
<td>Score 3 — Subject A, 10 unassigned units</td>
<td>Score 3 — Satisfies Subject A requirement</td>
<td>Score 3 — Satisfies Subject A requirement and 10 units toward humanities</td>
</tr>
<tr>
<td>Language and Composition or Composition and Literature**</td>
<td>Score 4 — Subject A, English 3 (10 units)</td>
<td>Score 4 or 5 — Satisfies Subject A requirement and English 3</td>
<td>Score 4 — Satisfies Subject A requirement and English 3 plus 6 units toward humanities</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 will receive a maximum of 10 units of credit.
## Credit for Advanced Placement Tests (continued)

<table>
<thead>
<tr>
<th>Test</th>
<th>UCLA Course Equivalents*</th>
<th>Credit Allowed on GE Requirements</th>
<th>Credit Allowed on Breadth Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>English</strong></td>
<td>Score 5 — Subject A, English 3 and 4 (10 units)</td>
<td>Score 5 — Satisfies Subject A requirement and English 3 and 4 (6 units total toward humanities)</td>
<td></td>
</tr>
<tr>
<td>(continued)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>History, American</td>
<td>Score 3 — 10 units</td>
<td>Score 3 — No application</td>
<td>Score 3 — 10 units toward social science</td>
</tr>
<tr>
<td></td>
<td>Score 4 or 5 — History 7A-7B (10 units)</td>
<td>Score 4 or 5 — Credit for History 7A-7B</td>
<td>Score 4 or 5 — 10 units toward social science</td>
</tr>
<tr>
<td></td>
<td>Score 3, 4, or 5 — Satisfies American History and Institutions requirement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>History, European</td>
<td>History 1C (4 units) plus 6 units</td>
<td>Credit for History 1C (4 units)</td>
<td>Credit for History 1C (4 units) plus European history (6 units total toward social science)</td>
</tr>
<tr>
<td>Language, French</td>
<td>Score 3 — French 4 (10 units total)</td>
<td>4 units toward language and linguistics requirement</td>
<td>10 units toward humanities</td>
</tr>
<tr>
<td>French Language</td>
<td>Score 4 — French 5 (10 units total)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Score 5 — French 6 (10 units total)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>French Literature</td>
<td>10 units</td>
<td>No application for French literature</td>
<td>10 units toward humanities</td>
</tr>
<tr>
<td>Language, German</td>
<td>Score 3 — German 3 (10 units)</td>
<td>Score 3 — No application</td>
<td>Score 3 — No application</td>
</tr>
<tr>
<td></td>
<td>Score 4 — German 4 (10 units)</td>
<td>Score 4 or 5 — 4 units toward language and linguistics requirement</td>
<td>Score 4 or 5 — 10 units toward humanities</td>
</tr>
<tr>
<td></td>
<td>Score 5 — German 5 (10 units)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Language, Latin</td>
<td>Classics — Title (5 units)</td>
<td>No application for Latin</td>
<td>5 units toward humanities</td>
</tr>
<tr>
<td>Vergil</td>
<td></td>
<td></td>
<td>5 units toward humanities</td>
</tr>
<tr>
<td>Catullus/Horace</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Language, Spanish</td>
<td>Score 3 — Spanish 4 (10 units)</td>
<td>4 units toward language and linguistics requirement</td>
<td>10 units toward humanities</td>
</tr>
<tr>
<td>Spanish Language</td>
<td>Score 4 or 5 — Spanish 5 (10 units total)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 units</td>
<td>No application for Spanish literature</td>
<td>10 units toward humanities</td>
</tr>
<tr>
<td>Spanish Literature</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics (AB Test)**</td>
<td>Mathematics 31A (5 units)</td>
<td>Credit for Mathematics 31A (5 units)</td>
<td>Credit for Mathematics 31A (5 units toward physical science)</td>
</tr>
<tr>
<td>Mathematics (BC Test)**</td>
<td>Mathematics 31A, 31B (10 units)</td>
<td>Credit for Mathematics 31A, 31B (10 units total)</td>
<td>Credit for Mathematics 31A, 31B (10 units total toward physical science)</td>
</tr>
<tr>
<td>Music</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music Literature**</td>
<td>10 units</td>
<td>No application for music</td>
<td>10 units toward humanities</td>
</tr>
<tr>
<td>Music Theory**</td>
<td>10 units</td>
<td>No application for music</td>
<td>No application for music</td>
</tr>
<tr>
<td>Physics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B Test **</td>
<td>10 units</td>
<td>No application for physics</td>
<td>10 units toward physical science</td>
</tr>
<tr>
<td>C Test**</td>
<td>5 or 10 units</td>
<td></td>
<td>5 units for C1 and 5 units for C2 toward physical science</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 will receive a maximum of 10 units of credit.
Statistics
No credit will be allowed for more than one lower division course in statistics or for more than one sequence of such courses whether taken at UCLA or another institution.

Education Abroad Program
Students participating in the Education Abroad Program may receive a maximum of 48 units of credit toward the degree in addition to the eight units maximum allowable for the Intensive Language Program.

Credit by Examination
Within the College of Letters and Science, eligibility for credit by examination is usually limited to students who have been approved as Departmental Scholars or who are admitted to a departmental honors program or the Division of Honors.

You may petition for credit by examination for one course at a time. The examination for that course must be taken successfully before you may petition for credit by examination in another course. Petitions for credit by examination ($5 each) are available only through an appointment with a counselor in the Division of Honors. Approval is given or withheld by the dean of the Division of Honors who may limit the number of such petitions you present.

Honors

College Honors
The Certificate of College Honors is the highest academic recognition the College of Letters and Science confers on its undergraduates. The College Honors program provides the exceptional Letters and Science undergraduate an opportunity to pursue individual excellence.

The certificate is awarded to graduating seniors with an overall University of California grade-point average of 3.5 or better who have completed either 44 units of honors coursework or 36 units of honors coursework that include a senior research project/thesis based on original research. With the assistance of Division of Honors counselors, you integrate this coursework throughout your undergraduate education with other University, college, and major requirements for the bachelor's degree. In this way, these units need not be above and beyond your other academic commitments.

Students in the College Honors program are entitled to specialized counseling within the division, preferential preenrollment in classes each quarter, access to specially designed honors classes, eligibility for unique scholarships and research stipends, attendance at special forums, speeches, and events, counseling on graduate and preprofessional programs, graduate library privileges, access to the honors computer facility, and a filing and mailing service for letters of recommendation. Incoming freshmen who are eligible for College Honors based on SAT scores and GPA are also assisted in obtaining on-campus student housing for the first year.

To qualify for College Honors, entering freshmen must (1) have an overall GPA of 3.5 or better and an SAT score of 1,300 or better (on one test date) or (2) graduate in the top three percent of their high school class. 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.

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 Division of Honors.

Honors Status
A student in the College of Letters and Science who has demonstrated superior academic achievement is eligible to apply for admission to Honors Status, which is recorded on the transcript. Admission may be granted by the dean of the Division of Honors after completion of 12 or more graded units at UCLA with a cumulative UC grade-point average of no less than 3.5. Continued superior academic performance is required to remain in Honors Status.

Apply at A311 Murphy Hall.

Students with Honors Status are entitled to specialized counseling within the division, access to the honors computer facility, and a filing and mailing service for letters of recommendation. Honors Status students are also eligible for research funding through the Division of Honors. For details on these programs, consult the Division of Honors or your major department.

Honors with the Bachelor's Degree
Honors with the Bachelor's Degree are awarded according to your overall grade-point average at the beginning of your last quarter of academic work or if not then eligible, at graduation. To be eligible, you must have completed 90 or more graded units at the University of California. Coursework taken on the Education Abroad Program may not be applied toward Honors with the Bachelor's Degree. The levels of honors and the requirements for each level are: Cum laude, an overall average of 3.5; Magna cum laude, 3.65; Summa cum laude, 3.85.

Dean's Honors List
The Dean's Honors List recognizes high scholastic achievement in any one quarter. The following criteria are used to note Dean's Honors List on the student records: (1) a 3.75 GPA in any one quarter 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 quarter, 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 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 a UC cumulative GPA of 3.5 or better. You must also have at least one quarter'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 Division of Honors.

The Honors Collegium
The Honors Collegium is a unique and innovative educational alternative designed primarily for students in their freshman and sophomore years. Refer to Honors Collegium later in this chapter for a complete description of the program.

Division of Honors Office
The Division of Honors, located in A311 Murphy Hall (825-1553, 825-3786), provides academic counseling and services for College Honors and Honors Status 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 of recommendation to graduate and professional schools. A variety of scholarships and awards for qualified continuing students and graduating seniors is also available.

In addition, the Division of Honors administers Phi Beta Kappa (national honor society), the UCLA Debate Union, and the Summer Research Stipend Program.
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, 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.

Prehealth Care Advising Office

Information and counseling on preparing for health care professional schools and assistance in filing an application are available through the Prehealth Care Advising Office, College of Letters and Science. Open counseling sessions are held weekly for premeds, prenurses, and other prehealth students. Application blanks for AMCAS, MCAT, DAT, etc., may also be obtained from this office. Students in the Division of Honors can make counseling appointments in A311 Murphy Hall.

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 a 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) English 3 and 4; (2) Chemistry 11A, 11B, 11BL, 11C, 11CL, 21, 23, 25; (3) Physics 3A, 3B, and 3C, or 6A, 6B, and 6C, or 8A, 8B, and 8C; (4) Biology 5, 7, 8, 8L; (5) Psychology 10 and one additional psychology course; (6) 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.

Open counseling sessions are held weekly; call 825-1817 for details.

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) one year of English which includes English 3; (4) Chemistry 11A, 11B, 11BL, 21, 23, 25; (5) Biology 5, 5L, 7, 8, 8L; (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.

Open counseling sessions are held weekly; call 825-1817 for details.

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.

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, Washington, DC 20036. Sample copies of the Dental Admission Test (DAT) are available in the Prehealth Care Advising Office; open counseling sessions are held weekly (call 825-1817 for details).

Because requirements for admission to medical schools outside the University of California vary somewhat, you should consult the following publications: Medical School Admission Requirements, USA and Canada, Association of American Medical Colleges, 1 Dupont Circle NW, Washington, DC 20036; The Education of Osteopathic Physicians, AACOM, 4720 Montgomery Lane, Suite 609, Washington, DC 20014; and The New MCAT Student Manual (also an AAMC publication available at the above AAMC address). Open counseling sessions are held weekly; call 825-1817 for details.

Prenursing Curriculum: Two Years

The University offers a four-year course 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 of liberal arts courses with a 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 quarters.

Because enrollment in the UCLA School of Nursing is limited, you should become familiar with the admission requirements of other nursing programs as early as possible. Contact schools of nursing directly and attend open counseling sessions in UCLA's School of Nursing (times are posted in the Office of Student Affairs, 2-200 Factor Building) and those given by the Prehealth Care Advising Office (posted outside A328 Murphy Hall, 825-1817). 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.
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 (First Year): (1) Subject A; (2) English 3, 4; (3) Chemistry 11A, 11B/11BL, 11C/11CL; (4) trigonometry and intermediate algebra (if not completed in high school); (5) 28 quarter units of electives selected from courses in foreign language, social sciences, and humanities (within the two-year preparation).

Curriculum Requirements (Second Year): (1) Biology 5, 7, 8, 8L; (2) Physics 3A and 3B, or 6A and 6B, or 8A and 8B; (3) Mathematics 3A and 3B, or 31A and 31B; (4) Chemistry 21, 23; (5) American History and Institutions.

For further information, contact Robert LeWinter, Director of Pharmaceutical Services, 17-135 Center for the Health Sciences (206-6555). Open counseling sessions are held weekly; call 825-1817 for details.

Prepublic Health Studies

The professional and academic fields of public health need individuals from many disciplines. Candidates 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.

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 weekly drop-in counseling sessions. For the time and place of the drop-in sessions, see the “What’s Bruin” section of the Daily Bruin or call 825-1965.

For additional information, see the Law School Admission Bulletin within the “Law School Admission Service Packet” (available at the Admissions Office, UCLA Law School).

Graduate Study

The College of Letters and Science provides graduate students virtually unlimited opportunities for academic pursuit, faculty-sponsored research, and fieldwork relative to specific programs and career goals.

With Graduate Division approval and subject to University minimum requirements, each department sets its own standards for admission and other requirements for the award of the master’s and doctoral degrees. See the departmental listings which follow for specific requirements and procedures.

For information on the proficiency in English requirements for international graduate students, refer to “Graduate Admission” in Chapter 3.

*Students who have completed the two-year prepharmacy curriculum at Los Angeles cannot be assured of admission to the School of Pharmacy on the San Francisco campus. A personal interview may be required. Applicants should contact the School of Pharmacy on the San Francisco campus, which may be obtained from the Dean, School of Pharmacy, University of California Medical Center, San Francisco, CA 94143-0446. (415) 476-2732. For further information, see the Announcement of the School of Pharmacy, San Francisco, which may be obtained from the Dean, School of Pharmacy, University of California Medical Center, San Francisco, CA 94143-0446.
African Area Studies  
(Interdepartmental)

10244 Bunche Hall, (213) 825-3686

Professors  
Richard L. Abel, LL.B., Ph.D. (Law)  
Edward A. Alpers, Ph.D. (History)  
Robert E. Egberton, Ph.D. (Anthropology)  
Christopher Hefet, Ph.D. (History)  
Hasan el Nouty, Doctoré ès Lettres (French)  
John Friedmann, Ph.D. (Architecture and Urban Planning)  
Victoria A. Fromkin, Ph.D. (Linguistics)  
Edward Gonzalez, Ph.D. (Political Science)  
Peter B. Hammond, Ph.D. (Anthropology)  
John N. Hawkins, Ph.D. (Education)  
Richard C. Hawkins, Jr., M.A. (Theater, Film, and Television)  
Derrick B. Jelifile, M.D. (Public Health)  
Mazisi R. Kunene, M.A. (Linguistics)  
Peter N. Ladelofed, Ph.D. (Linguistics)  
Michael F. Lofchie, Ph.D. (Political Science)  
Jacques Maquet, Ph.D. (Anthropology)  
Peter Marris, B.A. (Architecture and Urban Planning)  
Henry W.McGee, Jr., J.D., LL.M. (Law)  
Claudia Mitchell-Kernan, Ph.D. (Anthropology)  
Alfred K. Neumann, M.D. (Public Health)  
Charlotte G. Neumann, M.D. (Public Health)  
Boniface I. Obichere, D Phil (History)  
Antony R. Orme, Ph.D. (Geography)  
Merrick Posnansky, Ph.D. (History and Anthropology)  
John F. Price, Ph.D. (English as a Second Language)  
Georges Sabagh, Ph.D. (Sociology)  
Russell G. Schuh, Ph.D. (Linguistics and African Languages)  
Richard L. Sklar, Ph.D. (Political Science)  
Allegre Snyder, M.A. (Dance)  
Edward W. Soja, Ph.D. (Architecture and Urban Planning)  
Hartmut Walter, Ph.D. (Geography)  
Walter R. Goldschmidt, Ph.D., Emeritus (Anthropology)  
Frederick C. Kintzle, Ed.D., Emeritus (Education)  
Hida Kuper, Ph.D., Emeritus (Anthropology)  
Leo J. Kuper, Ph.D., Emeritus (Sociology)  
Wolf Leslau, Docteur ès Lettres, Emeritus (Hebrew and Semitic Languages)  
Benjamin E. Thomas, Ph.D., Emeritus (Geography)

Associate Professors  
Sebastian Edwards, Ph.D. (Economics)  
Teshome Gabriel, Ph.D. (Theater, Film, and Television), Chair  
Gerry A. Hale, Ph.D. (Geography)  
Robert A. Hill, M.Sc. (History)  
Thomas J. Hinnebusch, Ph.D. (Linguistics and African Languages)  
Gar E. Kennedy, Ph.D. (Anthropology)  
Robert S. Kinser, Ph.D. (Germanic Languages)  
Dwight Read, Ph.D. (Anthropology)  
Arnold Rubin, Ph.D. (Art History)  
Hans Schmidthammer, M.D.A. (Management)  
Nathan Shapiro, Dottore in Architettura (Design)

Assistant Professors  
Jacqueline C. DjeDje, Ph.D. (Music)  
Beverly J. Robinson, Ph.D. (Theater, Film, and Television)  
Suzanne B. Heath, Ph.D., Visiting (Architecture and Urban Planning)  
Joseph J. Lauer, Ph.D., Adjunct (Library and Information Science)

Adjunct and Visiting Assistant Professors  
Donald J. Cosentino, Ph.D., Adjunct (Folklore and Mythology)  
John A. Distefano, Ph.D., Adjunct (History)  
Patrice Jelifile, R.N., M.P.H., Adjunct (Public Health)  
Kobia Ladzekpo, B.F.A., Visiting (Music)

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 not only the social sciences and humanities, but increasingly in the professional fields as well. The Master of Arts is not a professional degree, but students are encouraged to enroll in courses in the several professional schools on campus. Articulated degree programs are also offered.

Academic flexibility draws many students to the program. Because there are more than 65 faculty members on campus with African interest and experience in approximately 20 different disciplines, students have multiple options to design individual programs.

According to a recent survey, 37 percent of the program's graduates are continuing study at the postgraduate level, 25 percent are employed in higher education, and 24 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 take the Graduate Record Examination (GRE), submit three letters of recommendation from academic referees, and prove that you have a Foreign Language Requirement.

Foreign Language Requirement  
You are required to satisfy the language requirement in one of the following ways:  
1) take three courses (12 units) in an African language with an average grade of B or better;  
2) pass a Linguistics Department examination in an African language not regularly offered;  
3) prove that you are a native speaker of an African language;  
4) prove that you have a Foreign Service Institute rating of three or above in an African language.

Course Requirements  
A minimum of nine courses are 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, or the yearly colloquium sponsored by the African Studies Center. 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 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. In exceptional cases, and with consent of the graduate adviser, a thesis may be substituted for the comprehensive examination. If you wish to follow the thesis plan, you should select, in consultation with your graduate adviser, a faculty committee to supervise your thesis. The thesis must reflect both the major and minor areas of emphasis. Normally the thesis should be submitted to the committee at the beginning of your fourth quarter. In residence, and should be approved before the end of that quarter. If the committee does not approve the thesis, you will have failed the requirement and will not be allowed to resubmit the thesis.
Comprehensive Examination Plan
If you select the comprehensive examination plan, you will be 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 will be granted only with consent of the graduate adviser. The examination will normally be three 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.

Minor Field Certification: To effectively demonstrate competence in your minor field, you must successfully complete the three required courses with grades of B or better. In individual cases, if competence is not demonstrated by the coursework, a question on the minor field will be included in the comprehensive examination.

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 any of the cooperative degree programs, contact the Graduate Adviser or Assistant Graduate Adviser, M.A. Program in African Area Studies.

M.F.A./M.A.-African Area Studies
The African Area Studies Program and the Motion Picture/Television Division of the Department of Theater, 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., with a specialization in motion picture/television. Additional information is available from Teshome Gabriel, Graduate Adviser, African Area Studies Program, and the Graduate Adviser, Graduate Student Affairs Office, Motion Picture/Television Division, UCLA Theater, Film, and Television Department.

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 Office of Student Affairs, UCLA School of Public Health.

English Language Teaching and Research
If you wish to prepare for English language teaching and research, you have two options: (1) selected Africa-related courses in English as a Second Language can be selected as a major or minor field for the M.A. degree or (2) for more extensive study, the M.A. degree can be combined with the postgraduate certificate in TESL by taking additional specified courses.

Graduate Courses
M229B. Africana Bibliography and Research Methods. (Same as Library and Information Science M229B.) Problems and techniques of research methodologies related to Africana studies. Emphasis on relevant basic and specialized reference materials, using the full range of available information resources, including library collections of books, serials, and computerized data bases. Mr. Lauer 375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the 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.

African Languages (Linguistics) 1A-1B-1C. Elementary Swahili
2A-2B-2C. Intermediate Swahili
7A-7B-7C. Elementary Zulu
8A-8B-8C. Intermediate Zulu
11A-11B-11C. Elementary Yoruba
31A-31B-31C. Elementary Bambara
41A-41B-41C. Elementary Hausa
42A-42B-42C. Intermediate Hausa
103A-103B-103C. Advanced Swahili
143A-143B-143C. Advanced Hausa
150A-150B. African Language in English Translation
199. Special Studies in African Languages
270. Seminar in African Literature
Anthropology 112. Old Stone Age Archaeology
M115S. Historical Archaeology
118A, 118B. Museum Studies
121A. Fossil Man and His Culture
121B. The Australopithecines
121C. Evolution of the Genus Homo
133P. Social and Psychological Aspects of Myth and Ritual
133R. Aesthetic Anthropology
135Q. The Individual in Culture
137. Ethnography on Film
152P. Comparative Systems of Social Inequality
155. Illness in Non-Western Societies
156. Comparative Religion
158. Hunting and Gathering Societies
160. Introduction to Social Action Anthropology
161. Development Anthropology
165. Demographic Problems in Nonindustrial Societies
M168. Health in Culture and Society
171. Civilization of Sub-Saharan Africa
212P. Selected Topics in Hunter-Gatherer Archaeology
221A-221B. Fossil Evidence for Human Evolution
230C. Cultural Anthropology
233P. Symbolic Anthropology
233Q. Aesthetic Anthropology
239P. Selected Topics in Field Training in Ethnography
M247A. Ethnographic Film
250. Social Anthropology
252P. Social Inequality
254. Kinship
255. Comparative Political Institutions
M262P. Culture and Human Reproduction
M263. Medical Anthropology
M266. Medical Anthropology in Public Health
M267B-M267C. Ethnographic Film Direction
271. African Cultures
280. Anthropology Theory
Architecture and Urban Planning 210A. A History of Planning Thought since 1800
210B. Colloquium in Planning Theory
217A-217B. Comprehensive Planning Project
232A. Introduction to Regional Planning: The Evolution of Regional Planning Doctrines
232B. Spatial Planning: Regional and International Development
233. The Political Economy of Urbanization
235A-235B. Urbanization and Rural Development in Third World Countries
236A. Urban and Regional Economic Development I
253. Social Theory for Planners
266. Advanced Seminar in Natural Environment and Resources
269. Special Topics in Natural Environment and Resources
279. Housing for Developing Countries
Art History (Art, Design, and Art History) 55. African, Oceanic, and Native America
101A. 101B. 101C. Egyptian Art and Archaeology
118C. The Arts of Sub-Saharan Africa
C118A. Advanced Studies in African Art: Western Africa
C119B. Advanced Studies in African Art: Central Africa
201. Historiography of Art History
203. Museum Studies
C216A. Advanced Studies in African Art: Western Africa
C216B. Advanced Studies in African Art: Central Africa
219C. African Art
220. Oceanic, Pre-Columbian, African, and Native North American Art
History 10A-10B. Introduction to the Civilizations of Africa

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

176A-176B. History of West Africa

178A-178B. History of Eastern Africa

179A-179B. History of Southern Africa

197. Undergraduate Seminars

200N. Advanced Historiography: Africa

201N. Topics in History: Africa

275. Introduction to the Professional Study of African History

276. African Archaeology: Field Techniques

277. African Archaeology: Data Analysis

278A-278B. Seminar in African History

Motion Picture/Television (Theater, Film, and Television) 106C. History of African, Asian, and Latin American Film

108. History of Documentary Film

112. Film and Social Change

M209C. Ethnographic Film

219. Seminar in Film and Society

221. Seminar in Film Authors

M265A-M265B. Ethnographic Film Direction

276. Seminar in Non-Western Films

Music 81E. Music and Dance of Ghana

91E. Music and Dance of Ghana

140B. Musical Cultures of the World

143A-143B. Music of Africa

M154A-M154B. The Afro-American Musical Heritage

157. Music of Brazil

280. Seminar in Ethnomusicology

287. Seminar in African Music

C290A-C290B. Proseminar in Ethnomusicology

Political Science 139A-139Z. Special Studies in International Relations

165. Government and Politics in North Africa

166A-166B-166C. Government and Politics in Sub-Saharan Africa

167. Ideology and Development in World Politics

C250E. Seminars in Regional and Area Political Studies: African Studies

C271. Seminar in Political Change

Public Health 112. Principles of Epidemiology

114. Epidemiology I

160. Principles of Food and Nutrition

161. Nutrition and Health

171B. Family Health and Population: Principles and Issues

179A. Health Problems and Programs in Africa

179B. African Health Sector Analysis Seminar

186. The World’s Population and Food

212H. Epidemiology of Arthropod-Borne Disease

214. Infectious and Tropical Disease Epidemiology

218A, 218B. Protozoal Diseases of Man

220A, 220B. Helminthic Diseases of Man

222. Seminar in Epidemiology: Infectious and Tropical Disease

240. Health Care Issues in International Perspective

270. Maternal and Child Nutrition

272. Seminar on Current Issues in Maternal and Child Health

M274A-M274B. Population Policy and Fertility

M274C. Seminar in Population Policy and Fertility

275. Human Lactation: Biological and Public Health Significance

470A. International Health Agencies and Programs

470B. Advanced Issues in International Health

472A. Maternal and Child Health in Developing Areas

472B. Recent Developments in Maternal and Child Health in Disadvantaged Countries

472D. Overseas Refugee Health Programs

475. Planning and Development of Family Health Programs

477. Assessment of Family Nutrition

478. Anthropometric Nutritional Assessment

479D. Nutrition Education and Training: Third World Considerations

Sociology 112. Development of Sociological Theory

113. Contemporary Sociological Theory

114. Marxist Sociology

120. Social Change

124. Ethnic and Status Groups

126. Social Demography

130. Social Processes in Africa

160. The Demography and Sociology of Women’s Economic Roles

212A-212B. Marxist Methodology

213A-213B. Techniques of Demographic and Ecological Analysis

217A-217B. Ethnographic Fieldwork

218A-218B. Ethnomet hodological Methods

256. Demography

274. Selected Problems in the Sociology of Africa

M287A-M287B. Population Policy and Fertility

M287C. Seminar in Population Policy and Fertility

Theater (Theater, Film, and Television) 102E. Theater of the Non-European World

202P. Seminar in Traditions of African Theater

African Studies (Interdepartmental)

10244 Bunche Hall, (213) 825-2944

Professors

Christopher Ehret, Ph.D. (History), Chair
Richard L. Sklar, Ph.D. (Political Science)

Associate Professor

Thomas J. Hinnebusch, Ph.D. (Linguistics)

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 program 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 program 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 will receive a degree with a major in a selected discipline and specialization in African studies. The chair of the committee in charge will certify completion of the Special Program in African Studies.

Special Undergraduate Program

Preparation for the Program

Required: Two courses from History 10A, 10B, and African Languages 190. Training in Arabic, French, Portuguese, or an African language is highly recommended.

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, they are required to take a course related to Africa in each of four departments. One required upper division course related to Africa may, however, be replaced by a three-quarter sequence of any African language.

For more information, contact the Assistant Graduate Advisor, African Studies Center, 10244 Bunche Hall (825-2944) or Professor Christopher Ehret, History, 6265 Bunche Hall (825-4093, 825-4601).

Afro-American Studies (Interdepartmental)

3111 Campbell Hall, (213) 825-7403

Professors

Alden Ashforth, Ph.D. (Music)
Gordon L. Perry, Ed.D. (Education)
Staley Cohen, Ph.D. (History)
Mazisi Kunene, M.A. (Linguistics)
Claudia Mitchell-Kernan, Ph.D. (Anthropology), Cochair
Boniface Obichere, D.Phil. (History)

Associate Professors

J. Eugene Grigsby III, Ph.D. (Architecture and Urban Planning)
Robert A. Hill, M.Sc. (History)
James H. Johnson, Ph.D. (Geography)
 Hector F. Myers, Ph.D. (Psychology)
Melvin Oliver, Ph.D. (Sociology), Cochair
Allred E. Osborne, Jr., Ph.D. (Management)

Gloria J. Powell, M.D., in Residence (Psychiatry)
Romero Tidwell, Ph.D. (Education)
Gail F. Wyatt, Ph.D., in Residence (Psychiatry)
Richard A. Yarborough, Ph.D. (English)

Assistant Professors

Margaret W. Creel, Ph.D. (History)
Jacqueline C. Djioe, Ph.D. (Music)
Halford H. Fairchild, Ph.D. (Psychology)
Vickie M. Mayas, Ph.D. (Psychology)
Warren Pinckney, Ph.D. (Music)
Beverly J. Robinson, Ph.D. (Theater, Film, and Television)

Adjunct Associate Professor


Adjunct and Visiting Lecturers

Barbara A. Bass, M.S.W., Adjunct (Psychiatry)
Kenny Burrell, B.A., Visiting

Scope and Objectives

The Afro-American studies major is a relatively new major at UCLA. Originally born during the late 1960s and early 1970s, the program was designed to fill a void that existed at UCLA in terms of social science material relevant to the black experience. Students and faculty currently associated with the program see the Afro-American studies 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 Afro-American experience in the United States. For Afro-American students, this leads to a heightening of self-awareness and self-pride. For non-Afro-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 Afro-Americans. This goal is achieved in two primary ways. First, it provides an interdisciplinary exposure to particular features of the Afro-American experience. Majors gain an in-depth understanding of the historical, anthropological, sociological, psychological, economic, and political aspects of Afro-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).

Bachelor of Arts Degree

The B.A. program in Afro-American Studies made a number of changes in the degree requirements for the 1983-84 academic year. Students declaring an Afro-American studies major after Spring Quarter 1983 must satisfy the requirements that follow. Students who declared the major prior to Spring Quarter 1983 may satisfy either the new requirements or those described in the 1982-83 UCLA Undergraduate Catalog. Because of the evolving nature of the program, you should periodically check with the program office for additional changes and/or updates. Majors should also closely consult the 1986-87 Afro-American Studies Catalog and Directory, available from the program office.

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 enrollment in a given course; this is especially important for the quantitative courses in economics and psychology): anthropology; Anthropology 1 (or 11), 2, 5, 6; economics: Economics 1, 2, 40, Mathematics 3A, 3E (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 99 (or 100 or 101); philosophy: Philosophy 4, 21, 22, 31; political science: Political Science 1, 6, 20, Sociology 1, Economics 1, Psychology; Mathematics 2, Psychology 10, 41, 42, Biology 2, Anthropology 11, Physics 10 (or 3A or 6A or 6A), one year of high school chemistry (or Chemistry 2 or 11A); sociology: Mathematics 2, Sociology 1, Anthropology 22. 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, History M158B-M158C; (2) four upper division and/or graduate courses in Africam 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 will best meet your current and future educational and career goals.
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 Afro-American cultures in the United States, the Caribbean, and South America. The program prepares students for positions in the job market, as well as 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 on the basis of the following criteria: (1) an official transcript; (2) three academic letters of recommendation; (3) a minimum 3.0 (B) average in the junior/senior years of college; (4) a statement of purpose describing the applicant's background in Afro-American studies, proposed program of study, and future career goals; (5) scores on the verbal and quantitative sections of the Graduate Record Examination (GRE); (6) an original term paper or research paper which best expresses the applicant's interests and abilities; (7) other evidence of promise deemed relevant such as work experience, accomplishments, or community and public service.

Admission to the program is limited to the Fall Quarter. The application deadline for the 1987-88 academic year is January 30, 1987 (earlier for international students). Prospective students may request applications from the M.A. Degree Program in Afro-American Studies, Center for Afro-American Studies, 3111 Campbell Hall, UCLA, Los Angeles, CA 90024.

Major Fields


Foreign Language Requirement

You are required to satisfy the language requirement in one of the following ways: (1) successfully completing two years of course work in a foreign language at the college level; (2) passing a foreign language proficiency examination approved by your guidance committee and deemed appropriate by the program committee; or (3) demonstrating competence in the use of the computer as an aid in social research.

Course Requirements

A total of 14 upper division and graduate courses are required for the degree. Of that number, only four may be selected from upper division listings. The program has a structured core of seven required courses. You are required to take Afro-American Studies M200A and three courses from the 200B through 200F series. These courses should normally be taken in your first year of study. The second year is devoted to acquiring disciplinary competence in your cognate field, and six courses must be selected from that discipline. Finally, course 270A is required, and courses 270B-270C are to be taken in conjunction with work in the discipline of your choice. These seminars are expected to facilitate completion of your thesis. One course (four units) in the 500 series may be applied toward either the total course requirement or the minimum graduate course requirement.

Thesis Plan

The thesis is the final report on the results of your original investigation. Before beginning work on the thesis, you should consult closely with your academic adviser and the thesis committee. See the 1986-87 Afro-American Studies Catalog for details concerning thesis requirements.

Comprehensive Examination Option

You may elect to complete the M.A. degree through the comprehensive examination option. The written examination is administered by a committee consisting of at least three faculty members appointed by the program and is offered on a regular basis.

Upper Division Courses

100B. Psychology from an Afro-American Perspective. A survey of psychological literature relevant to Afro-Americans, with emphasis on contributions of Afro-American psychologists. Topics include the history of psychology, testing and intelligence, the family, personality and motivation, racism and race relations, education, community psychology, and the future of Afro-American psychology.

Mr. Fairchild (Sp)
the antislavery movement and the rise of black writing

Toni Morrison, Amiri Baraka (LeRoi Jones), and Alice
James Baldwin, Gwendolyn Brooks, Ralph Ellison,
oral and written forms (folktales, spirituals, sermons; prose, poetry). Emphasis on the use of literature in
the antislavavery movement and the rise of black writing at
the turn of the century. Writers studied include
Phillis Wheatley, David Walker, Frances Harper, Frederick Douglass, Paul Laurence Dunbar, Charles W.
Chesnutt, Booker T. Washington, Pauline Hopkins,
W.E.B. DuBois, and James W. Johnson.

M104B. Afro-American Literature since the 1920s.
(Formerly numbered M104.) (Same as English M104B.) Prerequisite: satisfaction of Subject A requirement.
An introductory survey of the Afro-American literary
tradition from the 1880s to the present, including
oral and written forms (ballads, blues, spirituals, sermons;
prose, poetry). Emphasis on the Harlem Renaissance and black writing in the 1960s.
Writers studied include Jean Toomer, Claude McKay,
Langston Hughes, Sterling Brown, Richard Wright,
James Baldwin, Gwendolyn Brooks, Ralph Ellison,
Toni Morrison, Amin Baraka (LeRoi Jones), and Alice
Walker.

Mr. Yarborough

145. Ellingtonia. The music of Duke Ellington, his
life, and the far-reaching influence of his efforts.
Emphasis on the utilization of anthropological concepts
and methods in understanding the origins and main-
tenance of particular patterns of adaptation among
black Americans. Ms. Michelli-Kerran (F)

M158A. Comparative Slavery Systems. (Same as
History M158A.) Lecture, three hours. An examina-
tion of the slavery experience in various New World
slave societies, with emphasis on outlining the simi-
larities and the differences among the legal status,
treatment, and slave cultures of North American, Car-
ibbean, and Latin American slave societies. Ms. Burrell
(W)

M158B-M158C. Introduction to Afro-American History.
(Same as History M158B-M158C.) Lecture, three hours. A survey of the Afro-American experi-
ence, with emphasis on the three great transitions of
Afro-American life: the transition from Africa to New
World slavery, the transition from slavery to freedom,
and the transition from rural to urban society.
Ms. Creel, Mr. Hill

M164. The Afro-American Experience in the Unit-
ed States. (Same as Anthropology M164.) Promotes
understanding of contemporary sociocultural forms
among Afro-Americans in the United States by pre-
senting a comparative and diachronic perspective on
the Afro-American experience in the New World. Em-
phasis on the utilization of anthropological concepts
and methods in understanding the origins and main-
tenance of particular patterns of adaptation among
black Americans. Ms. Michelli-Kerran (F)

M172. The Afro-American Woman in the U.S.
(Same as Psychology M172 and Women's Studies M172.) Prerequisite upper division standing. The
impact of the social, psychological, political, and eco-
nomic forces which impact on the interpersonal rela-
tionships of Afro-American women as members of a
large society and as members of their biological and
ethnic group. Ms. Mays

M197. Topics in Afro-American Literature. (Same
as English M197.) A variable specialized studies
197B. Special Studies in Comparative Literature:
course in Afro-American literature. Topics include
Caribbean literature. A general introduction to the
literature of the English-speaking Caribbean by re-
viewing its historical and geographical background.
Toni Morrison, Amiri Baraka (LeRoi Jones), and Alice
James Baldwin, Gwendolyn Brooks, Ralph Ellison,
oral and written forms (folktales, spirituals, sermons;
prose, poetry). Emphasis on the use of literature in
the antislavavery movement and the rise of black writing at
the turn of the century. Writers studied include
Phillis Wheatley, David Walker, Frances Harper, Frederick Douglass, Paul Laurence Dunbar, Charles W.
Chesnutt, Booker T. Washington, Pauline Hopkins,
W.E.B. DuBois, and James W. Johnson.

M104A. Early Afro-American Literature. (Formerly
numbered M104.) (Same as English M104.) Prere-
quisite: satisfaction of Subject A requirement. An
introductory survey of the Afro-American literary
tradition from the 1880s to the present, including
oral and written forms (ballads, blues, spirituals, sermons;
prose, poetry). Emphasis on the Harlem Renaissance and black writing in the 1960s.
Writers studied include Jean Toomer, Claude McKay,
Langston Hughes, Sterling Brown, Richard Wright,
James Baldwin, Gwendolyn Brooks, Ralph Ellison,
Toni Morrison, Amin Baraka (LeRoi Jones), and Alice
Walker.

Mr. Yarborough

145. Ellingtonia. The music of Duke Ellington, his
life, and the far-reaching influence of his efforts.
Emphasis on the utilization of anthropological concepts
and methods in understanding the origins and main-
tenance of particular patterns of adaptation among
black Americans. Ms. Michelli-Kerran (F)

M158A. Comparative Slavery Systems. (Same as
History M158A.) Lecture, three hours. An examina-
tion of the slavery experience in various New World
slave societies, with emphasis on outlining the simi-
larities and the differences among the legal status,
treatment, and slave cultures of North American, Car-
ibbean, and Latin American slave societies. Ms. Burrell
(W)

M158B-M158C. Introduction to Afro-American History.
(Same as History M158B-M158C.) Lecture, three hours. A survey of the Afro-American experi-
ence, with emphasis on the three great transitions of
Afro-American life: the transition from Africa to New
World slavery, the transition from slavery to freedom,
and the transition from rural to urban society.
Ms. Creel, Mr. Hill

M164. The Afro-American Experience in the Unit-
ed States. (Same as Anthropology M164.) Promotes
understanding of contemporary sociocultural forms
among Afro-Americans in the United States by pre-
senting a comparative and diachronic perspective on
the Afro-American experience in the New World. Em-
phasis on the utilization of anthropological concepts
and methods in understanding the origins and main-
tenance of particular patterns of adaptation among
black Americans. Ms. Michelli-Kerran (F)

M172. The Afro-American Woman in the U.S.
(Same as Psychology M172 and Women's Studies M172.) Prerequisite upper division standing. The
impact of the social, psychological, political, and eco-
nomic forces which impact on the interpersonal rela-
tionships of Afro-American women as members of a
large society and as members of their biological and
ethnic group. Ms. Mays

M197. Topics in Afro-American Literature. (Same
as English M197.) A variable specialized studies

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: anthropology, English, history, linguistics, literature, sociology, fine arts, or American Indian studies.

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. Admission to the program is limited to the Fall Quarter. 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.

Major Fields or Subdisciplines
The American Indian Studies M.A. is an interdisciplinary program with 10 participating academic schools and departments: Anthropology, Art, Dance, English, History, Law, Library and Information Science, Linguistics, Music, and Sociology. The 10 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 schools and departments: Architecture and Urban Planning, Education, Political Science, Social Welfare, and Psychology.

Foreign Language Requirement
Students in the M.A. program must successfully complete Linguistics 114, which has been designed to show how languages are primary vehicles for understanding American Indian culture.

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 must be taken in the first year), and Linguistics 114, 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 will 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 will be selected by you with the consent of the program committee. Copies of the thesis must be submitted to each member of the committee by the fifth week of the quarter in which you expect to graduate. If you choose the comprehensive examination plan, you must demonstrate in written or oral examination your competency in the major and minor areas of study.

Upper Division Course
197. Special Topics in American Indian Studies. Variable topics selected from the following: Myth and Folktale of Indian Societies; Contemporary American Indian Literature: Social Science Perspectives of American Indian Life; Law and the American Indian; History of the American Indians (cultural area); Dance and Music of the American Indians (cultural area); American Indian Policy. Topics are announced in the Schedule of Classes. May be repeated twice for credit.

Graduate Courses
M200A. Advanced Historiography: American Indian Peoples. (Same as History M200W.) Seminar, three hours.
M200B. Cultural World Views of Native America. (Formerly numbered 200B.) (Same as English M266.) Seminar, three hours. Exploration of written literary texts drawn from oral cultures and 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 drawn from literary analysis, structural anthropology, folklore, linguistics, and ethnomusicology.

Anthropology
341 Haines Hall, (213) 825-2055

Professors
C. Rainer Berge, Ph.D.
Nicholas Blurton Jones, Ph.D.
William O. Bright, Ph.D.
Christopher B. Donnan, Ph.D.
Robert B. Edgerton, Ph.D.
Peter B. Hammond, Ph.D.
James N. Hill, Ph.D.
Allen W. Johnson, Ph.D.
John G. Kennedy, Ph.D.
Lewis L. Langness, Ph.D.
Jacques Maquet, Ph.D.
Clement W. Meighan, Ph.D.
Claudia Mitchell-Kernan, Ph.D.
Michael Moerman, Ph.D.
Henry B. Nicholson, Ph.D.
Wendell H. Oswalt, Ph.D.
Merrick Posanski, Ph.D.
Douglas Price-Williams, Ph.D.
James R. Sackett, Ph.D.
Thomas S. Weisner, Ph.D.
Johannes Wilbert, Ph.D.
Bobby Joe Williams, Ph.D.
Joseph B. Birdsell, Ph.D., Emeritus
Walter R. Goldschmidt, Ph.D., Emeritus
Hilda Kuper, Ph.D., Emeritus
William A. Lessa, Ph.D., Emeritus

Associate Professors
Timothy Earle, Ph.D.
Gail E. Kennedy, Ph.D.
Paul V. Kroskrity, Ph.D.
Philip L. Newman, Ph.D.
Dwight Read, Ph.D.
Susan C. Scrimshaw, Ph.D.

Assistant Professors
Robert C. Bailey, Ph.D.
Jennie Joe, Ph.D.
Nancy E. Levine, Ph.D.
Sylvia Rodriguez, Ph.D.
Nazif M. Shahrani, Ph.D.

Adjunct Professors
Bernard G. Campbell, Ph.D.
Gerardo Reichel-Dolmatoff, Ph.D.

Adjunct and Visiting Assistant Professors
Douglas Hollan, Ph.D., Visiting
Larry Mar, Ph.D., Adjunct
Jane Wollenkamp, Ph.D., Visiting

Ms. Heth, Ms. Lincoln
Scope and Objectives

Anthropology today is classed as a social science, but its roots are in both the biological sciences and humanistic studies. It still constitutes a bridge linking these three areas of knowledge, and the department has strong ties with other disciplines ranging from anatomy and genetics to linguistics, classics, and fine arts.

The department recognizes the following five fields in anthropology:

- **Archaeology** is the study of cultures of the past, where knowledge of their characteristics is obtained primarily from material evidence left in the ground, supplemented in some cases by historical and inscriptive records.
- **Biological anthropology** studies the diversity of the human physical characteristics and the biological characteristics underlying human behavior. The faculty in this field specializes in one of four subfields: (1) primatology or the study of the characteristics of monkeys and apes; (2) paleoanthropology, the study of fossil hominids and the evolution of man; (3) human genetics; and (4) evolutionary ecology of human and nonhuman primates.
- **Cultural anthropology** is the investigation of ideational systems, including religious beliefs and mythologies, philosophical and other cognitive conceptions, world views and aesthetic configurations, and technologies transmitted from generation to generation.
- **Linguistic anthropology** examines the diversity of natural languages and other communicative systems, the sociocultural patterning of their use, and their relationship to the cultural knowledge of their speakers.
- **Social anthropology**, closely tied to sociological studies, the structure of human communities and the institutionalized social interaction systems. It examines the diversity of family forms and kinship, governance and political systems, law and the resolution of conflict, economic collaboration, social status and role, and certain aspects of religion.

Cutting across the five fields are three other categories of course offerings: the **anthropology of social action, regional cultures, and history and theory**.

The department offers the Bachelor of Arts degree 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 medicine, public health, nursing, law, education, and social welfare. 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 Majors**

*Required: Anthropology 1, 2, 5, 6. All courses must be taken for a letter grade.*

All undergraduate anthropology majors must earn a minimum grade of C in all anthropology courses required for the major and must maintain a minimum 2.0 GPA in the major overall.

**The Majors**

The Department of Anthropology offers a choice between two undergraduate majors:

1. **General major**
2. **Preprofessional major**

To provide a comprehensive understanding of the disciplines as a whole, you must take at least one course in each of the five fields (see "Scope and Objectives" above). One core course is offered in each field (anthropology offers a choice of two), but you may take any course to fulfill this requirement if the prerequisites have been met.

The **general major** is designed for students interested in an anthropological understanding of human behavior who plan to pursue personal or professional goals other than those of anthropologists. Students taking the general major must complete 14 (four-unit) upper division courses for a letter grade as follows:

1. One upper division course in each of the five fields: archaeology, biological anthropology, cultural anthropology, linguistic anthropology, and social anthropology.
2. One upper division course in the category of regional cultures.
3. Four additional upper division courses in anthropology.
4. Four upper division courses (unless otherwise designated) in related fields drawn from a list maintained in the department.

The **preprofessional major** is designed primarily for students planning to make a career in anthropology and is expected of students entering the graduate program in anthropology at UCLA. Students taking the preprofessional major must complete 16 (four-unit) upper division courses for a letter grade as follows:

1. One upper division course in each of the five fields: archaeology, biological anthropology, cultural anthropology, linguistic anthropology, and social anthropology.
2. One upper division course in the category of regional cultures.
3. Two upper division courses in the category of history and theory.
4. One course in statistics (this requirement will normally be met by taking Anthropology 186A but may also be met by courses drawn from a list maintained in the department).

(5) Three or four additional upper division courses in anthropology.

(6) Three or four upper division courses (unless otherwise designated) in related fields drawn from a list maintained in the department.

(7) Competence in a foreign language (see below).

**Foreign Language**

For the preprofessional major the department requires proficiency in one foreign language to ensure that you have the communication skills and cultural insights offered by such proficiency. Any spoken language or any extinct language with a substantial body of literature is acceptable. This requirement may be met by (1) completing the fifth quarter of one foreign language or (2) demonstrating foreign language proficiency at level five. Courses taken to satisfy the foreign language requirement may be taken on a Passed/Not Passed basis and may be applied toward satisfaction of the Letters and Science general education requirements in the humanities.

**Honors Program**

The honors program is designed for majors who are interested in carrying out an independent research project that will culminate in an honors paper. A special honors seminar is 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. Anthropology 198A, 199HA, 199HB, and 199HC are required. Course 199HA should be taken in the Spring Quarter of the junior year; honors students then take courses 199HB and 199HC in the Fall and Winter Quarters of their senior year (to write the honors paper).

**Graduate Study**

**Admission**

Admission to the graduate program in anthropology is ordinarily restricted to the Fall Quarter. For admission in the Winter or Spring Quarters, you must make a formal written request to the departmental admissions committee. 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 will be 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 the following dates to be considered for admission for:

Winter Quarter 1987 — October 1, 1986
Spring Quarter 1987 — December 30, 1986
Fall Quarter 1987 — December 30, 1986

The Graduate Admissions Office (Graduate Division, 1247 Murphy Hall, UCLA, Los Angeles, CA 90024) requires submission of an official application; official transcripts of record, in duplicate, from each college or university at which work has been completed; and a statement of purpose.

In addition, you must submit the following directly to the Graduate Counselor (Department of Anthropology, 341 Haines Hall, UCLA, Los Angeles, CA 90024):

1. Three letters of recommendation (preferably from anthropologists).
2. Graduate Record Examination (GRE) scores.
3. A research or term paper.

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 Educational Testing Service (ETS) examination in a foreign language with a score of 500 or better.
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 have the requirement waived. Formal written petition for such waiver should be submitted to the guidance committee, department chair, and the Graduate Division.

Core Course Requirements

You may demonstrate basic knowledge in the five 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 the 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 quarter, but this requirement may be waived by petition to the department chair. An M.A. degree requires nine courses (36 units) taken for a letter grade with a minimum 3.0 grade-point average.

1. Four courses may be upper division (100 series).
2. At least five must be graduate seminars (200 series).
3. Three courses may be outside the major with consent of the guidance committee.

Comprehensive Examination Plan

The master's degree program is on the comprehensive examination plan. The examination consists of two parts: (1) a written examination and (2) a master's paper.

Written Examination: You must pass an examination in one of the five fields to demonstrate competence and intellectual promise in the field of specialization. This examination must be taken in the Spring Quarter and, in case of failure, may be taken a second time the following year. Students admitted in Winter or Spring Quarter who have the equivalent of two quarters or more of graduate work in anthropology are required to take the examination in the Spring Quarter of their first year. Students not having an adequate background must take it the following academic year.

Master's Paper: You must submit an original paper based on field, laboratory, or library research by the end of your fifth quarter in residence. The guidance committee will assist you in formulating the research paper, monitoring its progress, and evaluating the paper after you submit it. In this assignment, you are urged to work closely with your advisers.

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 will have to satisfy all master's degree requirements with the exception of the master's paper. 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 will a student be admitted into the Ph.D. program.

Foreign Language Requirement

You must satisfy the Ph.D. language requirement before formally nominating the five-member 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 completed 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 quarter after receiving the M.A. degree. The written examination must be completed within the first eight weeks of the given quarter; the University Oral Qualifying Examination is expected to be completed in the same quarter, but no later than the following term.

The format for the written examination is to be determined by the doctoral committee which will examine you in three subfields of your choice. Of these three subfields will be drawn from a list available in the department; the third will be 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 Examination

This examination, administered by the doctoral committee, focuses on your dissertation and is required of all candidates. It may be waived by petition to the Graduate Division with consent of the doctoral committee.
Lower Division Courses


2. The Principles of Human Evolution: Comparative Analysis. Lecture, three hours; discussion, one hour. Required as preparation for the major. Not open for credit to students with credit for course 111. Population biology in the conceptual framework of evolutionary processes. Emphasis on comparative primate behavior, structural anatomy, and the fossil record.

3. Principles of Cultural Anthropology. Lecture, three hours; discussion, one hour. Required as preparation for the major. Not open for credit to students with credit for course 22. The character of culture and nature of social behavior as developed through anthropological study of contemporary peoples.

4. Culture History. Lecture, three hours; discussion, one hour. Required as preparation for the major. The development of culture from its first beginnings to the advent of writing, as developed through archaeological, historical, and ethnological investigations.

5. The Evolution of Man. Lecture, three hours; discussion, one hour. Does not satisfy major requirements. Not open for credit to students with credit for course 2. An introduction to the cultural understandings of human behavior designed for students who do not plan further work in anthropology. Emphasis on those concepts and theories that are applicable to everyday life and professional activities in the modern world. Examples of institutions and individual behavior of modern America counterpointed against studies of primitive life.

6. Culture and Communication. Lecture, three hours. The role of culture in structuring how people communicate with one another, with emphasis on the social, economic, and political aspects of culture.

7. 33. Culture and Communication. Lecture, three hours; discussion, one hour. Not open for credit to students with credit for course 5. An introduction to the cultural understandings of human behavior designed for students who do not plan further work in anthropology. Emphasis on those concepts and theories that are applicable to everyday life and professional activities in the modern world. Examples of institutions and individual behavior of modern America counterpointed against studies of primitive life.

8. 44. Culture and the Visual Arts. Lecture, three hours; discussion, one hour. Not open for credit to students with credit for course 2. Emphasis on evolutionary processes and the evolutionary past of the human species.

9. General Cultural Anthropology. Lecture, three hours; discussion, one hour. Not open for credit to students with credit for course 5. An introduction to the cultural understandings of human behavior designed for students who do not plan further work in anthropology. Emphasis on those concepts and theories that are applicable to everyday life and professional activities in the modern world. Examples of institutions and individual behavior of modern America counterpointed against studies of primitive life.

10. Cultural and the Visual Arts. Lecture, three hours; discussion, one hour. Not open for credit to students with credit for course 5. An introduction to the cultural understandings of human behavior designed for students who do not plan further work in anthropology. Emphasis on those concepts and theories that are applicable to everyday life and professional activities in the modern world. Examples of institutions and individual behavior of modern America counterpointed against studies of primitive life.

11. Archaeology

110. World Archaeology. Prerequisite: upper division standing or consent of instructor. A broad survey of human culture history from its Stone Age beginnings to the establishment of the primary civilizations of the Old and New Worlds. Intended for students with a general interest in archaeology and in an anthropological approach to the study of the past. (Alternate core course for archaeology field.) Mr. Sackett

111. The Study of Archaeology. A survey of con- temporary understanding of what archaeologists do, and how and why they do it. Contributions of archaeology to the modern world. Intended for students with a desire to explore the nature of anthropological archaeology. (Alternate core course for archaeology field.) Mr. Hill

112. Old Stone Age Archaeology. Prerequisite: course 6 or consent of instructor. The development of Paleolithic cultural traditions in Europe, Africa, Asia, and the New World. Emphasis on the ordering and interpretation of archaeological data, technological, biological, and chronological, and the relationship between human cultural and biological evolution. Mr. Sackett

113P. Archaeology of North America. Prerequisite: course 5, 6, or 22, or consent of instructor. Prehistory of the North American Indians; the evolution of Indian societies from earliest times to (and including) contemporary Indians; approaches and methods of American Indian archaeology. Mr. Maharg

113Q. The Prehistory of California Indian Cul- tures. Examination of the California archaeological record from earliest human evidence to historic times, with emphasis on the development of cultural diversity. Mr. Maharg

113R. Southwestern Archaeology. Examination of the 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 the "Great Events" (agriculture, town living, and the Great Abandonment). Evolutionary processes generalized and related to contemporary world problems. Mr. Hill

114Q. Ancient Civilizations of Western Middle America (Nahua! Sphere). Pre-Hispanic and Conquest period native cultures of Western Middle America, as revealed by archaeology and early colonial writings in Spanish and Indian languages. Toltec-Azte- cica, Mixtec and Zapotec civilizations and their predecessors, with emphasis on sociopolitical systems, economic patterns, religion, and aesthetic and intellectual achievements. Mr. Nicholson

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 Indian languages. Lowland and Highland Maya civilizations and their predecessors, with emphasis on sociopolitical systems, economic patterns, religion, and aesthetic and intellectual achievements. Mr. Nicholson

114R. Ancient Civilizations of Andean South America. Prerequisite: course 5, 6, or 22. Pre-His- panic and Conquest period native cultures of Andean South America, as revealed by archaeology and early Spanish writing. The Incas and their predecessors in Peru, with emphasis on sociopolitical systems, eco- nomic patterns, religion, and aesthetic and intellectual achievements. Mr. Donnan

115P. Archaeological Field Training. Prerequisite: consent of instructor. Procedures of archaeological excavation, mapping, stratigraphy, collecting, and recording of archaeological data (field class conducted off campus).

Upper Division Courses

Courses 1 and 2, 5, 6, or upper division standing are prerequisite to all upper division courses, unless otherwise stated. All upper division courses with letter designations (A, B, P, Q, etc.) may be taken independently unless otherwise stated.

Archeology

115Q. Archaeological Research Techniques. Prerequisite: course 6 or consent of instructor. An intro- duction to the techniques of discovery and analysis that archaeologists have found useful in research. Special attention to sampling, typology, and location- al analysis. Consideration of techniques for the measurement of such important variables as population size, diet, seasonality, specialization, and exchange. Mr. Hill

115R. Strategy of Archaeology. Prerequisite: course 6 or consent of instructor. An introduction to problem formulation, theory, and method in archae- ology, with emphasis on the development of research designs. Focus on how archaeological research is conceived and planned, with consideration of differ- ing viewpoints and their usefulness. Mr. Hill

M115S. Historical Archaeology. (Same as History M103.) A survey of the aims and methods of archaeology as practiced on both sides of the Atlan- tic, with case studies drawn from North America, the Caribbean, Africa, and Europe. Mr. Posnansky

116P. Laboratory Analysis in Archaeology. Lecture, three hours. Prerequisite: consent of instructor. Preparation of archaeological reports for publication. Laboratory description of archaeological collections: typology, documentation, preparation of illustrations, and presentation of archaeological data for scholarly publication. Mr. Sackett

116Q. Dating Techniques in Environmental Sci- ences and Archaeology. (Same as Geography M178.) Lecture, three hours; reading period, one hour. Prerequisite: consent of instructor. Introduction to scientific dating methods such as radiocarbon dating, radioisotope dating methods, biological dating techniques, and magnetic dating, and applications in environmental sciences, archaeology, and physical anthropology. Mr. Berger

118A. Museum Studies. Prerequisite: consent of in- structor. Method and theory of museum operation. A general course of instruction selected by the museum curator. A program of field trips and museum visits. Mr. Donnan and the Museum Staff

118B. Museum Studies. Prerequisite: course 118A, consent of instructor. Two areas of museum operation are discussed in this course from those discussed and demonstrated in course 118A. Students are then required to develop expertise in these areas through a combination of library research and a series of assignments carried out in the museum. Mr. Donnan and the Museum Staff

Biological Anthropology

120. Survey of Biological Anthropology. Prerequir- ees: courses 1, 2, or equivalent. Limited to majors and graduate students in anthropology. A survey of biological anthropology including all major subareas. A lecture/seminar format requires attendance at a recitation section in addition to lectures. (Core course for biological field.) Mr. Williams

121A. Fossil Man and His Culture. Recommended prerequisites: courses 1, 2, and 121C. The morphology, ecology, and behavior of the genus Australopithecus. The history of their discoveries and their place in human evolution. Mr. Kennedy
121C. Evolution of the Genus Homo. Prerequisite: consent of instructor. Recommended: courses 1, 2, 121A, 121B. The origin and evolution of modern man, including archaic sapiens and the Neanderthals. The morphology, ecology, and behavior of these groups. Course ends with the appearance of modern man. Ms. Kennedy

122. Biology, Society, and Culture. Prerequisite: course 2. An investigation of the interaction between human biology and human behavior. Particular emphasis on the influences of human biological evolution on human cultural evolution and contemporary terms, with special reference to the role of the individual in social and cultural change. Mr. Kennedy


123P. Aging: An Anthropological Perspective. Lecture, three hours. An exploration of aging from an evolutionary and comparative perspective. Focus on the mechanisms of mammalian aging, population demography and life-table modification, age-group systems, and the effects of modernization on these systems in non-Western societies. Mr. Mai

124. Evolution and Behavior of Human Behavior. A comparative survey of the behavior patterns of primate and Paleolithic peoples and those of nonhuman primates. Assessment of biological variables fundamental to human and primate behavior and theories to the evolution of human culture. Mr. Bailey

124P. Evolution of Human Sexual Behavior. Lecture, three hours. Prerequisite: consent of instructor. Recommended: course 1, 2, or 11 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 relationships with members of the opposite sex. Mr. Bailey

125A-125B. The Genetics of Human Diversity. Course 125A or equivalent is prerequisite to 125B. A survey of human biological diversity. Emphasis on genetics at the population level for both discrete and quantitative traits. Analytic methods and evolutionary hypotheses. Mr. Bailey


128A-128B. Primate Behavior Nonhuman to Human. Prerequisite: upper division standing. Course 128A is prerequisite to 128B. Review of primate behavior as known from laboratory and field studies. Theoretical issues and the evolution of causation processes, structure and function of animal behavior, with special reference to nonhuman primates. Discussion of human behavior as the product of such evolutionary processes. In Progress grading. Mr. Bailey

129P. Laboratory Methods in Biological Anthropology: Skeletal. Prerequisites: courses 1, 2, consent of instructor. Limited to majors and graduate students. Laboratory methodology and analysis of human variation on skeletal material. Mr. Bailey

129Q. Paleopathology. Lecture, one hour; laboratory, three hours. Prerequisites: course 129P, upper division standing, consent of instructor. Investigation into diseases, trauma, health status, substance abuse, and ethnic mixture (i.e., cranial deformation, trepanation) through analysis of human skeletal remains. Course has a worldwide scope, although there is some emphasis on the New World. Ms. Kennedy

130. The Study of Culture. Lecture, three hours. Prerequisite: one lower division anthropology course or equivalent. The 20th-century elaboration and development of the concept of culture from the Boasian period to the present. Survey of the major schools of anthropological thought, such as historical particularism, psychological anthropology, functionalism, cultural materialism, structuralism, and ethnomethodology. Examination of the utility of the culture concept in more applied areas of anthropology. (Core course for cultural field.) Mr. Hollan

130P. The Study of the Individual in Society and Culture. Lecture, three hours. Prerequisite: course 5 or 22 or consent of instructor. Examination of the relationships between the individual and society and culture. Topics include the extent to which individuals shape and are shaped by social and cultural patterns. Mr. Hollan

130R. Cross-Cultural Socialization and Childhood. Lecture, three hours. Introduction to ethnographic data on socialization and child training. Theories explaining cross-cultural variability in socialization practices. Current methods and research topics in the field. Mr. Weisner

131. American Culture. Prerequisite: upper division standing. An examination of American life in historical and contemporary terms, with special reference to the individual life cycle, in order to offer a systematic analysis of American culture and society in a cross-cultural perspective. Mr. Osvald

132. Technology and Environment. Significance of material culture in anthropology and ethnology: the role of flint and the acceptance of innovations; the ecological and sociocultural concomitants of technological systems; selected problems in material culture. Mr. Maquet

133. Social and Psychological Aspects of Myth and Ritual. The social and psychological significance of myth, ritual, and symbolism, with particular attention to anthropological theories and interpretations of religious belief systems. Mr. Macquet

133P. Symbolic Systems. Prerequisite: upper division standing or consent of instructor. An analysis of the anthropological research and theory on the cultural systems of thought, behavior, and communication expressed in a symbolic mode (as distinguished from the discursive, instrumental, and causal modes). Methods for the study of symbolic meaning, including the experiential approach. Mr. Maquet

133R. Aesthetic Anthropology. Prerequisite: upper division standing. Elaboration of a cross-cultural notion of visual aesthetic phenomena that meets the requirements of anthropological research. Aesthetic phenomena as cultural; their integration in a cultural system; their relationships with other elements in the interplay of social forces. Mr. Macquet

134. Personality and Cultural Systems: Enculturation, Phenomena. Prerequisite: upper division standing or consent of instructor. The relationship between individual and culture, with focus on enculturative learning as modality of personality forms and its dynamics of cultural change. Major emphasis on cultural influences of cognition, perception, thought processes, socialization, and development of value. Mr. Wilbert

135. Anthropology of Self and Identity. Lecture, three hours. Prerequisite: course 22 or equivalent. Survey of the anthropological literature on person, self, and identity. Examination of the conceptual and theoretical relationships among these terms as well as an exploration of their use in contemporary ethnography. PNP or letter grading. Mr. Hollan

135A. Introduction to Psychological Anthropology: Historical Development. (Formerly numbered 135SP.) Lecture, three hours. Prerequisite: course 22 or consent of instructor. Survey of the field of psychological anthropology, with emphasis on the early foundations and theoretical development of the field. Topics include the study of personality, pathology and deviance, altered states of consciousness, cognition, motivation, and emotion in different cultural settings. Mr. Weisner

135B. Introduction to Psychological Anthropology: Current Topics and Research. (Formerly numbered 135SP.) Lecture, three hours. Prerequisite: upper division standing or consent of instructor. Survey of the field of psychological anthropology, with emphasis on current topics and research. Topics include the study of personality, pathology and deviance, altered states of consciousness, cognition, motivation, and emotion in different cultural settings. PNP or letter grading. Mr. Hollan

135Q. The Individual in Culture. Prerequisite: upper division standing in anthropology, sociology, or psychology. Prerequisite: upper division standing or consent of instructor. Survey of the field of psychological anthropology, with emphasis on the individual life cycle, in order to offer a systematic analysis of American culture and society in a cross-cultural perspective. Mr. Osvald

136. Ethnography on Film. Training in ethnographic field methods. Execution of individual and group ethnographic field research projects. Mr. Bailey

136P. Ethnography: Field Training. Training in ethnographic field methods. Execution of individual and group ethnographic field research projects. Mr. Bailey

136Q. A Laboratory for Naturalistic Observations: Developing Skills and Techniques. (Same as Psychiatry M112 and Psychology M155.) Prerequisite: consent of instructor. The skill of observing and recording behavior in the field. Emphasis on field methods and practice in observing behavior. Group and individual projects. Discussion of some of the uses of observations and their implications for research in the social sciences. Mr. Bailey

137. Ethnography on Film. Intensive examination of filmed and written ethnographies of a wide range of the world's peoples, with the purposes of (1) comparing visual with written data and evidences and (2) developing criteria for adequate written and filmed ethnography. Mr. Moerman

138. Methods and Techniques of Ethnography. Introduction to the problems and procedures of extracting cultural data from documentary sources and their interpretation and analysis. The relevant documentary sources of various New World regions are selected as case histories to illustrate more concretely the problems and challenges in this major area of anthropological concern. Mr. Nicholas

139. Field Methods in Cultural Anthropology. Lecture, three hours. Prerequisites: course 135P or consent of instructor. Field work in cultural anthropology. Emphasis on the uses of observations and their implications for research in the social sciences. Mr. Weisner, Mr. Weisner (W)

139Q. Field Methods in Cross-Cultural Anthropology. Lecture, three hours. Prerequisites: course 135P or consent of instructor. Field work in cultural anthropology. Emphasis on the uses of observations and their implications for research in the social sciences. Mr. Weisner
**LINGUISTIC ANTHROPOLOGY**

**M140. Language in Culture.** (Same as Linguistics M146.) Prerequisite: upper division standing or consent of instructor. The study of language as an aspect of culture: the relation of habitual thought and behavior to language; and language and the classification of experience. A holistic approach to the study of language, with emphasis on the relationship of linguistic anthropology to the fields of biological, cultural, and social anthropology, as well as archaeology. (Core course for linguistics field.) Mr. Kroskrity

**141. The Ethnography of Communication: Introduction and Practicum.** Prerequisite: upper division standing or consent of instructor. The study of language as an aspect of culture: the relation of habitual thought and behavior to language; and language and the classification of experience. A holistic approach to the study of language, with emphasis on the relationship of linguistics to the fields of biological, cultural, and social anthropology, as well as archaeology. (Core course for linguistics field.) Mr. Kroskrity

**142A-142B. Human Social Ethology.** Prerequisite: consent of instructor. Course 142A is a strongly recommended prerequisite to 142B. Students make primary records (sound tape, videotape, or film) of naturally occurring social interactions. These are analyzed in class for the interactive tasks, resources, and accomplishments displayed. Laboratory and field-work outside of class and minimal fees to offset costs of equipment maintenance and insurance are required. Mr. Moerman

**143A. Field Methods in Linguistic Anthropology: Practical Phonetics.** Practice in elicitation from informants for the purposes of analysis of phonological systems and development of practical transcription, as a preliminary to learning to speak the native language and to the recording of ethnographic materials in native languages. No prior experience in linguistics is assumed. Mr. Kroskrity

**143B. Field Methods in Linguistic Anthropology: Syntax, Semantics, Textual Cohesion.** Prerequisite: course 143A, equivalent experience, or consent of instructor. The skills and strategies necessary for conducting investigations of linguistic systems, both micro- and macro-sociolinguistic topics. Mr. Kroskrity

**144. American Indian Ethnolinquistics 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 loci include both micro- and macro-sociolinguistic topics. Micro-sociolinguistic considerations involve issues as multilingualism, cultural differences regarding appropriate communicative behavior and variation within speech communities (e.g., male and female speech, baby talk, etc.). Macro-sociolinguistic considerations include language contact and its relationship to language change and language in American Indian education. Mr. Kroskrity

**145. Afro-American Sociolinguistics: Black English.** Lecture, three hours. Prerequisite: consent of instructor. Basic information on Black American English, an important minority dialect in the United States. The sociolinguistic behaviors of minority dialects examined from the perspectives of their genesis, maintenance, and social functions. General problems and issues in the fields of sociolinguistics examined through a case study approach. Concurrently scheduled with course CM243Q. Ms. Mitchell-Kernan (W)

**SOCIAL ANTHROPOLOGY**

**150. The Study of Social Systems.** Lecture, three hours. Prerequisite: course 5 or 6 or Sociology 1 or consent of instructor. The general principles of the organization of social life; the relation of the technological complexity and ecological conditions of the culture; the principles of evolutionary development of social systems. (Core course for social field.) Mr. Golembiewski

**151. Marriage, Family, and Kinship.** Prerequisite: course 5 or 22. A survey of marital patterns, descent, and family structure in a range of societies. Emphasis on the relationship between kinship and other aspects of the sociocultural system and on the importance of kinship for general anthropological research. Ms. Levine

**152. Traditional Political Systems.** Prerequisite: course 150 or consent of instructor. Political organization in traditional societies, with examples from American, Pacific, African, and American societies. Mr. Hammond

**153A-153B. Production and Exchange in Traditional Societies.** A review of economic and ecological aspects of production and exchange. Economic life viewed from three perspectives: adaptation, decision making, and social structure. Comparative theories discussed in the context of ethnographic evidence from a variety of cultural systems. 153A, Nonstratified Societies; 153B, Stratified Societies. Mr. Earle, Mr. Johnson

**154. Principles of Social Structure.** Prerequisites: courses 152 or 22. An upper division standing or consent of instructor. An analysis of the cultural causes and consequences of social inequality. The methods and theory which derive from Emile Durkheim in France and Radcliffe-Brown in England. The variety of approaches and concerns in social anthropology. Use of ethnographic material to illustrate the methods and concepts used by social anthropologists. Ms. Levine

**155. Illness in Non-Western Societies.** Prerequisites: course 5 or 22 or Sociology 1 and upper division standing, or consent of instructor. An analysis of the social roles involved in the diagnosis and curing. Mr. Levine

**156. Comparative Religion.** A survey of various methodologies in the comparative study of religious ideologies and action systems, including the understanding of particular religious thought, doctrine, and structural approaches, and the identification of social and psychological factors which may account for variation in religious systems cross-culturally. Mr. Newman

**157. Intentional Communities.** Prerequisite: upper division standing or consent of instructor. Communes and monasteries, ashram and kibbutz are voluntarily joined groups that are naive completely different perceptions are encountered as alternatives to the mainstream cultures and the affective involvement of the members. Discussion in a comparative perspective of questions such as the following: institutional goals stated in the community's "charter"; system of acquisition or production; internal organization; ideological configurations; individual experience; sociological and psychological explanations; crisis and failure; subculture and counterculture. Mr. Maquet

**158. Hunting and Gathering Societies.** Prerequisite: course 5. A survey of hunting and gathering societies. Examination of their distinctive features from both an ecological and cultural viewpoint. Discussion of the possibility of developing a general framework for synthesizing these two viewpoints. This synthesis is used as a basis for illustrating the relevance of hunting and gathering societies as an understanding of complex societies. Mr. Read

**SOCIAL ACTION/APPLIED ANTHROPOLOGY**

**160. Introduction to Social Action Anthropology.** Lecture, three hours. Prerequisites: course 5 or 22 and upper division standing, or consent of instructor. Application of anthropology to such domestic and international issues as poverty, discrimination, public health, mental health, child welfare, education, delinquency and drug abuse, aging, housing and community organization, economic development, environmental pollution, population control, diplomacy, warfare and revolution, the protection of native peoples, disaster relief, and refugee resettlement. Survey of career opportunities in applied anthropology. Mr. Hammond

**160P. Internships in Applied Anthropology.** Prerequisite: course 160. Designed to give students first-hand experience working in agencies in the public and private sectors (e.g., hospitals, mental health clinics, community development agencies, schools, etc.) for a semester or a year. The student takes courses with examples from Asian, Pacific, European, African, and American societies. Mr. Hammond

**161. Development Anthropology.** Prerequisites: course 5 and upper division standing, or consent of instructor. Comparative study of the peasanization of tribal peoples, the proletarianization of peasants, and the urbanization of rural populations and the processes of internal colonization in the relation between national, international, and localized sociocultural systems; the theory of social movements. Alternative theoretical constructs critically discussed. Ms. Levine

**162. Contemporary American Indian Problems.** Contemporary problems of the American Indian in the United States and off the reservation. Topics include self-determination, land claims, activism, urban Indians, and role of the Bureau of Indian Affairs. M163. Women in Culture and Society. (Same as Women's Studies M163.) Prerequisite: course 5 or 22. A systematic approach to the study of sex roles from an anthropological perspective. A critical review of relevant theoretical issues supported by ethnographic material. Ms. Levine


**165. Demographic Problems in Nonindustrial Societies.** Prerequisite: course 5 or 22. The dynamics of variation in population growth, pastoral and agricultural population density and land use, and the impact of technological change and land claims, activism, urban Indians, and role of the Bureau of Indian Affairs. Ms. Sheley-Aiken (F)

**166. Comparative Minority Relations.** Prerequisites: courses 5, 6. Comparative study of minority relations in nonindustrial societies, and prejudice. Emphasis on the utilization of anthropological concepts and methods in understanding the origins and maintenance of particular patterns of adaption among black Americans. Ms. Mitchell-Kernan (P)

**167. Interdisciplinary Approaches to Social Change.** A study of the interface between anthropology, sociology, economics, and political science. Emphasis on the utilization of anthropological concepts and methods in understanding the origins and maintenance of particular patterns of adaptation among black Americans. Ms. Levine

**168. Comparative Development.** A comparative study of economic systems, production, exchange, and political organization in Nonindustrial Societies. Emphasis on the utilization of anthropological concepts and methods in understanding the origins and maintenance of particular patterns of adaptation among black Americans. Ms. Levine

**169. Fieldwork in the United States.** A comparative study of economic systems, production, exchange, and political organization in Nonindustrial Societies. Emphasis on the utilization of anthropological concepts and methods in understanding the origins and maintenance of particular patterns of adaptation among black Americans. Ms. Levine
165P. Mexican and Chicano Folklore in Cultural Context. (Same as Folklore M109.) Lecture, three hours. Prerequisite: consent of instructor. A historical and sociocultural survey of the folklore of peoples of Mexican cultural background within Mexico and the United States. Emphasis on folklore as indices of Mexican and Chicano identity, as communicated through such traditional forms as narrative, song, music, customs, beliefs, crafts, and foodways.

167. Urban Anthropology. Open to upper division majors in the social sciences, and others with consent of instructor. A survey of urbanization throughout the world, with emphasis on urban adaptation of rural migrants. Special focus on the problems of rural-urban migration of ethnic minority groups and subsequent adaptation of them within the United States explored in terms of the methods and perspectives of anthropology. Ms. Rodriguez

168. Health in Culture and Society. (Same as Nursing M158.) Prerequisite: upper division standing. An examination of the theories and methods of medi cal anthropology in relation to the cross-cultural health systems, role networks, attitude and belief systems of the participants. Emphasis on interaction networks in health care systems.

169. Modernization in the Middle East. Lecture, three hours. Prerequisite: course 5 or 22 or consent of instructor. Exploration of how Middle Eastern Muslim societies have responded to contemporary Western challenges — political, economic, technological, cultural, social. Critical examination of how each of the major branches of anthropology have evolved a special character determined by the peculiarities of its own data, methods, and intellectual history.

Regional Cultures

Africa

171. Civilization of Sub-Saharan Africa. Prerequisite: upper division standing or consent of instructor. A comprehensive overview of the sociocultural world of sub-Saharan Africa, interpreted as a broad cultural unit with its specific African configurations and as a plurality of civilizations, each based on a particular association of subsistence strategies—subsistence agriculture, herding, cereals growing, cattle herding, commercial crops, industry. Mr. Maquet

North America

172P. North American Indian Cultures. An examination of North American Indian cultures from early historic time to modern development. Mr. Oswalt

172Q. Cultures of the California Indians. An examination of the cultural diversity of the Indians of California: their technology, social organization, and religions. Mr. Meighan

172R. Cultures of the Pueblo Southwest. Prerequisite: course 5, 6, 22. Upper division standing or consent of instructor. A survey of ethnographic and ethnohistorical research of the Pueblo Indians (Hopis, Zuni, Tanoan, and Keresan) and their immediate neighbors. Basic information on the history, languages, social organization, and traditional cultural systems of these groups. Mr. Kroskry

172S. Theory and Method in the Pueblo Southwest. Prerequisite: course 172R or consent of instructor. Selected problems in Southwestern ethnology, viewing the Pueblo Southwest as an important focus for anthropological theory and method. Exploration of such theories as early culture and personality theory, functionalism, and symbolic anthropology in their application to the Pueblos and the Navajo. Methodological considerations include, in the light of histories, the problem of objectivity, and the use of native languages as field tools. Mr. Kroskry

172T. Ethnology of Hispanic Cultures in the U.S. Southwest. (Formerly numbered 172T.) Lecture, three hours. Prerequisite: course 5 or 22 or consent of instructor. An ethnography of the social and cultural adaptations of the 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. Ms. Rodriguez

172U. Eskimos. Prerequisite: upper division standing. A survey on historical, ethnographic, and contemporary Eskimo life stressing their importance in anthropological theory and practice. Particular emphasis on Eskimo technology, and modern administration. Mr. Oswalt

Middle America

173P. Cultures of Middle America. An introduction to the social and cultural anthropology of Middle America, with emphasis on indigenous communities. Aspects of economics, society, politics, and religion reviewed in light of their historical development and current distribution.

173Q. Latin American Communities. An overview of the social and cultural anthropology of small communities and large cities in Latin America. Similarities and contrasts in social organization and interpersonal relations described in the context of economic, political, and cultural environments. Mr. Johnson

South America

174P. Ethnography of South American Indians. Introduction to the ethnography of South American Indians, with special emphasis on Lowland South America. Survey of the history and development of man and society in this world area and examination of exemplary cultures symptomatic of the various levels of cultural achievement. Mr. Wilbert

174Q. Ethnology of South American Indians. Prerequisite: course 174P or consent of instructor. Introduction to the ethnology of South American Indians, with special emphasis on Lowland South America. The methods and theories applied to the study of man and culture on the continent, including biological anthropology, linguistics, and sociocultural anthropology. Mr. Wilbert

Asia

175P. Civilizations and Cultures of Southeast Asia. An introduction to the understanding and appreciation of the peoples, cultures, and societies of the Philippines, Indonesia, Malaysia, Thailand, Burma, Laos, Cambodia, and Vietnam seen against their historical and ecological backgrounds. Use of slides and other media along with texts, lectures, and discussion.

175Q. Civilizations of South Asia. Examination of the civilizations of Sri Lanka, India, Pakistan, Bangladesh, and the Himalayan states. Idealized political, social institutions, and techniques of production discussed in the framework of a few contemporary civilizations, each focused on a major religious tradition (Hinduism, Buddhism, and Islam). Ms. Levine, Mr. Maquet

175R. Civilizations of Inner Asia. Overview of culture and society among the diverse peoples of Inner Asia, including Mongolia, Tibet, and Soviet Central Asia. Topics include environment and economic adaptations, political and cultural systems, and the framework of recent national integration, kinship, forms of marriage and the status of women, religion, and the social order in Hindu-Buddhist culture contact zone, and current problems of modernization. Ms. Levine

175S. Japan. Prerequisite: course 22. An overview of contemporary Japanese society. General introduction; kinship; marriage and family life; social mobility and education; norms and values, religions; patterns of interpersonal relations; social deviance.

Middle East

176. Cultures of the Middle East. Lecture, three hours. Prerequisite: course 5 or consent of instructor. The unity and diversity of the social institutions and cultural forms in the Arab countries of North Africa and the Near East: Israel, Turkey, Iran, and Afghanistan. Mr. Shahrani

Pacific

177. Cultures of the Pacific. The four major culture areas of Australia, Melanesia, Polynesia, and Micronesia. Ethnographic features, prehistory, and language distribution of the whole region. Distinctive sociocultural features of each culture area presented in the context of their adaptive significance. Mr. Newman

History and Theory

182. The History of Anthropology. A brief survey of the development of Western social science, particularly anthropology, from Greek and Roman thought to the emergence of evolutionary theory and the concept of culture in the late 19th century. The "root paradigm" of Western social science and its influence on such notables as Durkheim, Freud, Hall, Lombruno, Marx, Piaget, Terman, and others. Consideration of how this influences ethnocentrism and Eurocentrism, sexism, racism, the perception of deviation, and our view of culture in general.

183. History of Archaeology. Prerequisite: at least one upper division course in archaeology or consent of instructor. The development of world archaeology from the Renaissance to the present. Presentation of how each of the major branches of archaeology has evolved a special character determined by the peculiarities of its own data, methods, and intellectual affinities. Mr. Sackett

184. History of Human Evolutionary Theory. The men, the events, and the spirit of the time which marked man's attempts to understand his origins and diversity. Mr. Williams

185. History of Social Anthropology. Prerequisites: course 5 or 22 or Sociology 1. Upper division standing in anthropology or sociology. A systematic survey of the development of social anthropology in France and Britain from the Enlightenment to the present. Review of major early concepts of French sociology and British structural-functionalism and current concerns in social theory. Ms. Levine

186A-186B. Quantitative Methods and Models in Anthropology. Prerequisite: upper division standing. Introduction to quantitative methods of data analysis and the modeling of sociocultural systems. 186A. Methods of data analysis and topics such as data description, sampling, estimation procedures, and hypothesis testing. 186B. Topics from statistical modeling (e.g., linear regression models) and deterministics (e.g., network models, kinship structures, systems, models). Mr. Read
187. Theory and Method in Sociocultural Anthropology. Prerequisite: at least eight units of upper division social and cultural anthropology. A review of the major theoretical orientations in sociocultural anthropology, with special emphasis on the research methods that have been found most useful in each. Examination of the relevance of philosophy to sociocultural anthropology; identification of theoretical and methodological links to other social sciences. Mr. Johnson

C188. Simulation in Anthropology. Discussion; three hours; laboratory; three hours. Prerequisites: upper division standing, successful completion of courses 1 or 120, and 168A, or equivalent, consent of instructor. Introduction to the theory, appropriate use, and validation of simulation; review of the history of simulation methods in anthropology; the use of the microcomputer as a research tool. Intensive introduction to dynamic approximations of theoretical demographic and population processes. Concurrently scheduled with course C288. (P/NP or letter grading. Mr. Ma)

Special Studies

191. Writing for Anthropology. Prerequisite: course 5. Teaching of writing skills in various academic formats, including book reports, papers, essay examinations, journal articles, and reports. Class projects require student writing and evaluation of professional writing. Emphasis on the organization and presentation of a scholarly argument. Mr. Earle

197. Economic Development and Culture Change. Seminar. Three hours. Prerequisites: courses 5 and 22, or consent of instructor. Exploration of the cultural dimensions of such Third World development issues as technological innovation, economic change, politics, modernity and patterns of change, migration, population planning, disaster relief, refugee resettlement, and the protection of indigenous peoples. Mr. Hammond

197H. Departmental Honors Seminar. (Formerly numbered 198H.) Seminar. Three hours. Prerequisites: a 3.5 GPA in at least two upper division anthropology courses and eligibility for Letters and Science honors status, or consent of instructor. Five discussion segments dealing with major debates, questions, and issues in each of the departmental fields (social, cultural, biological, and linguistic anthropology, and archaeology). Discussion each week in a seminar format. May be repeated for credit. Mr. Earle

198. Special Studies in Anthropology (2 to 8 units). Prerequisite: consent of instructor. Eight units may be applied toward the upper division anthropology courses required for the major.

199HA. Directed Studies for Honors. Discussion, three hours. Prerequisite: honors major in anthropology. Discussion meetings with the adviser to help define the research and preparation for the project; Extensive reading and research in the field of the proposed honors thesis. The project often involves summer fieldwork. In Progress grading (credit to be given only on completion of course 199HC). (Sp)

199HB. Directed Studies for Honors. Prerequisites: course 199HA and honors major in anthropology, or consent of instructor. Must be taken in Fall Quarter of the senior year. Continued reading and research directed toward the analysis and presentation of data in a draft of the honors thesis (no more than 30 pages). In Progress grading (credit to be given only on completion of course 199HC). (F)

199HC. Directed Studies for Honors. Prerequisites: courses 199HA, 199HB, and honors major in anthropology, or consent of instructor. Preparation of the final version of the thesis (no more than 30 pages) that argues a central thesis of anthropological relevance. Must be submitted by the last day of class in Winter Quarter of the senior year. (W)

Graduate Courses

Admission to all graduate courses is subject to consent of instructor and completion of appropriate course requirements (when so indicated). Graduate courses are normally nonrepetitive in content but may be repeated for credit with consent of instructor and graduate counselor.

203. Core Seminar: Sociocultural Anthropology. Seminar, three hours. Prerequisites: two courses from 130, 135P, 150, or equivalent, or consent of instructor. The essential concepts, theories, and methodologies of sociocultural anthropology. Reading of and critical discussion on a body of significant literature.

Archaeology

210. Analytical Methods in Archaeological Studies. Prerequisites: one quarter of statistics, consent of instructor. Data analysis procedures in archaeology. Emphasis on the conceptual framework for the analysis of archaeological data, beginning at the level of the attribute and ending at the level of the region. Mr. Read

211. Regional Analysis in Archaeology. Prerequisite: consent of instructor. Course 210 is not prerequisite to 211. Survey of the 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. Megahan

212P. Selected Topics in Hunter-Gatherer Archaeology. Prerequisite: consent of instructor. Regional studies in the development of early human culture. May be repeated for credit. Mr. Meighan

212Q. Problems in Southwestern Archaeology. Prerequisite: consent of instructor. A consideration of prehistoric cultural systems in the American Southwest, with emphasis on the description and explanation of organizational variability and change. Specific research questions vary with each course offering. May be repeated for credit. Mr. Hill

212R. Problems in Oceanic Archaeology. Lecture, three hours. Prerequisite: consent of instructor. The prehistory of Oceania. Content may vary, but problems considered may include the history and process of island occupation, island adaptation, and the evolution of social stratification. May be repeated for credit. Mr. Earle

213. Selected Topics in Problems in Old World Archaeology. Prerequisite: consent of instructor. May be repeated for credit. Mr. Sackett

214. Selected Topics in Prehistoric Civilizations of the New World. Prerequisite: consent of instructor. The Mesoamerican and Andean civilizations normally constitute the major focus of the seminar. May be repeated for credit. Mr. Donnan, Mr. Nicholson

215. Field Training in Archaeology (4 to 8 units). Prerequisite: prior experience in archaeology. Advanced training in archaeological excavation techniques, including organization of projects, supervision of field crews, methodology of field recording, and preliminary analysis of field data. May be repeated for credit. Mr. Meighan

M215. Dating Techniques in Environmental Sciences and Archaeology. (Same as Geography M278.) Lecture, three hours. Prerequisite: consent of instructor. A colloquium devoted to topics in dating techniques in environmental sciences, archaeology, and biological anthropology, as well as laboratory and experimental work. May be repeated for credit. Mr. Berger

217. Explanation of Societal Change. Prerequisite: consent of instructor. Examination of the processes of societal evolution, emphasizing the usefulness of a variety of explanatory models drawn from general systems theory, ecology, anthropology, and other social sciences. Specific research questions vary with each course offering. May be repeated for credit. Mr. Hill

218. Style and Ethnicity. (Not the same as course 218 prior to Fall Quarter 1986.) Seminar, three hours. Prerequisite: consent of instructor. How stylistic variation in material culture informs on and mediates the shape, boundaries, and interrelations of ethnic groups. Aimed primarily toward anthropologists and ethnographers, seminar also welcomes students specifically interested in either material culture or style as such. Mr. Sackett

M219A-M219B. Graduate Core Seminars in Archaeology (6 units each). (Same as Archaeology M201A-M201B.) Seminar, three hours. Required of anthropology students in the archaeology field. Seminar discussions based on a carefully selected list of 30 to 40 major archaeological works. These core courses provide students with a foundation in the breadth of knowledge required by a professional anthropologist. Archaeological historiography, a survey of world archaeology, and archaeological techniques. Emphasis on an appreciation of the multidisciplinary background of modern archaeology and the relevant interpretative strategies. May be repeated for credit with consent of adviser.

Biological Anthropology

220. Current Problems in Biological Anthropology. Prerequisite: consent of instructor. A detailed examination of current research in biological anthropology (specific topics to be announced). Emphasis on the nature of hypotheses and their testing in ongoing student and faculty research. May be repeated for credit.

221A-221B. Fossil Evidence for Human Evolution. Prerequisite: consent of instructor. An examination and analysis of the fossil evidence for man’s evolution. Ms. Kennedy

222P. Population Genetics of Man. Prerequisite: consent of instructor. An introductory course in statistics. The study of population concepts, probability, the conditions of gene frequency equilibria, and factors causing gene frequency change. Mr. Williams

M222Q. Probability Models and Statistical Methods in Genetics. (Same as Biometrics M224P.) Lecture, three hours; laboratory for hands-on computer analysis of genetic data. Prerequisites: course 203P, Mathematics 3A, two quarters of statistics, graduate standing. An introduction to probability models and statistical methods in genetics. Maximum likelihood methods for estimated genetic parameters introduced and discussed in detail. Mr. Read (W)

M222R. Applied Genetic Modeling. (Same as Biometrics M207B.) Lecture, three hours; discussion, one hour. Prerequisites: course M222Q and graduate standing, or consent of instructor. Methods of computer-oriented genetic analysis. Topics include segregation and linkage analysis, polygenic (quantitative) models, and population structure. Includes a laboratory for hands-on computer analysis of genetic data; laboratory reports required. Ms. Spence (F, every year)

222S. Population Genetics. Prerequisite: consent of instructor. A consideration of some of the special methods of the genetics of human populations and their current application in research. May be repeated for credit. Mr. Williams

223. The Roots of Human Behavior. Prerequisite: consent of instructor. An examination of the behavior of living nonhuman primates and of the evolution and biological basis of human behavior. May be repeated for credit.
223P. Biology and Ecology of Foraging Peoples. Prerequisite: consent of instructor. Detailed discussions of topical issues in the study of foraging societies, including the perspectives of ecological and ethnobiology. Primary emphasis on theoretical and practical topics in human ecology and biology, including health, nutrition, growth, and development, history of variables, foraging, and sex differences. Mr. Bailey

224. Selected Topics in Field Training in Biological Anthropology. Prerequisite: consent of instructor. Examination of current hypotheses in student and faculty field research. Emphasis on new approaches to field training and laboratory investigations of primate ecology, behavior, anatomy, physiology, and evolution (specific topics to be announced). May be repeated for credit. Mr. Price-Williams

225. Analysis of Biological Anthropology Field Data. Prerequisite: course 224, or consent of instructor. A review of recent research on wild primates from planning and expedition through final data analysis (discussion topics to be announced). May be repeated for credit. S/U grading

226. Biological Anthropology Colloquium. Selected topics on the status of current research in biological anthropology. May be repeated for credit. S/U grading.

227. Monkeys, Apes, and Language. Lecture, three hours. Prerequisite: consent of instructor. A review of recent research on animal communication and its relation to the evolution of human language. Topics range from the neurophysiological control of vocalizations in other primates to the social function of communication, particularly among free-ranging primates. The "ape-language" projects examined in detail.

228. Mating Systems in Birds and Mammals. Lecture, three hours. Prerequisite: consent of instructor. An examination of the influence of culture on learning, perception, thinking, and intentionality. Topics range from cross-cultural psychology, in addition to cognitive anthropology. Focus on learning and thinking in non-Western cultures, including problems of education in ethnic areas within the U.S. Mr. Wilbert

229Q. Issues in the Anthropology of Emotion. Seminar, three hours. Prerequisite: consent of instructor. Issues and problems in the anthropological study of emotion, such as the extent to which it is considered an emotional experience and expression in everyday contexts and in ritual and the ways in which concepts of emotion vary cross-culturally. S/U or letter grading. Ms. Wellenkamp

230P. Ethnology. Prerequisite: consent of instructor. A seminar on ethnological method and theory concentrating on ideational systems. May be repeated for credit. Mr. Wilbert

230Q. Cultural Anthropology. Prerequisite: consent of instructor. Special problems in cultural anthropology. May be repeated for credit. Mr. Goldschmidt

231. Asian Americans: Personality and Identity. Prerequisite: graduate standing. The effect of class, caste, and race on the Asian American personality within the framework of anthropological theories.

232. Cultural and Psychological Aspects of Rites of Passage. Seminar, three hours. Prerequisite: graduate standing or consent of instructor. Examination of rites of passage from both sociocultural and psychological perspectives. Exploration of general aspects (those common aspects of rites in general) as well as specific aspects (e.g., of puberty rites, of the rites of a particular culture) through an examination of the early anthropological literature on the subject and more recent formulations. S/U letter grading. Ms. Wellenkamp

232P. Cultural Modes of Thought. (Formerly numbered 232P). (Same as Psychiatry M212.) Lecture, three hours. Prerequisite: consent of instructor. An examination of the influence of culture on learning, perception, thinking, and intentionality. Topics range from cross-cultural psychology, in addition to cognitive anthropology. Focus on learning and thinking in non-Western cultures, including problems of education in ethnic areas within the U.S. Mr. Price-Williams

232Q. Myth and Ritual. Prerequisite: consent of instructor. The nature and function of myth and ritual in nonindustrialized societies. Its associated value systems and philosophies examined as infrastructure of culture. Emphasis on the relationship between structuralist rationalism and cultural material empiricism. May be repeated for credit. Mr. Wilbert

232R. South American Folklore and Mythology Studies. (Same as Folklore M257.) Prerequisite: course 174P or consent of instructor. An examination and analysis of oral traditions and related ethnological data from various South American Indian societies against the background of the religious systems of these people. Mr. Wilbert

232S. The Ethnography of Humor. (Same as Folklore M214.) Lecture, three hours. Prerequisite: graduate standing in folklore or mythology or anthropology. An examination and analysis of selected humorous expressions and events in cross-cultural perspective, with emphasis on the psychological and sociocultural approaches to their study and interpretation.

232T. Person, Self, and Identity in Contemporary Anthropology. Seminar, three hours. Prerequisite: graduate standing or consent of instructor. Study of the anthropological literature on person, self, and identity. The conceptual and theoretical relationships among these terms and their use in contemporary ethnography among non-Western societies. Mr. Wilbert

232U. Issues in the Anthropology of Emotion. Seminar, three hours. Prerequisite: graduate standing or consent of instructor. Issues and problems in the anthropological study of emotion, such as the extent to which it is considered an emotional experience and expression in everyday contexts and in ritual and the ways in which concepts of emotion vary cross-culturally. S/U or letter grading. Ms. Wellenkamp

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 intellectual), and the role of cultural symbols among the questions to be selected for analysis and discussion. May be repeated for credit.

233Q. Aesthetic Anthropology. Prerequisite: course 133R or consent of instructor. Selected questions concerning the visual aesthetic phenomena in their relationships with the sociocultural context examined in depth. May be repeated for credit.

234A-M234B. Seminar in Psychocultural Studies. (Formerly numbered 234A-234B.) (Same as Psychiatry M210A-M210B.) Lecture, three hours. Prerequisite: consent of instructor. A two-quarter seminar devoted to the conceptual foundations of research in psychocultural studies. Survey of work in child development and socialization, personality, psychobiology, transcultural psychiatry, deviance, learning, perception, and cultural psychopathology. S/U grade.

Mr. Edgerton, Mr. Price-Williams

234P. Transcultural Psychiatry. (Same as Psychiatry M222.) 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 psychiatry, and the questions of "sick" societies. May be repeated for credit. Mr. Kennedy

234Q. Psychological Anthropology. (Same as Psychiatry M272-) Lecture, three hours. Prerequisite: consent of instructor. Various psychological issues in anthropology, both theoretical and methodological. Areas of interest include such things as culture and the individual, the role of ritual in the psyche, the role of the psyche in culture, and the role of culture in the psyche. Discussion of questions relating to symbolic and unconscious process as they are related to culture. Topics vary from quarter to quarter. May be repeated for credit. Mr. Edgerton

234R. Sociocultural Perspectives on Mental Retardation. (Formerly numbered 234R.) (Same as Psychiatry M211.) Lecture, three hours. Prerequisite: consent of instructor. Exploration of concepts such as "intelligence," "competence," and "adaptive behavior" in the light of current research on mental retardation. Focus on the study of the phenomenon of mental retardation in the West, particularly the United States. Topics include cross-cultural perspectives, the history of institutionalization, the questions of reintegration, and current issues involving adaptation and "quality of life." Discussion of topics such as communicative competence, work, crime, deviance, sexuality, and marriage. May be repeated for credit.

Mr. Edgerton


235P. Selected Topics in Cross-Cultural Study of Socialization and Childhood. (Formerly numbered 236P.) (Same as Psychiatry M214.) Lecture, three hours. Prerequisite: consent of instructor. Methodological, ethnographic data, and theoretical orientations. Emphasis on current research. May be repeated for credit. Mr. Weisner

236Q. A Laboratory for Naturalistic Observations: Developing Skills and Techniques. (Same as Education M222A and Psychology M235.) Lecture, three hours. Prerequisite: consent of instructor. The skill of observing and recording behavior in natural settings, with emphasis on field training and practice in observing behavior. Discussion of some of the uses of observations and their implications for research in the social sciences. Students are expected to integrate observational work into their current research interests. May be repeated for credit.

Mr. Gallimore, Mr. Turner, Mr. Weisner (W)

237A-M237B. Basic Core Courses in Mental Retardation Research (2 units each). (Same as Psychiatry M219A-M219B.) Lecture, two hours; discussion, two hours. Prerequisite: consent of instructor. Prerequisites: devoted to the conceptual foundations of research in the field of mental retardation, the history of approaches to the study of mental retardation and the social sciences. Students are expected to integrate observational work into their current research interests. May be repeated for credit.

Mr. Gallimore, Mr. Turner, Mr. Weisner (W)

237A. Basic Core Courses in Mental Retardation Research (2 units each). (Same as Psychiatry M219A-M219B.) Lecture, two hours; discussion, two hours. Prerequisite: consent of instructor. Prerequisites devoted to the conceptual foundations of research in the field of mental retardation, the history of approaches to the study of mental retardation and the social sciences. Students are expected to integrate observational work into their current research interests. May be repeated for credit. Mr. Gallimore, Mr. Turner, Mr. Weisner (W)

237B. Basic Core Courses in Mental Retardation Research (2 units each). (Same as Psychiatry M219A-M219B.) Lecture, two hours; discussion, two hours. Prerequisite: consent of instructor. Prerequisites devoted to the conceptual foundations of research in the field of mental retardation, the history of approaches to the study of mental retardation and the social sciences. Students are expected to integrate observational work into their current research interests. May be repeated for credit. Mr. Gallimore, Mr. Turner, Mr. Weisner (W)
238. Evolution of Technology. Lecture, three hours.
Description, analysis, and interpretation of technological developments from the time material culture originated to the Industrial Revolution. S/U or letter grading.
Mr. Oswald

239P. Selected Topics in Field Training in Ethnography (4 to 8 units). Prerequisite: consent of instructor. Supervised analysis of ethnographic materials by students who have participated in a related field training course. Students work with their own as well as general project data in the preparation of articles for professional journals. May be repeated for credit.

Linguistic Anthropology

240. Seminar in Language and Culture. Prerequisite: consent of instructor. The development of anthropological linguistics, modern linguistic theory, and its application to the study of nonlinguistic aspects of culture. May be repeated for credit. Mr. Kroskrity

241. 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.

242. The Ethnography of Communication. Prerequisite: graduate standing or consent of instructor. A seminar devoted to examining representative scholarship from the fields of sociolinguistics and the ethnography of communication. Particular attention to theoretical developments including the relationship of the ethnography of communication to such disciplines as anthropology, linguistics, and sociology. Topical foci include style and strategy, speech variation, varieties of noncasual speech genres, languages and ethnicity, and nonverbal communication behavior.

243P. American Indian Ethnolinguistics and Sociolinguistics. Prerequisites: prior coursework in either anthropology, linguistics, or American Indian studies, consent of instructor. The 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, and variation in speech communities) and macro-sociolinguistic topics (such as language contact, language change, and language in American Indian education). Graduate students conduct library and/or other research and participate in group discussion.

244. Topics in Language Socialization. Prerequisite: consent of instructor. Selected topics in the study of language socialization, with a special focus on the development of discourse goals and the mastery of situationally appropriate behavior. May be repeated for credit.

Social Anthropology

245. Linguistic and Intracultural Variation. Prerequisite: consent of instructor. The problem of variation as it impinges on the disciplines of anthropology and linguistics. Among the objectives of the course are the following: to acknowledge the importance of speech variation in anthropological linguistics research, to critically assess a broad and representative sample of modern scholarship devoted to the study of intra-individual and inter-individual variation, and to introduce the potential applicability of recent linguistic models to anthropological linguistics and anthropological theory.

Mr. Kroskrity

246. Research Design and Field Training in Linguistic Anthropology. Prerequisite: consent of instructor. Supervised collection of linguistic information in the field. Students spend full time in the field for most of the quarter. May be repeated for credit. S/U or letter grading.

247. Analysis of Linguistic Field Data. Prerequisite: course 246, other field training course, or consent of instructor. Supervised analysis of linguistic 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 the preparation of articles for professional journals. May be repeated for credit. S/U or letter grading.

248. Praxisicum 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.

249. Comparative Political Institutions. Prerequisite: consent of instructor. May be repeated for credit. Ms. Levine

250. Social Anthropology. Prerequisite: consent of instructor. Intensive examination of current theoretical views and literatures. May be repeated for credit.

251P. Cultural Ecology. Prerequisite: consent of instructor. May be repeated for credit.

251Q. Cultural Ecology of Lowland South America. Prerequisite: consent of instructor. Seminar on traditional adaptations to the lowland environment, with the emphasis on the tropical rainforest. Theoretical principles accounting for cultural differences, with emphasis on effects of modern changes on the people and their environment.

Mr. Johnson

252. Special Topics in Social Process. Prerequisite: consent of instructor. Selected aspects of the literature on cultural and social process. The significance of repeated and/or cumulative sequences of events in a variety of social and cultural contexts. Understanding approaches compared with normative concepts and ideal models. May be repeated for credit.

252P. Social Inequality. Lecture, three hours. Prerequisites: course 152P, upper division standing, consent of instructor. Analysis of particular problems in understanding systems of structured social inequality based on rank, caste, class, ethnicity, or sex. Participants serve as seminar discussion leaders and present a research paper. S/U or letter grading.

Mr. Hammond

253. Economic Anthropology. Prerequisite: consent of instructor. May be repeated for credit.

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. Social Interaction. Prerequisite: consent of instructor. Emphasis on issues for ethnographic theory and practice raised by developments in anthropological, sociological, psychological, linguistic, and ethnohistorical contributions to our understanding of the ethical and moral aspects of face-to-face behavior. May be repeated for credit.

Mr. Moerman

258. Comparative Studies of Intentional Communities. Prerequisite: course 157 or consent of instructor. Questions concerning the ideological, societal, and individual significance of intentional communities selected and discussed in depth, with reference to particular collectivities. May be repeated for credit.

Mr. Maquet

259. Cultural Ecology of Nomadic Pastoral Societies. Seminar, three hours. Prerequisite: the division standing or consent of instructor. Examination of nomadic pastoralism both as a form of subsistence and economic strategy, and a mode of sociopolitical adaptation to ecologically marginal and sociopolitically heterogeneous regions of Asia and Africa.

Mr. Shahrai

Social Action/Applied Anthropology

260. Urban Anthropology. Prerequisite: course 167 or consent of instructor. An intensive anthropological examination of the urban setting as a human environment.

261. Comparative Minority Relations. Prerequisite: consent of instructor. An analysis of the major theoretical and methodological issues in the study of minority relations from a comparative perspective. Considers conflict, and pluralistic construct analysis, and their strengths as explanatory devices investigated as they pertain to dependent populations in North America, Latin America, Southern Africa, India, Asia, and the Euro-Slavic continent. May be repeated for credit.

Ms. Rodriguez

261P. Issues in Development Anthropology. Lecture, three hours. Prerequisite: course 160 or 161 or consent of instructor. Selected problems in economic development in Third World countries in the context of related issues such as health and education, environmental protection, housing and urbanization, promotion of local participation, women's roles, protection of indigenous minorities, infrastructural development, displacement and immigration, and refugee resettlement, with recommendations for action.

Mr. Hammond

262. The Cultural Context of Health Care. Prerequisite: consent of instructor. Concepts and treatment of illness and disease in cross-cultural perspectives, with emphasis on research programs and methods.

The anthropological approach to health-related research and the intersections of anthropology and problem areas in public health and psychiatry (such as epidemiology, fertility regulation, socialization, and developmental disabilities).

Mr. Johnson

262P. Culture and Human Reproduction. (Same as Public Health M276.) Lecture, two hours; discussion two hours. Prerequisites: Public Health 110, 112, and 174, or 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. Scrinshaw

263. Medical Anthropology. (Same as Nursing M217.) Lecture, three hours. Prerequisite: course M168 or consent of instructor. Any of the topics covered in course M168 are selected each quarter for intensive literature review and independent projects. May be repeated for credit.

263P. Gender Systems. Discussion, three hours. Prerequisite: graduate standing or consent of instructor. Current theoretical developments in understanding gender systems cross-culturally, with emphasis on the relationship between systems of gender, economy, ideological systems, and social inequality. Selection of ethnographic cases from the recent literature.

S/U or letter grading.

Ms. Levine
264. Ethnography of the Mexican/Chicano People in North America. Prerequisite: graduate standing or consent of instructor. Recommended: course M127T. A research course on topics in the ethnography of the Mexican/Chicano people in North America, including social organization, economic and political systems, folkways, and taboos. Cross-cultural adaptation and social and cultural contexts. Topics vary according to interest and are announced prior to the beginning of the quarter. May be repeated for credit. Ms. Rodriguez

265. 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 in contact and salvage fields and users of historical data. Course may not be repeated for credit. Ms. Logue

266. Medical Anthropology in Public Health. (Same as Public Health M271.) Prerequisites: Public Health 110, 112, one upper division course in psychology, sociology, or anthropology, or equivalent, consent of instructor. Cross-cultural aspects of human behavior as they relate to perception, treatment, incidence, and prevalence of disease and illness. Ms. Scrimshaw

267B/267C. Ethnographic Film Direction (4 or 8 units each). (Same as Motion Picture/Television M267B/M267C.) Lecture, four hours; laboratory, to be arranged. Prerequisites: course M247A, graduate standing, consent of instructor. Further consideration of the methods and criteria for the use of film as a medium for the preservation and communication of human cultures. Production of films and videotapes on topics selected by students. Mr. Boehm, Mr. Hawkins, Mr. Moerman (W M267B; Sp, M267C)

268. Issues in Social Action Anthropology. Prerequisites: course 160, upper division standing, consent of instructor. Analysis of specific problems in social action anthropology and recommendations for their resolution. Prerequisites: Consent of instructor. Final preparation for careers in applied anthropology. Mr. Hammond

269. Contemporary Issues of the American Indian. (Same as American Indian Studies M200C.) Introduction to the most important issues facing American Indians as individuals, communities, tribes, and organizations in the contemporary world, building on the historical background presented in American Indian Studies M200A and the cultural and expressive experience of American Indians presented in American Indian Studies M200B. Ms. Heath, Ms. Joe

Regional Cultures

271. African Cultures. Prerequisite: consent of instructor. Survey of the literature and problems of African culture.

272. Indians of South America. (Same as Latin American Studies M250A.) Lecture, three hours. Prerequisite: consent of instructor. Survey of the literature and research topics related to Indian cultures of South America. May be repeated for credit.

273. Cultures of the Middle East. Prerequisite: course 176 or consent of instructor. Survey of the literature and problems of the various cultures of the Middle East.

274. Cultures of the Pacific Islands. Prerequisite: consent of instructor. Contemporary sociocultural anthropology and classic ethnography of Melanesia, Polynesia, and Micronesia. May be repeated for credit.

275. Ethnicity in the Southwest. Discussion, three hours. Prerequisite: graduate standing. Comparative focus on ethnic relations among Indian, Mexican American, and Anglo populations within four subregions of the U.S.: Southwest, the lower Rio Grande valley of south Texas, the Rio Ambo of northern New Mexico, western Arizona, and Southern California. Ms. Rodriguez

276. Cultures of Southeast Asia. Prerequisite: consent of instructor. Discussion of recent and current anthropological research in Southeast Asia. Depending on their level of preparation, students may read a topical annotated bibliography, critique, or propose research. S/U or letter grading. Mr. Moerman

History and Theory

280. Anthropology Theory. Prerequisite: graduate standing in anthropology or consent of instructor. The range of theories that anthropologists have employed in describing and explaining variability in sociocultural phenomena. The organization of particular theories, as well as issues that separate divergent theories. Emphasis on up-to-date examples of different theoretical traditions, including evolutionary, cultural, British functionalism, French functionalism, structuralism, cultural and personality, psychological anthropology (Freudian, neo-Freudian, non-Freudian), behavioral anthropolotgy, cognitive anthropology, and ethnomusicology. Ms. Scrimshaw

281. Selected Topics in the History of Anthropology. Prerequisite: consent of instructor. Particular problems in the history of anthropology as dictated by the interests of students and faculty. May be repeated for credit.

282. Research Design in Cultural Anthropology. Prerequisite: consent of instructor. Primarily intended for graduate students preparing for fieldwork. The unique position of anthropology among the sciences and the resulting problems for scientific research design. Review of typical research problems and appropriate methods. Students prepare their own research designs and present them for class discussion.

283. Mathematical Models in Anthropology. Prerequisite: consent of instructor. Current topics and issues in mathematical anthropology. An overview of a variety of mathematical approaches relevant to the theory, decision theory, ecology, models, processes, etc. Mr. Read

284. Qualitative Research Methodology. (Same as Public Health M273.) Discussion, three hours; laboratory, one hour. Prerequisites: Public Health 100A and 125, or consent of instructor. Cross-cultural approach to research in social psychology, anthropology, or sociology. Consent of instructor. Intensive seminar-field course in qualitative research methodology. Emphasis on using qualitative methods and techniques in research and evaluation related to health care. Mr. Read

285. Schools, Domains, and Strategies in World Archaeology. (Not the same as course 285 prior to Fall Quarter 1986.) Seminar, three hours. Prerequisite: four courses in social anthropology, archaeology, or cultural anthropology. Intensive study of the strategies and methods used in archaeology, contrasting their respective data bases, research strategies, and relations to allied intellectual disciplines. Archaeologists from all departments are welcome, as are students interested in the history or philosophy of science. Ms. Scrimshaw

286. Quantitative Methods in Anthropology. Laboratory, three hours. Prerequisites: courses 185A, 185B, and 185C, or equivalent. Cross-cultural methods of quantitative data analysis, including multivariate techniques, in the context of student research data sets. Mr. Read

286P. Selected Topics in Computer Simulation and Modeling. Seminar, three hours. Prerequisites: courses 186A and C188/C288, or equivalent, consent of instructor. Recommended: course 186B. Applications of computer simulations and/or models to specific problem areas of interest to anthropologists. May be repeated for credit. Mr. Mai

C288. Simulation in Anthropology. Discussion, three hours; laboratory, three hours. Prerequisites: graduate standing, successful completion of courses 1 or 120, and 186A, or equivalent, consent of instructor. Introduction to the theory, appropriate use, and validation of simulation; review of the history of simulation methods in anthropology; the use of the microcomputer as a research tool. Intensive introduction to dynamic approximations of theoretical demographic and population processes. Concurrently scheduled with course C186. Graduate students are required to meet one additional hour each week to discuss relevant literature. S/U or letter grading. Mr. Mai

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 computing and information processing, along with their potential application in Latin American research. Examination of the impact that computers are having in Latin American society. Mr. Behrens

291. The Roots of Human Behavior. Prerequisite: consent of instructor. An examination of the behavior of nonhuman primates and of the evolution and biological basis of human behavior.

Special Studies

295. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the 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.

501. Cooperative Program (2 to 8 units). Prerequisite: consent of UCLA adviser and graduate dean, and host campus instructor, department chair, and graduate dean. Course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596. Individual Studies for Graduate Students (2 to 8 units). Prerequisite: consent of instructor. Directly individual studies. S/U or letter grading.

597. Preparation for Ph.D. Qualifying Examinations (2 to 12 units). Prerequisite: completion of qualifying examinations.


599. Research for Ph.D. Dissertation (2 to 12 units). Prerequisite: consent of instructor. Ph.D. dissertation research or writing. Students must have completed the qualifying examinations and ordinarily take no other coursework.
Applied Linguistics (Interdepartmental)

3300A Rolfe Hall, (213) 825-4631

Professors
Stephen R. Anderson, Ph.D. (Linguistics)
Raimo A. Antilla, Ph.D. (Linguistics)
J. Donald Bowen, Ph.D. (English as a Second Language)
William O. Bright, Ph.D. (Linguistics)
Russell N. Campbell, Ph.D. (English as a Second Language), Chair
Marianne Celce-Murcia, Ph.D. (English as a Second Language)
Victoria A. Fromkin, Ph.D. (Linguistics)
Evelyn R. Hatch, Ph.D. (English as a Second Language)
Edward L. Keenan, Ph.D. (Linguistics)
Peter N. Ladefoged, Ph.D. (Phonetics)
Patricia L. Murray, Ph.D. (Linguistics)
John F. Povey, Ph.D. (English as a Second Language)
Paul M. Schachter, Ph.D. (Linguistics)
Russell G. Schuh, Ph.D. (Linguistics)
John H. Schumann, Ed.D. (English as a Second Language)
Robert P. Stockwell, Ph.D. (Linguistics)
Sandra A. Thompson, Ph.D. (Linguistics)
Clifford H. Prator, Ph.D., Emeritus (English as a Second Language)

Associate Professors
Roger W. Andersen, Ph.D. (English as a Second Language)
George D. Bodell, Ph.D. (Linguistics)
Bruce P. Hayes, Ph.D. (Linguistics)
Thomas J. Hinnebusch, Ph.D. (Linguistics)
Antonella K. Keating, Ph.D. (Linguistics)
Earl J. Rand, Ph.D. (English as a Second Language)

Assistant Professors
John W. DuBois, Ph.D. (Linguistics)
Hilda J. Koopman, Ph.D. (Linguistics)
Mary E. McCarthy, Ph.D. (English as a Second Language)
Timothy A. Stowell, Ph.D. (Linguistics)

Visiting Associate Professor
Grant Henning, Ph.D. (English as a Second Language)

Visiting Assistant Professor
Barbara Kroll, Ph.D. (English as a Second Language)

Adjunct and Visiting Lecturers
Donna Brinton, M.A., Adjunct (English as a Second Language)
Melinda Erickson, M.A., Visiting (English as a Second Language)
Diana Savas, M.A., Visiting (English as a Second Language)

Scope and Objectives
Since language permeates every aspect of our social, economic, political, and academic pursuits, 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.

The combined faculties of the Department of Linguistics and the English as a Second Language (ESL) Section, as well as professors in 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 area of language use, education, acquisition, and analysis. 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 the 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 an other 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) three letters of recommendation from professors who are well acquainted with their academic background; (2) a definite and complete statement of the type of dissertation they hope to prepare; (3) copies of any relevant professional publications, M.A. theses, or substantial papers they may have written. The Aptitude Test of the Graduate Record Examination (GRE) should also be taken (required only of applicants whose native language is English). Applications for admission to Fall Quarter, which is when most students are admitted, should reach the Graduate Admissions Office by the preceding December 30; the supporting materials should reach the Applied Linguistics Program (3300A Rolfe Hall, UCLA, Los Angeles, CA 90024) no later than February 15. Admission criteria include graduate and undergraduate grade-point averages, relevant professional experience, command of a foreign language, the quality of the M.A. thesis, and any language-related publications the candidate may have written.

Major Fields and Specializations
Four areas of specialization are available: language analysis, language education, language acquisition, and language use. For details on each specialization, contact the program office.

Foreign Language Requirement
Before advancement to candidacy, students whose native language is English must demonstrate proficiency in two foreign languages by one of the following: (1) a reading examination; (2) a research paper based on extensive sources in the language; (3) a conversation examination showing knowledge in depth; (4) an Educational Testing Service (ETS) graduate examination. You may substitute three graduate courses in research design and statistics for one of the two foreign languages. 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.

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 either a phonetics and phonology track or a syntax and semantics track. For both tracks, you must take Linguistics 120A and either Linguistics 120B, 127, or English 122K. Students selecting the phonetics and phonology track would then take Linguistics C165A/C200A, followed by Linguistics 201A or 203. Students selecting the syntax and semantics track would take Linguistics C165B/C200B, followed by Linguistics 206A or 206B or 207. For basic preparation in TESL, you must take English 241K, 370K, and 380K. Course 370K, which is organized as a general orientation to the ESL field, must be taken at UCLA. If you have taken courses equivalent to any of the remaining courses at another institution, you will not be required to take them at UCLA. If you have at least one year of experience in teaching a second language, you may be exempt from course 380K.

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, English 400K, or Applied Linguistics 597 or 599. No more than eight of the 32 units may be in 596 courses, and these should be in Applied Linguistics 596, if possible.

The 32 units (eight courses) must include at least two courses in each of the specializations of language analysis and language education,
as well as two courses in either language acquisi-
tion or language use. (None of the afore-
mentioned six courses may be 596 courses
taken in departments other than Linguistics or
English.) An additional two courses are re-
quired in the specialization in which the dis-
sertation research will be done. Thus, a student
who opted for a dissertation in language acquisi-
tion would take a minimum of four courses in
that area, plus two in language analysis and
two in language education.

Appropriate graduate courses taken at UCLA
after completion of the M.A. but before admis-
sion to the doctoral program may be applied
toward the eight-course 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 comple-
tion 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 under-
graduate courses taken as prerequisites to
needed graduate courses, undergraduate
courses not required, reading courses in a for-
eign language, graduate courses taken in ad-
dition to the required 32 units, Applied Linguis-
tics 501, 597, 599, English 400K, and Linguis-
tics 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 re-
quired. These may be revised or extended
seminar papers but must be prepared after ad-
mission to the Ph.D. program. The topics of
these papers are to be selected by the student,
in consultation with appropriate faculty mem-
bers and with consent of the Ph.D. program
adviser. Each of the finished papers is evaluat-
ed by two faculty members.

All candidates are required to prepare a dis-
sertation as a demonstration of their ability to
carry out original research under the guidance
of their doctoral committee. The doctoral com-
mittee also 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.

Final Oral Examination
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 Linguistics or the ESL Sec-
tion. You must, therefore, enroll in either En-
lish 400K or Linguistics 275 during the appro-
riate quarter. The public report will determine
whether a final oral examination will be re-
quired.

Graduate Courses

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<th>Course Number</th>
<th>Title</th>
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<tr>
<td>501</td>
<td>Cooperative Program (2 to 8 units). Prerequi-site: consent of UCLA Ph.D. program adviser and graduate dean, and host campus instructor, department chair, and graduate dean. Course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.</td>
</tr>
<tr>
<td>596</td>
<td>Directed Individual Study (4 to 8 units). Prerequisi-tive: doctoral standing. Independent study in an area of applied linguistics. Up to eight units may be applied toward the Ph.D. course requirements. May be repeated for credit.</td>
</tr>
<tr>
<td>597</td>
<td>Preparation for Ph.D. Candidacy Examination (4 to 8 units). Prerequisite: completion of at least six courses of the 32-unit requirement for the Ph.D. May not be applied toward the 32-unit require-ment. May be repeated for credit. S/U grading.</td>
</tr>
<tr>
<td>599</td>
<td>Research for and Preparation of Ph.D. Dis-sertation (4 to 16 units). Prerequisite: advancement to Ph.D. candidacy. Required of all Ph.D. candidates each quarter they are registered and engaged in dis-sertation preparation. May be repeated for credit, but may not be applied toward the Ph.D. course require-ments. S/U grading.</td>
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Applied Linguistics Course List

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<th>Title</th>
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Language Education


Language Use

Archaeology
(Interdepartmental)

288 Kinsey Hall, (213) 825-4169

Professors
C. Rainer Berger, Ph.D. (Anthropology, Geography, and Geophysics), Chair
Giorgio Buccellati, Ph.D. (Ancient Near East and History)
John Callender, Ph.D. (Near Eastern Languages and Cultures)
Christopher B. Donnan, Ph.D. (Anthropology)
Susan B. Downey, Ph.D. (Art History)
Marija Gimbutas, Ph.D. (European Archaeology)
James N. Hill, Ph.D. (Anthropology)
Clement James, Ph.D. (Anthropology)
Henry B. Nicholson, Ph.D. (Anthropology)
Wendell H. Oswalt, Ph.D. (Anthropology)
Merrick Posansky, Ph.D. (History and Anthropology)
Paul A. Clement, Ph.D., Alexander Badawy, Ph.D. (Near Eastern Languages and Cultures)
Stasinslav Segert, Ph.D. (Near Eastern Languages and Cultures)
Alexander Badawy, Ph.D. (Ancient History)
Paul A. Clement, Ph.D., Emeritus (Classical and Biblical Archaeology)
Katharina Otto-Dorn, Ph.D. (Art History)
Richard C. Rudolph, Ph.D., Emeritus (East Asian Languages and Cultures)

Associate Professors
Elizabeth Carter, Ph.D. (Near Eastern Languages and Cultures)
Hung-Hsiang Chou, Ph.D. (East Asian Languages and Cultures)
Michael J. DeNiro, Ph.D. (Geochemistry and Archaeological Sciences)
Timothy Earle, Ph.D. (Anthropology)
Bernard D. Frischer, Ph.D. (Classics)
Gail E. Kennedy, Ph.D. (Anthropology)
Cecelia F. Klein, Ph.D. (Art History)
William Kimentt, Jr., Ph.D. (Materials Science and Engineering and Archaeological Sciences)
Steven Lattimore, Ph.D. (Classics)
Martin J. Powers, Ph.D. (Art History)
Dwight Read, Ph.D. (Anthropology)
Arnold Rubin, Ph.D. (Art History)

Assistant Professors
Robert C. Bailey, Ph.D. (Anthropology)
Irene A. Bierman, Ph.D. (Art History)
Robert Brown, Ph.D. (Art History)

Lecturer
David S. Whitley, Ph.D. (Anthropology)

Adjunct Professor
Leona M. Libby, Ph.D. (Environmental and Archaeological Sciences)

Scope and Objectives
The interdisciplinary program offers M.A. and Ph.D. degrees in Archaeology. It brings together interests and specialties represented by those departments offering courses in archaeology, as well as others offering courses relevant to archaeology. Qualified undergraduates may enroll in courses offered by the program provided they receive consent of the instructor.

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, geology, mathematics, statistics, zoology, etc.). There are opportunities for participation in a variety of field, laboratory, and computer studies on a worldwide scale.

Requirements for Graduate Degrees

Admission
Any undergraduate major may be considered for admission to the program although those applicants who have had little previous archaeological 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) Aptitude Test report is required. The following application materials should be submitted directly to the chair of the program: an acceptable plan of study (including a statement of objectives, an outline of projected coursework, and a general indication of an M.A. paper or dissertation topic); three letters of recommendation; a research paper preferably relevant to archaeology or comparable evidence of scholarly work. Applicants are accepted for admission to the Fall Quarter only. The program’s ‘Study Guidelines’ brochure will be sent to applicants on request to the Chair, Archaeology Program, 288 Kinsey Hall, UCLA, Los Angeles, CA 90024.

Major Fields or Subdisciplinary Areas
Africas; analysis of archaeological materials; ancient Near East; Andean South America; Caribbean; China and the Far East; classical Greece and Rome; dating techniques in archaeo- sciences; Europe; India and Central Asia; Mesoamerica; Pacific; paleoenvironmental studies; Western North America.

Other areas of specialization are also available.

Fieldwork
No graduate degree will be awarded until you have worked in the field and have demonstrated your competency to direct field research in archaeology. Both theoretical and practical knowledge of methods and techniques used in the field are necessary.

This requirement may be met in several ways. Ordinarily you will take a regular UCLA course such as Anthropology 115P (which satisfies the M.A. field course requirement) or Archaeology 259, Ancient Near East 261, or History 276 (which satisfy both the M.A. and Ph.D. field requirements), or similar courses offered by other departments. Comparable courses offered by other 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. Excepting the four courses listed above, any given formula to fulfill the requirement will have to be cleared in advance with the chair of the program.

Master of Arts Degree
The structure of the M.A. program includes the successful completion within seven academic quarters 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 an examination administered by the Educational Testing Service (ETS) with a score of 500 or better; (2) completing the third course in an introductory, regular sequence of the selected language at UCLA with a minimum grade of A; (3) taking a reading examination (in Spanish, French, or German) administered by the program.

The foreign language requirement must be completed by the end of the sixth quarter in residence, unless an earlier deadline is imposed by the 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 (26 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 may be taken twice for a maximum of 12 units, but only six units may be applied toward the minimum graduate course requirement (a letter grade is given for the course). Four upper division elective courses* (a minimum of 16 units, excluding 199s) are also required.

Comprehensive Examination Plan
You will be required to take a comprehensive core examination during your third quarter in residence. This written examination is based largely on a reading list of about 30 volumes

* Of the six combined elective courses, no more than four may be offered by the same department. At least one must be outside the student’s sphere of regional interest to be selected from a pool of eligible courses by the student’s adviser.
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

Graduate Courses
200. Archaeology Colloquium (1 or 6 units). Discussion, two hours. Prerequisite: archaeology major or consent of instructor. Required of all students. The 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 the departmental M.A. requirements. S/U grading only for students enrolled for one unit.

M201A-M201B. Graduate Core Seminars in Archaeology (6 units each). (Same as Anthropology M219A-M219B.) Seminar, three hours. Required of all M.A. students. Seminar discussions based on a carefully selected list of 30 to 40 major archaeological works. These compulsory core courses provide students with a foundation in the breadth of knowledge required by a professional archaeologist. Archaeological historiography, a survey of world archaeology, and archaeological techniques. Emphasis on an appreciation of the multidisciplinary background of modern archaeology and the relevant interpretative strategies. May be repeated for credit with consent of adviser.

205. Special Topics in Archaeology (6 units). Lecture/discussion, three hours. Prerequisite: graduate standing in archaeology or in other departments. Special advanced topics in archaeology, such as new strategies, methodologies, excavation projects, regional synthesis, or comparisons on a worldwide basis, including current work by the core faculty of the program and special visitors.

C210. Archaeological Materials Identification and Characterization (6 units). (Formerly numbered 210L.) Lecture, three hours; laboratory, four hours. A laboratory-oriented introduction for archaeologists to the identification and quantitative description of solid materials, especially metals, ceramics, and other inorganic and some organic substances. Concurrently scheduled with course C110.

M213. Archaeological and Paleontological Applications of Stable Isotopes (6 units). (Formerly numbered 211L.) (Same as Earth and Space Sciences M213.) Lecture, three hours. Application of natural variations in stable isotope ratios in fossilized biological and nonbiological materials to a variety of archaeological and paleontological problems. Topics include the basis for isotope distributions in archaeological and paleontological materials; analytical procedures for measuring isotopic ratios; dietary reconstruction; paleoecological analysis; determination of provenance of archaeological materials; analysis of aspects of the biochemistry and physiology of fossil animals.

M259. Fieldwork in Archaeology (2 to 12 units). Prerequisite: consent of instructor. Participation in archaeological field excavations or museum research under supervision of staff archaeologists at UCLA. A minimum of one month of field time away from the campus is required. May be repeated for credit with consent of adviser.

M596. 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.

M597. Preparation for Ph.D. Qualifying Examinations (2 to 12 units). Prerequisites: completion of formal coursework, passing of language examinations before enrollment, consent of instructor. May be repeated for credit with consent of adviser. S/U grading.

M598. M.A. Paper Preparation (2 to 12 units). Prerequisite: consent of instructor. May be repeated for credit with consent of adviser. S/U grading.

M599. Ph.D. Dissertation Research and Preparation (2 to 12 units). Prerequisite: consent of instructor. May be repeated for credit with consent of adviser. S/U grading.

Related Courses in Other Departments
Related courses, not listed individually, include regional geography, ancient and regional history, ethnography, folklore, history of technology, and the earth sciences. Also recommended are the appropriate modern and ancient languages for your area of study.

Most archaeology courses are taught in the various departments. The following is a list of such courses, by topic and department. You are encouraged to examine the course listings of all departments for a truly interdisciplinary course of study.

Methodology and History
Ancient Near East (Near Eastern Languages) 261. Practical Field Archaeology
Anthropology 115P. Archaeological Field Training
115Q. Archaeological Research Techniques
115R. Strategy of Archaeology
M115S. Historical Archaeology
116P. Laboratory Analysis in Archaeology
M116Q. Dating Techniques in Environmental Sciences and Archaeology
118A. 118B. Museum Studies
121A. Fossil Man and His Culture
121B. The Australopithecines
121C. Evolution of the Genus Homo
129P. Laboratory Methods in Biological Anthropology: Skeletal
132. Technology and Environment
138. Methods and Techniques of Ethnohistory
158. Hunting and Gathering Societies
183. History of Archaeology
186A-186B. Quantitative Methods and Models 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
263. Mathematical Models in Anthropology
## Art History (Art, Design, and Art History) 203. Museum Studies
265. Fieldwork in Archaeology

### Materials Science and Engineering 149C. Properties of Art Ceramic Materials
149E. Ceramic Materials in History and Archaeology

## New World

**Anthropology** 113P. Archaeology of North America
113Q. The Prehistory of California Indian Cultures
113R. Southwestern Archaeology
114P. Ancient Civilizations of Western Middle America (Nahuatl Sphere)
114Q. Ancient Civilizations of Eastern Middle America (Maya Sphere)
114R. Ancient Civilizations of Andean South America
172P. North American Indian Cultures
212P. Selected Topics in Hunter-Gatherer Archaeology
212Q. Problems in Southwestern Archaeology
214. Selected Topics in Prehistoric Civilizations of the New World
215. Field Training in Archaeology

**Art History (Art, Design, and Art History)** C117A. Advanced Studies in Pre-Columbian Art: Mexico
C117B. Advanced Studies in Pre-Columbian Art: Central America
C117C. Advanced Studies in Pre-Columbian Art: The Andes
118A. The Arts of Oceania
118B. The Arts of Pre-Columbian America
118D. The Arts of Native North America
220. Oceanic, Pre-Columbian, African, and Native North American Art

## Old World — Africa

**Art History (Art, Design, and Art History)** 118C. The Arts of Sub-Saharan Africa
C119A. Advanced Studies in African Art: Western Africa
C119B. Advanced Studies in African Art: Central Africa
220. Oceanic, Pre-Columbian, African, and Native North American Art

**History** 175A. Topics in African History: Prehistoric Africa — Technological and Cultural Traditions
197. Undergraduate Seminars
201A-201U. Topics in History
276. African Archaeology: Field Techniques
277. African Archaeology: Data Analysis

## Old World — Europe

**Anthropology** 112. Old Stone Age Archaeology
213. Selected Topics in Problems in Old World Archaeology

**Art History (Art, Design, and Art History)** 103A. Greek Art
103B. Hellenistic Art
103C. Roman Art
103D. Etruscan Art
103E. Late Roman Art
221. Topics in Classical Art
223. Classical Art

**Classics** 151A. Classical Archaeology: The Aegean Bronze Age
151B. Classical Archaeology: Greco-Roman Architecture
151C. Classical Archaeology: Greco-Roman Sculpture
151D. Classical Archaeology: Greco-Roman Painting

251A-251D. Seminar in Classical Archaeology
252. Topography and Monuments of Athens
253. Topography and Monuments of Rome

**Indo-European Studies** 131. European Archaeology: Proto-Civilizations of Europe
132. European Archaeology: The Bronze Age
250A-250B. European Archaeology

## Old World — India and the Far East

**Art History (Art, Design, and Art History)** 114A. The Early Art of India
114B. Chinese Art
114C. Japanese Art
C115A. Advanced Indian Art
C115B. Advanced Japanese Art
C115C. Advanced Japanese Art
C259. Advanced Japanese Art
260. Asian Art

**East Asian Languages and Cultures** 170A-170B. Archaeology in Early and Modern China
270. Seminar: Selected Topics in Chinese Archaeology
275. Seminar: Selected Topics in Chinese Cultural History

## Old World — Islam

**Art History (Art, Design, and Art History)** 104A. Western Islamic Art
104B. Eastern Islamic Art
C104C. Problems in Islamic Art
213. Problems in Islamic Art

## Old World — Near East

**Art History (Art, Design, and Art History)** 160A-160B. Introduction to Near Eastern Archaeology
161A-161B-161C. Archaeology of Mesopotamia
162. Archaeology of Palestine
163A-163B. Archaeology of Iran
164A-164B-164C. The Archaeology of the Historic Periods in Mesopotamia
220. Seminar in Ancient Egypt
M250. Seminar in Ancient Mesopotamia
250X. Seminar in Ancient Mesopotamia
260. Seminar in Near Eastern Archaeology
262. Seminar in Object Archaeology

**Anthropology** 110. World Archaeology

**Art History (Art, Design, and Art History)** 101A, 101B, 101C. Egyptian Art and Archaeology
102. Art of the Ancient Near East
210. Egyptian Art

**History** 105. History of Ancient Mesopotamia and Syria
193D. Religions of the Ancient Near East
200A-200U. Advanced Historiography
201A-201U. Topics in History

## Asian American Studies

### (Interdepartmental)

**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 United States 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. Although no undergraduate major is offered in Asian American studies, students may participate in the program through a departmental major or the interdepartmental major in East Asian studies. The graduate program leads to an 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 Program**

**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 program, 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 (3232 Campbell Hall, UCLA, Los Angeles, CA 90024) 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 from various departments.

Research Tool Requirement

The research tool requirement may be satisfied by one of two options:

1. Asian Language: A minimum of two full years of study in an Asian language at the university level or equivalent. This requirement may be fulfilled before entering the program, but you must pass a proficiency examination administered by the Asian American Studies Center and the interdepartmental committee.

2. Research Methods: Three upper division or graduate courses in research methods (e.g., statistics, computer science, field and observational techniques, experimental techniques, archival methods). Specific courses must be approved by the interdepartmental committee.

You must justify your choice of option 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 200A, 200B, 200C. Three of the graduate courses must be selected from Anthropology 231, Education 253G, History 201H, Sociology 261.

Two courses in the 500 series may be applied toward the required 11 courses; however, only one of the two may be applied toward the required seven graduate courses.

Thesis Plan

The thesis committee is normally constituted at the beginning of your second year in residence, at which time you are expected to submit a plan for approval. After the approval of the thesis, the committee will conduct an oral examination on its subject.

Upper Division Courses


104. Asian American Women. The condition of Asian women in America. Topics include racism and cultural stereotypes, women in Asian American history, and contemporary issues and concerns of Asian American women. Consent of instructor. 20 hours.


107. Asian American Personality and Mental Health. Topics include racial and cultural stereotypes, men in Asian American history, and contemporary issues and concerns of Asian American men. Consent of instructor. 20 hours.

109. Topics in Asian American Studies. Lecture, three hours. The condition of Asian women in America. Topics include racism and cultural stereotypes, women in Asian American history, and contemporary issues and concerns of Asian American women. Consent of instructor. 20 hours.

197. Topics in Asian American Studies. Lecture, three hours. Variable topics selected from the following: Filipina American experience, Japanese American history, and contemporary issues and concerns. Consent of instructor. 20 hours.

Graduate Courses

200A. Critical Issues in Asian American Studies. Prerequisites: graduate standing, consent of instructor. Examination of research literature and major issues in Asian American studies. Consent of instructor. 20 hours.

200B. Critical Issues in Asian American Studies. Prerequisites: graduate standing, consent of instructor. Examination of research literature and major issues in Asian American studies. Consent of instructor. 20 hours.

200C. Critical Issues in Asian American Communities. Lecture, three hours. Prerequisites: graduate standing, consent of instructor. Examination of the literature on Asian American communities. Consent of instructor. 20 hours.

297A. Topics in Asian American Literature. (Same as English M296A.) Lecture, three hours. A seminar that examines and critically evaluates writings of Asian Americans.

297B. Topics in Asian American. (Same as English M296B.) Lecture, three hours. A seminar that examines and critically evaluates writings of Asian Americans.

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 articles. Length research papers. Analyzing rhetorical and stylistic features of essays in Asian American journals helps students improve both their prose style and editorial abilities. Four units may be applied toward the M.A. degree requirements. May be repeated once for credit. S/U grading.

596. Directed Individual Study or Research (2 to 8 units). Hours to be arranged. Prerequisite: consent of instructor.


Related Courses in Other Departments

Anthropology M163. Women in Culture and Society

166. Comparative Minority Relations

167. Urban Anthropology

175P. Civilizations and Cultures of Southeast Asia

175Q. Civilizations of South Asia

175S. Japan

177. Cultures of the Pacific

231. Asian Americans: Personality and Identity

230. Contemporary Minority Relations

274. Cultures of the Pacific Islands

Architecture and Urban Planning 197. Planning for Minority Communities

251. Planning for Multiple Publics

253. Social Theory for Planners

256. Social Impact Analysis

258. Urban Morphology

Education 253G. Seminar: The Asian American and Education

History 153. The United States and the Philippines

154A-154B. United States Urban History

155A-155B. American and European Working Class Movements

160. The Immigrant in America

161. Asians in American History

163. History of California

183. Modern China, 1840-1920

187C. Modern Japanese History

200H. Advanced Historiography: United States

201H. Topics in History: United States

245. Colloquium in U.S. History

252A-252B. Seminar in Recent United States History to 1930

254A-254B. Seminar in United States Social and/or Intellectual History

256A-256B. Seminar in American Diplomatic History

257A-257B. Seminar in United States Urban History

258A-258B. Seminar in Working Class History

259A-259B. Seminar in Social History of Women in the U.S.

263A-263B. Seminar in the History of the American West

264. History of American Education

282A-282B-282C. Seminar in Chinese History

285A-285B. Seminar in Modern Japanese History

Library and Information Science 111D. Ethnic Groups and their Bibliographies: Asian American History and Culture

Motion Picture/Television (Theater, Film, and Televison) 128. Media and Ethnicity

Political Science 135. International Relations of China

136. International Relations of Japan
Astronomy

8979 Math Sciences, (213) 825-4434

Professors
Ferdinand Coroniti, Ph.D., Chair
Harland W. Epps, Ph.D.
Michael A. Jura, Ph.D.
Mark Morris, Ph.D.
Mirek Plavec, Ph.D.
Edward L. Wright, Ph.D.

Associate Professor
William I. Newman, Ph.D.

Assistant Professor
Matthew Malkan, 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 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, optical design, galaxies, quasars, and observational and theoretical cosmology.

The department’s second responsibility is to the undergraduate astronomy major who hopes for a career in astronomy. Some Bachelors of Science degree recipients go on to graduate work; some opt for teaching careers, for which their training in physics, astronomy, and mathematics is most useful; still others find excellent jobs in industry, where their broad background in physical science with a specialty in astronomy 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. Astronomy 3, 4, 5, and 6 are nonmathematical courses open to the general University student normally not intending to major in the physical sciences.

Astronomy 3 is the fundamental course recommended for every University student who does not major in physical sciences and should be taken in the first or second year. If you had an astronomical introductory course in high school, you should take either course 3H or 4, 5, or 6.

Astronomy 4, 5, and 6 are nonmathematical courses which develop the topics covered in course 3 to somewhat greater depths. Course 4 details the stars and stellar systems; course 5 concentrates on the problem of life in the universe; course 6 discusses the structure and evolution of the universe and the historical development of our ideas about it. 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 astronomy 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 represent a serious and systematic introduction to astrophysics and require a good background in physics and mathematics (at least two quarters of the Physics 8 series and two quarters 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, 160.

Bachelor of Science Degree

Preparation for the Major

Required: Astronomy 81, 82, Physics 8A/8AL, 8B/8BL, 8C/8CL, 8D/8DL, 8E, Mathematics 31A, 31B, 32A, 32B, 33A, 33B, Program in Computing 3 or 10A. Recommended: Chemistry 11A. Systematic study of astronomy should begin with Astronomy 81 and 82, taken in the second year.

The Major


Honors Program

Senior majors in astronomy with a 3.4 grade-point average in all astronomy, mathematics, and physics courses are eligible for the honors program in astronomy. In addition to completing all courses required for the major, the honors student must complete two quarters of Astronomy 199. To receive honors and highest honors at graduation, the grade-point average must remain at 3.4 or better, and the 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) Aptitude Test and Advanced Test in Physics. For further information, contact the Graduate Adviser, Department of Astronomy, 8979 Math Sciences, UCLA, Los Angeles, CA 90024.

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. 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 the departmental written comprehensive examinations. 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

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, mathematics, or physics, or 100- or 200-series courses in education required for the teaching 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 for 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, 206C, 217C, 219C, 227C, 230C. You are required to take course 250 each quarter in residence.

Teaching Experience

Before receiving a Ph.D., you are required to spend at least three quarters 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 the 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 projects 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.

The evaluation of the projects 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 would be 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

3. Astronomy: The 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 is required beyond that necessary for admission to the University in freshman standing. A course for the general University student, normally not intending to major in physical sciences, on the development of ideas in astronomy and what has been learned of the nature of the universe, including recent discoveries and developments.

4. The Universe of Stars and Stellar Systems. Lecture, three hours; discussion, one hour. Prerequisite: course 3 or 3H or equivalent. An essentially nonmathematical course for the general University student with previous introduction to astronomy; a 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 clusters to galaxies.

5. Life in the Universe. Lecture, three hours; discussion, one hour. Prerequisites: prior introduction to astronomy or consent of instructor. Life on earth and the prospects for life elsewhere in the context of the evolution of the universe from the simple to the complex. Course material is primarily from astronomy and biology but includes some chemistry, geology, and physics. Selected topics are treated in some depth, but with little or no formal mathematics.

6. Cosmology: Our Changing Concepts of the Universe. Lecture, three hours; discussion, one hour. Prerequisite: course 3 or 3H or equivalent. An essentially nonmathematical exposition of our ideas about the structure and evolution of the universe. Historical development of the ideas up to the present time. Problem of cosmic center and cosmic edge. Space and time. Curvature of space. General relativity. Black holes. The expanding universe and cosmological redshift. Early stages of the universe, Big Bang, current ideas of the inflationary universe.

Projects

Autumn Quarter: 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 projects 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.

The evaluation of the projects 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 would be 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

3. Astronomy: The 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 is required beyond that necessary for admission to the University in freshman standing. A course for the general University student, normally not intending to major in physical sciences, on the development of ideas in astronomy and what has been learned of the nature of the universe, including recent discoveries and developments.

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117. Radiation and Fluids in Astrophysics. Lecture, three hours. Prerequisites: course 115 or equivalent and junior standing in astronomy or physics, or consent of instructor. Emission and absorption of radiation by matter, spectroscopy, spectral lines, and radiative transfer. Hydromechanics and shock waves. Applications to stars, to the interstellar and intergalactic medium, and to the early universe.

Mr. Jura, Mr. Morris (Sp)

127. Stellar Atmospheres, Interiors, and Evolution. Lecture, three hours. Prerequisite: senior standing in astronomy or physics or consent of instructor. Recommended: courses 115, 117. Physical conditions in stellar interiors. Energy production and energy transfer. Stellar evolution from star formation through the normally observed stages to white dwarfs, neutron stars, and black holes. Novae, supernovae, other variable stars, chromospheres and coronae of the sun and stars. Evolution of binary stars. Analysis of stellar atmospheres.

Mr. Plavec, Mr. Ulrich (Sp)

140. Stellar Systems and Cosmology. Lecture, three hours. Prerequisite: senior standing in astronomy or physics or consent of instructor. Properties of clusters and galaxies. The Milky Way galaxy. Clusters of superclusters of galaxies. Extragalactic distance scale. Quasars and active galaxies. Topics in cosmology, including the expansion of the universe, microwave background, galaxy formation from primordial fluctuations, and observational constraints on the Big Bang.

Mr. Morris, Mr. Wright (W)

180. Astrophysics Laboratory. Lecture, two hours; laboratory, four hours. Prerequisites: course 115 or senior standing in astronomy, 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 measuring properties of light, narrowband solar imaging, and visual photometry. Emphasis on use of computers for the automatic collection of data and for processing 2-D astronomical images.

Mr. Plavec, Mr. Ulrich, Mr. Zuckerman

199. Special Studies (2 or 4 units). Prerequisites: senior standing in astronomy or physics (with an outstanding record), consent of instructor. Special studies with an individual faculty member. With prior consent, the course may be used to carry out a meaningful observational program at the UCLA students' observatory, or in special cases, with the 24-inch reflector.

Graduate Courses

Prerequisite to all graduate courses is consent of instructor. Courses 204A through 230C are offered in alternate years and consist of three quarters 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.

201. Astrophysics of the Solar System. Prerequisite: graduate standing or consent of instructor. The sun, solar phenomena, and solar-terrestrial relationships. The interplanetary medium and astronomical plasma physics, comets, meteorites, meteors, satellites and planets, planetary atmospheres. Origin and evolution of the solar system.

Mr. Ulrich

204A-204B-204C. Observational Astronomy (4 units, 6 units, 10 units). Star catalogs and charts. Radiation measurements, photometric photometry, and solid-state detectors. Radio and infrared techniques. Spectroscopic observations. Includes laboratory work.

Mr. Epps, Mr. Ulrich, Mr. Wright


Mr. Jura, Mr. Zuckerman


Mr. Plavec, Mr. Ulrich


Mr. Malkan, Mr. Wright


Mr. Plavec, Mr. Ulrich, Mr. Zuckerman


Mr. Coroniti, Mr. Wright

240. Modern Problems in Astronomy and Astrophysics. Special topics offered by distinguished visiting professors. Open to qualified graduate students in astronomy and in related fields (physics, atmospheric sciences, earth and space sciences). May be repeated for credit.

Mr. Plavec, Mr. Ulrich, Mr. Zuckerman


(F.W.Sp)

M285. Origin and Evolution of the Solar System. (Same as Earth and Space Sciences M285.) Dynamical problems of the solar system; chemical evidences from geochemistry, meteorites, and the solar atmosphere; nucleosynthesis; solar origin, evolution, and termination; solar nebula, hydromagnetic processes, formation of the planets and satellite systems. Content varies from year to year. May be repeated for credit. S/U grading.

Mr. Kraft

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the 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. Kaula

396. Directed Individual Studies (4 to 10 units). The following courses may be repeated at the discretion of the department.

596L. Advanced Study and Research at Lick Observatory (4 to 12 units). Intended for graduate students who require observational experience, as well as those working on observational problems for their thesis.

599. Ph.D. Research and Writing (10 to 12 units).

Atmospheric Sciences

7127 Math Sciences, (213) 825-1217

Professors

Akiy Arakawa, D.Sc. (Atmospheric Dynamics)
Michael Ghil, Ph.D. (Climatic Dynamics)
George L. Sicoe, Ph.D. (Atmospheric Physics)
Chair
Richard M. Thorne, Ph.D. (Atmospheric Physics)
Sekharparaur V. Venkateswaran, Ph.D. (Atmospheric Physics)
Morton G. Wurtele, Ph.D. (Atmospheric Dynamics)
Michio Yana, D.Sc. (Atmospheric Dynamics)
James G. Edinger, Ph.D. (Emeritus)
Yale Mintz, Ph.D., Emeritus
Hans R. Pruppacher, Ph.D., Emeritus

Assistant Professors

Carlos R. Mechoso, Ph.D. (Atmospheric Dynamics)
Derek C. Montague, Ph.D. (Atmospheric Chemistry)
Roger M. Wakiwut, Ph.D. (Atmospheric Dynamics)

Scope and Objectives

The atmospheric sciences present a wide variety of problems of compelling scientific interest and increasing social concern. This is exemplified by the efforts to improve air quality, the depredations caused by severe storms and floods, the attempts to control or modify weather phenomena, the problems of long-range weather forecasts and climate change, the expanding scientific frontiers into our outer atmosphere and the atmospheres of other planets. The department offers a broad curriculum in dynamic and synoptic meteorology, upper atmospheric and space physics, cloud microbiology, atmospheric chemistry, and radiative transfer in planetary atmospheres.

The Bachelor of Science degree may qualify students for entry-level technical positions or represent valuable background for training in other professions. Master of Science and Ph.D. degree holders work in universities, research centers, laboratories, and government services and, increasingly, in the rapidly burgeoning private sector.

Bachelor of Science Degree

Preparation for the Major

The Major

Required: Atmospheric Sciences 104A, 104B, 104C, M140, 161, Physics 131; three courses from Atmospheric Sciences 141, 142, 143, 144, 145, M154; two courses from Physics 110A, 110B, 112, M122, 132, 140, Chemistry 110A, 110B, Mathematics 135A, 135B, 136, 140A, 140B. Students preparing for graduate studies in atmospheric chemistry should take Chemistry 11B, 11C, 110A, 110B; students preparing for graduate studies in cloud physics, precipitation, and atmospheric chemistry should take Atmospheric Sciences 145, Physics 140, Mathematics 135A-135B, 140A; students preparing for graduate studies in upper atmospheric and space physics should take Atmospheric Sciences 145, M154, Physics M122; students preparing for graduate studies in dynamics/synoptics should take Atmospheric Sciences 141, 142, Physics 132.

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 the Graduate Admissions Office. 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. In addition to students holding bachelor's degrees in meteorology or atmospheric sciences, graduates with degrees in related disciplines—astronomy, chemistry, engineering, geophysics, mathematics, 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; cloud physics, precipitation, and atmospheric chemistry; radiation; upper atmospheric 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. The only formal course requirement beyond the UCLA general requirements is Atmospheric Sciences 260 in which you must present a formal seminar attended and graded by all faculty. 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 coursework given during a prior two-year period. The examination is usually conducted at the end of the Fall and Spring Quarters, but special arrangements can be made for the Winter Quarter. A grade-point average of 3.0 is required for a pass at the M.S. level; a GPA of 3.5 or better allows you to continue toward entry into the Ph.D. program. 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 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.

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. 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 95 percent of our graduate students serve as teaching assistants for one or more quarters.

Qualifying Examinations

After passing the comprehensive examination at the requisite level or completing the M.S. thesis in this department, you must take a further in-depth written or oral examination in your area of research specialization conducted by your departmental guidance committee. Subsequently, a full doctoral committee is appointed to conduct the University Oral Qualifying Examination on your selected dissertation topic and related areas and the final dissertation defense 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; discussion, one hour. Prerequisite: atmospheric sciences major. A course for majors parallel to course 1.

   Mr. Wakimoto (F)

2. Air Pollution. Lecture, three hours; discussion, one hour. A Letters and Science general education requirement course for all students interested in the causes and effects of high concentrations of pollution in the atmosphere. Topics include the nature and 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 the biosphere and the oceans; stratospheric pollution.

   Mr. Montague (Sp)

3. Introduction to the Atmospheric Environment. Lecture, three hours; discussion, one hour. A course specifically designed to satisfy in part the Letters and Science general education requirement of students majoring outside the physical sciences. The nature and causes of weather phenomena, including winds, clouds, rain, lightning, tornadoes and hurricanes, solar and terrestrial radiation; phenomena of the higher atmosphere: the ionosphere and the auroras; causes of air pollution; proposed methods and status of weather modification.

   Mr. Siscoe, Mr. Venkateswaren (F, W, Sp)

4. California Weather and Climate. (Not the same as course 4 prior to Fall Quarter 1986.) Lecture, two hours; laboratory, two hours; field trips. The climate and weather in California. Topics include marine layers, sea-land breezes, low-level temperature inversion, severe weather, satellite interpretation, weather forecasting, and use of interactive computing in weather analysis.

   Mr. Wakimoto

5. Climates of Other Worlds. Lecture, three hours; discussion, one hour. Introduction to the atmospheres of planets and their satellites in the solar system using information obtained during the recent planetary exploration programs. An elementary description of the origin and evolution of atmospheres on the planets. Climates on the planets, the conditions necessary for the evolution of life, and its resulting effect on the planetary environment.

   Mr. Thorne

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; discussion, one hour. An 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 the services it provides to the general public. Course allocations include the structure of the National Weather Service and the services it provides to the general public.

   Mr. Siscoe (W, Sp)

2. Air Pollution. Lecture, three hours; discussion, one hour. A Letters and Science general education requirement course for all students interested in the causes and effects of high concentrations of pollution in the atmosphere. Topics include the nature and 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 the biosphere and the oceans; stratospheric pollution.

   Mr. Montague (Sp)

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   Mr. Thorne
106 / Atmospheric Sciences / COLLEGE OF LETTERS AND SCIENCE

6. Climate and Climatic Change. Lecture, three hours; discussion, one hour. A course specifically designed to satisfy in part the Letters and Science general education requirement of students majoring outside the physical sciences. Introduction to the physical causes of climate, the classification of climate, and the global distribution of climate types. Description of climate changes over time scales ranging from the lifetime of earth to El Nino events. Discussion of anthropogenic changes such as increased CO2 and nuclear war. State of the art in modeling and predicting climate. Mr. Venkateswaran (Sp)

7. Meteorology in History and Art. Lecture, three hours; discussion, one hour. The impact of weather and climate on society, their dominant role in mythology and religion, their prominence in art, literature, and music. The major developments in man's understanding of nature as reflected through his reaction to and thoughts about the sky and its phenomena. Mr. Siscoe

8. Clouds, Rain, and Storms. (Formerly numbered 4.) Lecture, three hours; discussion, one hour. The rainbow and the ice crystal. Relation of meteorological conditions to cloud formation and behavior. Weather systems from clouds. Different scales of atmospheric cloud organization. Description and dynamics of spectacular weather systems, ranging from tornadoes to hurricanes. Severe weather forecasting. Mr. Venkateswaran

10H. Introduction to Atmospheric Sciences. (Formerly numbered 3H.) Lecture, three hours; discussion, one hour. Prerequisite: Physics 8D or exceptional performance in high school physics with permission of instructor or consent of instructor. An introductory course in atmospheric phenomena and atmospheric processes, required of all atmospheric sciences majors and recommended for honors students who are declared or potential majors in the physical sciences or engineering. Mr. Wurtele (W)

11. Introduction to Weather Analysis. Lecture, two hours; laboratory, three hours. Prerequisites: course 129H, Mathematics 33A. The mean structure of the atmosphere. General characteristics and source regions of air masses. Polar-front theory. Weather in relation to disturbances. Upper-level wind structure and its relationship to cyclogenesis development. Laboratory includes an introduction to instruments, hourly airways observations, synoptic and rawinsonde code. Students make weather forecasts for different areas of the United States. Mr. Wurtele (Sp)

Upper Division Courses

101. Meteorology and Society. Lecture, three hours; discussion, one hour. Prerequisite: upper division or graduate standing. Intended for students in architecture, urban planning, law, and engineering, and all students interested in the impact of weather on society. The impact of and uses of meteorology in society. Climate and architectural planning. Weather and engineering structures. Forensic meteorology in civil cases. The uses and abuses of short- and long-term weather forecasts and their current validity. The status of attempts to modify climate — in particular, to increase rainfall. Meteorology and public policy — in particular, air pollution legislation and acid rain investigations. Mr. Wurtele

104A. Atmospheric Thermodynamics. Lecture, three hours; discussion, two hours. Prerequisites: Chemistry 11A, Mathematics 33B, Physics 8D. Basic thermodynamics, including the 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. Montague

104B. Introduction to Dynamic and Synoptic Meteorology. Lecture, two hours; laboratory, three hours. Prerequisites: courses 104H, 11T. Atmospheric circulation and its relationship to weather; atmospheric dynamics; divergence, streamlines and trajectories, stream function and velocity potential. The equation of motion for fluids. Special atmospheric cases such as the geostrophic wind, gradient wind, ageostrophic wind, and thermal wind. Mr. Wakimoto (Sp)

104C. Introduction to Dynamic and Synoptic Meteorology II. Lecture, two hours; laboratory, three hours. Prerequisite: course 104B. The conservation of mass and the equation of continuity. Theory of the vertical coordinate. Circulation and the vorticity equation. The thermodynamic energy equation. Mr. Wakimoto (W)

104D. Introduction to Fluid Dynamics. (Formerly numbered M149.) (Same as Earth and Space Sciences 114.) Lecture, three hours; discussion, two hours. Prerequisites: course 140. Structure and dynamics of large-scale motions in the atmosphere. The quasi-geostrophic equilibrium. Quasi-geostrophic motion, Rossby waves. Extratropical cyclones. Fronts and frontal genesis. The general circulation of the atmosphere. Mr. Yanai (W)

142. Atmospheric Motion I. (Formerly numbered 150.) Lecture, three hours; discussion, two hours. Prerequisite: course 141. Small-scale nonhydrostatic motions in the atmosphere. Internal gravity waves. Atmospheric turbulence and convection. The planetary boundary layer. Elementary cumulus dynamics. Mesoscale weather systems. Hurricanes and tropical disturbances. Mr. Yanai (Sp)


144. Micrometeorology and Air Pollution Meteorology. Lecture, three hours; discussion, one hour. Prerequisite: course 142. Wind and temperature structure in the surface layer; mesoscale weather and wind systems; turbulence and diffusion: transport, diffusion, and transformation of atmospheric contaminants. Mr. Wurtele (Sp)

145. Atmospheric Physics. Lecture, three hours; discussion, one hour. Prerequisites: Physics BE 131. Physics of gases; properties and behavior of cloud particles; atmospheric electricity; solar and terrestrial radiation; atmospheric waves, scattering, visibility, and optics; remote sensing. Mr. Siscoe, Mr. Thorne

M154. Solar Terrestrial Physics. (Same as Earth and Space Sciences M154.) Lecture, three hours; discussion, one hour. Prerequisite or corequisite: Physics 110B. Particle and electromagnetic emissions from the sun under quiet and under disturbed conditions. The properties of magnetic field; vorticity and the ionospheres of the earth and other planets. Geomagnetic phenomena. Aurora and airglow. Mr. Venkateswaran (F)

161. Numerical Methods in Atmospheric Sciences. Lecture, two hours; laboratory, three hours. Prerequisites: course 141 and Program in Computing 3, or consent of instructor. Numerical solutions of problems selected from atmospheric sciences. Matrix inversion. Solution of the oscillation, decay, advection, and vorticity equations. Mr. Mechoso

180. Nonlinear Waves. (Same as Earth and Space Sciences M180.) Lecture, three hours; discussion, one hour. Prerequisite: course M140 or consent of instructor. Basic concepts and examples of nonlinear wave behavior: limit cycles, attractors, bifurcations, relaxation, subharmonics, solitons, periodic versus chaotic behavior, Lorenz masks and Rossler bands. Mr. Nielson

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. The major may be used for writing a honors thesis. (F,W,Sp)

198. Operational Meteorology (2 units). Laboratory, six hours. Prerequisite: junior or senior standing in atmospheric sciences. Daily coverage of weather data and forecasting, 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, radarsonde, and radar installations. Mr. Wurtele

199. Special Studies in Meteorology (2 or 4 units). Prerequisite: consent of instructor. Special individual study.

Graduate Courses

200A. Introduction to Physics of Clouds and Precipitation. (Formerly numbered 152.) Lecture, three hours. Theoretical and experimental studies of clouds and precipitation; phase change processes in the atmosphere; theory of drop forming and ice forming; development of precipitation in clouds; cloud chemistry, cloud electricity. Mr. Siscoe


200C. Introduction to Atmospheric Chemistry. (Formerly numbered 156.) Lecture, three hours. Basic structure of the atmosphere; natural cycles of important minor constituents; relevance and application of elementary chemical kinetics, thermochemistry, spectroscopy, and photochemistry to chemical processes in the lower and upper atmosphere. Chemical aspects of air pollution and aerosol formation. Mr. Montague

Dynamic and Synoptic Meteorology

201. Mesometeorology. Lecture, three hours. Prerequisite: consent of instructor. Observations of phenomena with length scales ranging from 20 km to 2,000 km. Topics include polar lows, air mass storms, multicell storms, supercell tornadoes, gust fronts, downbursts, microbursts, and the dryline. Discussions on the design of a field project.

203. Dynamics of Fronts. Lecture, three hours. Prerequisites: courses 209, 210A. The theory of the atmosphere: natural cycles of important minor constituents: relevance and application of elementary chemical kinetics, thermochemistry, spectroscopy, and photochemistry to chemical processes in the lower and upper atmosphere. Chemical aspects of air pollution and aerosol formation. Mr. Montague
208A. Atmospheric Turbulence. Lecture, three hours. Kinematics of homogeneous and shear flow turbulence. Surface and planetary boundary layers, including heat transfer and turbulent convection. Survey of field and laboratory observations and their interpretation by theory. Mr. Wurtele

208B. Atmospheric Diffusion and Air Pollution. Lecture, three hours. Nature and sources of atmospheric pollution; diffusion from point, line, and area sources; pollution dispersion in urban complexes; meteorological factors and air pollution potential; meteorological aspects of air pollution control. Mr. Wurtele


Mr. Arakawa

210A. Atmospheric Wave Motions. Lecture, three hours. Introduction to atmospheric waves, a compressible, stratified, and rotating atmosphere. Scale analysis and dynamics of quasi-geostrophic motion. Quasi-geostrophic wave instability. Vertical propagation of wave energy. Mr. Arakawa (W)


212A. Numerical Methods in Geophysical Fluid Dynamics. Lecture, three hours. Prerequisite or corequisite: course 209. Basic numerical methods for initial-value problems in the atmosphere and oceans, with emphasis on applications to atmospheric and oceanographic problems. Finite difference methods and truncation error. Linear and nonlinear computational instability. Computational models and the generation of spurious computational boundary conditions. Spectral methods. Mr. Arakawa (F)

212B. Numerical Modeling of the Atmosphere. Lecture, three hours. Prerequisites: courses 210A and 212A, or consent of instructor. Physical and computational design of numerical weather prediction and climate simulation models. The basic dynamical models. Vertical, horizontal, and time differencing. Parameterizations of sub-grid scale processes. Mr. Arakawa

213. General Circulation of the Atmosphere. Formerly numbered 151.) Lecture, three hours; discussion, one hour. Observed mean circulations of the atmosphere. The momentum, heat, and moisture budgets and the energy cycle. Laboratory experiments. Basic dynamics of the Hadley and Rossby waves. Vertical propagation of planetary waves. Stratification of the atmosphere. Mr. Arakawa (Sp)


215A. Tropical Motions with Moist Processes. Lecture, three hours. Prerequisite: course 206. Cumulus convection and the boundary layer in the tropics. Interaction of cumulus convection with the large-scale motion. Tropical cyclones. Monsoon meteorology. Mr. Yanai (W)


218. Dynamics of the Atmosphere-Ocean System. Lecture, three hours. Transfer of properties between atmosphere and ocean; wind-driven ocean currents; coastal upwelling. Air-sea interactions. Effects of the oceans on climate. Mr. Mechosho

219. Special Topics in Dynamic Meteorology (2 to 4 units). Content varies from year to year. S/U grading.

### Cloud Physics, Precipitation, and Atmospheric Chemistry

221A. Atmospheric Chemistry I. Lecture, three hours. Prerequisite: course 200C or consent of instructor. Clean air chemistry of the troposphere; trace gases of biogenic and anthropogenic origin; atmospheric chemistry of aerosols; wet and dry deposition of pollutants and aerosol particles. Mr. Montague

221B. Atmospheric Chemistry II. Lecture, three hours. Prerequisite: course 200C or consent of instructor. Composition of the stratosphere, mesosphere, and ionosphere; chemistry of ground and excited state neutrals and of ions in the upper atmosphere; stratospheric chemistry; chemistry of the airglow and nightglow; chemistry of other atmospheres. Mr. Montague

223A. Cloud and Precipitation Physics I. Lecture, three hours. Prerequisite: course 200A or consent of instructor. Microstructure of atmospheric clouds; structure of the three phases of water substance, including surface effects; thermodynamic theory for equilibrium between the three phases of water substance, including surface effects; theory of homogeneous and heterogeneous nucleation of water drops and ice crystals. Mr. Montague (F)

223B. Cloud and Precipitation Physics II. Lecture, three hours. Prerequisite: course 223A. Theory of the growth and evaporation of water drops and ice crystals by diffusion of water vapor; hydrodynamics of rigid bodies in a viscous medium; hydrodynamics of cloud drops, rain drops, and atmospheric ice particles; growth of cloud drops and atmospheric ice particles by collision. Mr. Montague (Sp)

224. Atmospheric Electricity. Lecture, three hours. Prerequisites: course 223B, Physics 110A, 110B. Fair weather electricity; atmospheric ions; electric structure of stormy and nonstormy clouds; electric charge generation mechanisms in atmospheric clouds; physics of thunder and lightning; effect of electric fields and charges on cloud and precipitation formation.

228A. Clouds and Radiation. Lecture, three hours. Radiation budget of cloudy atmospheres, including cloud-albedo feedback mechanisms; dependence of cloud radiative properties on microphysical parameters; test-bed modeling techniques of radiative effects of clouds; radiative dynamical interactions in cloudy atmospheres.

228B. Radar Meteorology. Lecture, three hours. Radar detection of spherical and nonspherical particles; use of radar in studying size distributions of cloud and precipitation particles; precipitation intensity and amount, updraft velocities, horizontal wind speed, and turbulence; radar observations of convective clouds, thunderstorms, tornadoes, hurricanes, squall lines, and fronts; clear air echoes.

### Radiation


236. Scattering Processes in the Atmosphere. Lecture, three hours. Prerequisite: course 200B. Equation of transfer in a scattering medium. Stokes foreshortening; Rayleigh and Mie theories; polarization of sunlight; scattering in a turbid atmosphere, aerosols and their effects on the radiation balance of the atmosphere. Experimental methods of determining aerosol parameters and their significance to meteorology.

238. Radiative Transfer in the Earth’s Atmosphere. Lecture, three hours. Prerequisite: course 200B. Critical review of methods available to calculate the transfer of radiation (visible, ultraviolet, and infrared) through the atmosphere. Computations of fluxes and heating rates using various methods. Familiarity with the available techniques in the literature provided.

### Upper Atmospheric and Space Physics

240A. Solar System Magnetohydrodynamics. Lecture, three hours. Prerequisite: course M154 or consent of instructor. Derivation of the MHD equations with two fluid aspects, generalized Ohm’s law, small amplitude waves, discontinuities, shock waves, and instabilities. Applications to the statics and dynamics of the solar wind and planetary magnetospheres; to solar wind-magnetosphere-ionsphere coupling. Mr. Siscoe

240B. Solar System Microscopic Plasma Processes. Lecture, three hours. Prerequisite: course M154 or consent of instructor. Adsorptive charged particles. The dynamics of charged particles; collective effects in a plasma; propagation characteristics of electrostatic and electromagnetic waves; introduction to resonant interaction between charged particles and plasma waves. Mr. Thorne

240C. Ionospheric Plasmas. Lecture, three hours. Prerequisites: courses M154, 240B. Formation of planetary ionospheric layers; transport processes; currents and electric fields; ionospheric plasma instabilities; nonlinear effects and artificial modification. Mr. Venkateswaran

246. Physics of the Ionosphere. Lecture, three hours. Prerequisites: Physics 110A and 110B, or consent of instructor. Structure, composition, and dynamics of ionospheric layers. Mr. Venkateswaran (Sp)

247. Radiation Belt Plasma Physics. Prerequisite: course 240B or consent of instructor. Turbulent plasma instabilities and their relation to satellite observations and magnetospheric structure. Processes responsible for the source, loss, and transport of energetic radiation belt particles. Mr. Thorne

248. Advanced Topics in Interaction between Lower and Upper Atmospheres. Lecture, three hours. Content varies from year to year. Mr. Venkateswaran

249. Special Topics in Solar Planetary Relations (2 to 4 units). Selected topics of current research interest in solar wind, magnetospheric, or ionospheric physics.

255. Dynamics of the Stratosphere and the Mesosphere. Lecture, three hours. Prerequisite: course 210A. Photochemistry and radiation regime of the middle atmosphere; propagation of waves of tropospheric origin: radiative and photochemical damping effects; excitation and propagation of atmospheric tides; wave-zonal wind interactions; internal instabilities; theories of circulation features, including annual, semiannual, and quasi-biennial oscillations and the buildup and breakdown of polar vortex.

Mr. Venkateswaran

256. Remote Sensing. Prerequisite: course 255 or consent of instructor. Remote sensing of stratospheric temperature and composition—theory and practice. Mr. Venkateswaran

257. Radiation, Pollution, and Climate. Lecture, three hours. A breadth requirement for graduate students; specific background in radiation is not assumed. External and feedback influences of radiation and climate; carbon dioxide and climate/cloud albedo problems. Effects of photochemical, thermal, and particulate pollution on urban and global climates. Climate modeling. Mr. Venkateswaran

Special Studies

260. Seminar in Meteorology (2 units).

261. Seminar in Atmospheric Dynamics (2 units).

262. Seminar in Cloud and Precipitation Physics (2 units).

263. Seminar in Atmospheric Radiation (2 units).

264. Seminar in Physics of the Upper Atmosphere (2 units).

M270A-M270B-M270C. Seminar in Climate Dynamics (2 to 4 units). (Same as Earth and Space Sciences M270A-M270B-M270C and Geography M270A-M270B-M270C.) Lecture, two hours. Prerequisite: consent of instructor. The theoretical, geophysical, micropaleontological, and stratigraphic evidence for climate change throughout the geological past. Mr. Venkateswaran

Biochemistry

See Biological Chemistry (School of Medicine), Biology, and Chemistry and Biochemistry

Mathematics


Mechanical, Aerospace, and Nuclear Engineering


Physics


Special Studies

260. Seminar in Meteorology (2 units).

261. Seminar in Atmospheric Dynamics (2 units).

262. Seminar in Cloud and Precipitation Physics (2 units).

263. Seminar in Atmospheric Radiation (2 units).

264. Seminar in Physics of the Upper Atmosphere (2 units).

M270A-M270B-M270C. Seminar in Climate Dynamics (2 to 4 units). (Same as Earth and Space Sciences M270A-M270B-M270C and Geography M270A-M270B-M270C.) Lecture, two hours. Prerequisite: consent of instructor. The theoretical, geophysical, micropaleontological, and stratigraphic evidence for climate change throughout the geological past. Rheology and dynamics of climatic subsystems: atmosphere and oceans, ice sheets and marine ice, lithosphere and mantle. The climate of other planets. The modeling, simulation, and prediction of modern climate on the monthly, seasonal, and interannual time scale. May be repeated for credit. S/U or letter grading. Mr. Berger, Mr. Ghi, Mr. Schubert

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the 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 Studies for Graduate Students (2 to 8 units).

597. Preparation for Comprehensive Examinations (2 to 8 units).

598. Research and Preparation of M.S. Thesis (2 to 8 units).

599. Research for Ph.D. Dissertation (2 to 8 units).

Related Courses in Other Departments

Astronomy 81, 82, 180

Biometrics 202

Chemical Engineering 137A, 137E, 240


Civil Engineering 181A

Computer Science 10C

Earth and Space Sciences 101, M140, M154, M180, 202, 203, 204, M211, 214, 228, 236, 261, 265

Electrical Engineering 103, 161, 162A, M185

2203 Life Sciences, (213) 825-3481

Professors

Albert A. Barber, Ph.D. (Cell Biology)
George A. Bartholomew, Ph.D. (Zoology)
Joseph Casacardo, Ph.D. (Cell Biology)
David J. Chapman, Ph.D., D.Sc.
William R. Clark, Ph.D. (Cell Biology)
Martin L. Cody, Ph.D.
Willib T. Ebersold, Ph.D.
Roger O. Eckert, Ph.D. (Neurobiology)
Franz Engelmann, Ph.D.
John D. Fessler, Ph.D. (Molecular Biology)
Arthur C. Gibson, Ph.D. (Botany)
Robert Goldberg, Ph.D.
Malcolm S. Gordon, Ph.D.
Michael Grunstein, Ph.D.
Thomas W. James, Ph.D. (Cell Biology)
Harumi Kasamatsu, Ph.D.
J. Lee Kavanau, Ph.D.
James A. Lake, Ph.D. (Molecular Biology)
George G. Laiies, Ph.D. (Plant Physiology)
O. Raynal Lunt, Ph.D.
Austin J. Macinnis, Ph.D. (Cell Biology)
Jeffrey Miller, Ph.D. (Genetics)
James G. Moin, Ph.D. (Zoology)
Leonard Muscatine, Ph.D.
Kenneth A. Nagy, Ph.D., in Residence
Park S. Nobel, Ph.D.
John D. O'Connor, Ph.D. (Developmental Biology)
Bernard O. Phinney, Ph.D.
Dan S. Ray, Ph.D. (Molecular Biology)
Philip W. Rundel, Ph.D.
Winston A. Salser, Ph.D.
Richard W. Siegel, Ph.D.
Larry Simpson, Ph.D. (Cell Biology)
J. Philip Thornton, Ph.D. (Plant Biochemistry), Chair
P. F. Vaughn, Ph.D. (Zoology)

Emeritus Professors

David Appleman, Ph.D.
Jacob B. Biale, Ph.D.
Nicholas E. Collias, Ph.D.
Frederick Crescitelli, Ph.D.
Eric B. Edney, Ph.D.
Karl C. Hamner, Ph.D.
Arthur W. Haupt, Ph.D.
Thomas B. Howell, Ph.D.
F. Harlan Lewis, Ph.D.
Mildred E. Mathias, Ph.D.
Everett C. Olson, Ph.D.
Charles A. Schroder, Ph.D.
Fritiof S. Sjostrom, Ph.D.
Clara M. Szego, Ph.D.
Henry J. Thompson, Ph.D.
Boyd W. Walker, Ph.D.
Vladimir Watters, Ph.D.
Samuel G. Wildman, Ph.D.

Associate Professors

Clifford F. Brunk, Ph.D. (Cell and Molecular Biology)
Elma Gonzalez, Ph.D. (Cell Biology)
Henry A. Haptenheide, Ph.D.
Judith A. Lengyel, Ph.D.
John R. Merriam, Ph.D. (Genetics)
Peter M. Narins, Ph.D.
Paul H. O'Lague, Ph.D.
Charles C. Taylor, Ph.D.
Allan J. Tobin, Ph.D.
Elaine M. Tobin, Ph.D.
Richard K. Vance, Ph.D.

Assistant Professors

J. Chboe Buininski, Ph.D. (Cell Biology)
Donald G. Buth, Ph.D.
Jeanne Erickson, Ph.D.
Robert Gibson, Ph.D.
Michael Greenfield, Ph.D.
Meyer B. Jackson, Ph.D.
Blare Van Valkenburg, Ph.D.
Laurie Vitt, Ph.D.

Adjunct Professor

William M. Hamner, Ph.D.

Visiting Lecturers

Kathleen Diamond, Ph.D.
Catherine Jacobs, Ph.D.
Eric Mundell, Ph.D.
Steve Strand, Ph.D.

Scope and Objectives

Studies in biology touch every aspect of human existence, and seeking answers to human problems 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 degree combines essential background studies in mathematics, chemistry, and physics with a general introduction to all of these 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 Degree

The Bachelor of Science degree is divided into three 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 program offers great flexibility and can serve as adequate preparation for subsequent graduate study in any field of biology. The remaining two areas of concentration — molecular, cellular, and developmental biology (MCD) and ecology, behavior, and evolution (EBE) — provide more specialized instruction and strong preparation for employment or subsequent graduate study in the respective disciplines.

Pre-Biology Major

Students who have not completed all the courses required as preparation for the major are considered pre-biology majors. After completing those courses with a grade of C— or better in each, students must petition to enter the biology major in the Undergraduate Advising Office, 2312 Life Sciences.

In order to be admitted as pre-biology majors, transfer students who have 80 or more units must have completed one year of general chemistry with laboratory, Biology 5 and 7, or equivalent, and at least one of the following: (1) one year of calculus, (2) one year of calculus-based physics, or (3) two courses in organic chemistry with laboratory.

General Biology Concentration

Preparation for the Major: Biology 5, 5L, 5C, 6, 7, 8, 8L; Chemistry 11A, 11B/11BL, 11C/11CL, 21, 23, 25; 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: One course in morphology and systematics (Biology 100, 101, 105, 110, 115, or Microbiology 101); one course in developmental and molecular biology (Biology 138, 141, 143, 144, or 146); one course in physiology (Biology 158, 162, 166, 167, or 170); two additional upper division biology courses; four additional upper division courses in biology, chemistry, mathematics (except Mathematics 104, 106), microbiology, physics, or from Anthropology 125A, 125B, Biometrics 110, Earth and Space Sciences 115, 120, Geophysics 108, 110, 112, Public Health 100B, 100C.

Molecular, Cellular, and Developmental Biology (MCD) Concentration

Preparation for the Major: Biology 5, 5L, 7, 8, 8L; Chemistry 11A, 11B/11BL, 11C/11CL, 21, 23, 25; 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: Three courses in developmental and molecular biology (Biology 138 or 141, 143, 144); four courses in biological chemistry (Chemistry 110A, 133A, 156, 157A); one of the following laboratory courses or sets of laboratory courses: Biology 158, 162, 166, M185/M186/M187, 142A and 157, or 171 and 172A; two additional upper division courses from the following list not used to satisfy another requirement: Biology 110, 138, 141, 145A, 149, 155, CM156, 157, 158, 162, 166, 171, 177, M185, 190A through 190D, 199, Microbiology 101.

Ecology, Behavior, and Evolution (EBE) Concentration

Preparation for the Major: Biology 5, 5L, 6, 7, 8, 8L; Chemistry 11A, 11B/11BL, 11C/11CL; Mathematics 31A, 31B, 32A; Physics 6A, 6B, and 6C, or 8A/8AL, 8B/8BL, 8C/8CL, and 8D/8DL; Chemistry 21, 23, and 25, or Chemistry 15, Mathematics 32B, and 33A.

The Major: One course in morphology and systematics (Biology 100, 101, 105, 110, or 152); one course in physiology (Biology 162, 166, 167, or 170); three courses in ecology, behavior, and evolution (Biology 111, 120, 122, 129, 135); one field quarter consisting of two to four courses from the Field Biology Quarter (FBQ), Catalina Marine Biology Quarter (CMBQ), or equivalent; additional upper division courses in biology, chemistry, mathematics (except Mathematics 104, 106), microbiology, or physics, as necessary to bring the total number of upper division courses to nine (recommended: Biology 119, M127, 130, 146, 168 in ecological and behavioral processes and Biology 103, 107, 112, 113, 114, 115 in taxonomic oriented biology).

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 equivalent courses toward requirements for the major 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, with at least a 2.0 (C) overall average in all courses applied toward the major.

Honors

An overall GPA 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 GPA 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 Catalina Marine Biology Quarter (CMBQ). 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 113, 114, 115, 124, 125, 126, 128, 132, and 132. The Catalina Marine Biology Quarter occurs during Fall Quarter and includes some combination of Biology 102, C104, 123, 147, 148, 164, and 165. To participate, you must enroll in all courses in the respective program. 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.

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.

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 (organismic and population biology). The major fields and subdisciplines are listed under faculty interests in the departmental brochure.

All applicants must take the Aptitude Test (verbal, quantitative, and analytical) of the Graduate Record Examination (GRE). The Advanced 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.
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 the Fall Quarter. Applications to Division II (organismic and population biology) are reviewed by the division’s admissions committee which advises prospective sponsors about the desirability of admission.

Course Requirements
There are no formal course requirements for the Ph.D., although specific requirements may be established individually by your guidance committee. 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 complete one academic year as a teaching assistant.

Oral Qualifying Examination
The University Oral Qualifying Examination is conducted by the 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
Requirements for the C.Phil. degree are identical with those for advancement to candidacy for the Ph.D., except that only four quarters of academic residence are required, including three quarters in continuous residence at UCLA. The C.Phil. is not given as a terminal degree.

Final Oral Examination
Final approval of the dissertation in the department is accomplished when the committee approves the written form and is satisfied with the final oral examination.

Lower Division Courses
2. Principles of Biology. Lecture, three hours; laboratory, 90 minutes. Designed for nonmajors. Not open to students with credit for course 5 or 7. Lectures include the structure and chemical composition of cells, animal structure and diversity, cellular respiration, photosynthesis, major organ systems with emphasis on human cell division, reproduction, development, ecology, population growth, genetics, evolution. Laboratory includes structure and function of cells, morphology of plants and animals, circulatory and nervous systems, embryology, plant diversity and adaptation, human genetics.

5. Biology of Organisms. Lecture, three hours; discussion/demonstration, two hours. Comparative morphology and embryology of the major plant and animal phyla; function of organ systems, including gas exchange, transport, regulation of the internal environment, hormones, coordination, and the nervous system.

6. Ecology, Evolution, and Behavior. Lecture, three hours; discussion/laboratory, two hours. Prerequisite: course 5 and Chemistry 15 or 21. An integrated introduction to cellular and subcellular biology, including cells and organ systems, molecular biology, cell cycles, and developmental biology.

7. Introductory Cellular and Molecular Biology. Lecture, three hours; discussion/laboratory, two hours. Prerequisites: course 5 and Chemistry 15 or 21. An integrated introduction to cellular and subcellular biology, including cells and organ systems, molecular biology, cell cycles, and developmental biology.

8. Introductory Genetics. Lecture, three hours; discussion/demonstration, 90 minutes. Prerequisite: course 7. Principles of Mendelian inheritance and the chromosomal basis of heredity in prokaryotes and eukaryotes, recombination, biochemical genetics, mutation, DNA, the genetic code, gene regulation, genes in populations.

9. Molecular and Cellular Biology Laboratory (2 units). Formerly numbered 6L. Lecture, one hour; laboratory, three hours. Prerequisites: course 5 and Mathematics 3A or 31A. A survey of the principles of population growth and ecology, competition, predation, community ecology, environmental physiology, population genetics, natural selection, and specialization.

10. Plants and Civilization. Lecture, three hours; discussion/demonstration, one hour. Designed for nonmajors. The origin of crop plants; man’s role in the development, distribution, and modification of food, fiber, medicinal, and other plants in relation to their natural history. Mr. A. Gibson (F,Sp)

13. Evolution of Life. Lecture, three hours; discussion, one hour. Not open to life sciences majors. Limited to 100 students. An introduction to biology within the framework of evolutionary theory. The relationships of evolutionary thought to other areas of knowledge and society. Natural selection and the origin of variation examined in the context of genetics, molecular biology, physiology, phylogeny, population dynamics, behavior, and ecology. Emphasis on the critical role of historical processes. (F)

20. Introduction to Human Heredity. Lecture, two hours; discussion, one hour; laboratory, two hours. Not open to students with prior college course in genetics; not intended to satisfy the requirements of medical or dental schools. Man’s inheritance and its biological basis introduced through lectures, readings, and laboratory exercises with Drosophila. Topics include population genetics, Mendelian factors, the role of chromosomes in heredity, and the role of genes in disease and population structure. (Sp)
25. The Oceans. Lecture, three hours; discussion, one hour. Not open to students in the sciences or to students with credit for Earth and Space Sciences 15. Limited to 40 students. Physical and chemical processes that take place in the oceans, with emphasis on their effects on organisms. (W)

30. Biology of Cancer. An introduction to molecular, cellular, and clinical aspects of cancer and a consideration of the sociological and psychological impact of cancer on the individual and society. Each lecture/discussion period is given by an invited lecturer who is prominent in cancer research or treatment. P/NP grading.

35. Mathematical Ideas in Biology. Lecture, three hours; discussion, one hour. Prerequisites: one year of calculus, consent of instructor. The use of mathematical ideas and analysis in the formulation and evaluation of theories of biological phenomena such as growth, growth control, biological rate processes, and developmental biology. If you do not complete course 8, you will be dropped from those courses.

100. Biology of Lower Plants (6 units). Lecture, four hours; laboratory, six hours. Prerequisite: course 5 or equivalent, or consent of instructor. An introduction to the biology of algae, fungi, and bryophytes, with emphasis on form, function, and development, and the role of lower plants in the environment. Students are strongly encouraged to take both courses 100 and 101 since these represent a course sequence surveying the entire plant world as appropriate background for upper division courses in plant biology.

Mr. Chapman

101. Biology of Vascular Plants (6 units). Lecture, three hours; laboratory, six hours. Prerequisite: course 5 or equivalent, or consent of instructor. An introduction to the diversity in form and reproduction of vascular plants, with emphasis on development, evolution, and life histories. Students are strongly encouraged to take both courses 100 and 101 since these represent a course sequence surveying the entire plant world as appropriate background for upper division courses in plant biology.

102. Biology of Marine Invertebrates. Five-week intensive course. Lecture, five hours; laboratory, 15 hours. Prerequisite: completion of “Preparation for the Major” courses or consent of instructor. Morphology, systematics, life histories and natural history, ecology, behavior, and physiology of marine invertebrates; emphasis on local invertebrates of Southern California and their habitats. Given at the Catalina Marine Science Center.

Mr. Morin, Mr. Muscatine

103. Taxonomy of Flowering Plants (4 or 8 units). Offered either as a quarter-long course for four units or as an eight-unit course as part of the Field Biology Quarter. The four-unit course has lecture, two hours; laboratory, six hours. The evolution, systematics, morphology, principles of taxonomy, phylogenetic systems, nomenclature, and modern methods of investigation. The eight-unit course covers the same basic lecture and laboratory material in two and one-half intensive weeks, followed by an extended field trip where students do individual field projects.

Mr. A. Gibson

C104. Experimental Invertebrate Zoology (6 units). (Formerly numbered 106A.) Lecture, two hours; laboratory, 12 hours. Prerequisites: courses 105, 129, and 166 or 167 (either may be taken concurrently). Advanced treatment of physiology, behavior, and ecology of invertebrates, with emphasis on independent laboratory and field investigations. Consent of instructor required for enrollees in other colleges.

105. Biology of Invertebrates (6 units). Lecture, three hours; laboratory/field trips, six hours. Prerequisite: completion of “Preparation for the Major” courses or consent of instructor. Introduction to the systematics, evolution, morphology, zoogeography, and ecology of the invertebrates.

Mr. Morin, Mr. Muscatine

106. Experimental Marine Invertebrate Biology (6 units). (Formerly numbered 106B.) Lecture, two hours; laboratory, four hours. Prerequisites: courses 5, 105 and 166 (latter may be taken concurrently), or equivalent, or consent of instructor. An advanced course of natural history, physiology, biochemistry of invertebrates, with emphasis on independent laboratory study.

Mr. Muscatine

107. Entomology (6 or 8 units). Prerequisites: courses 5, 6. Offered either as a quarter-long course for six units or as an eight-unit course as part of the Field Biology Quarter. The six-unit course has lecture, three hours; laboratory, six hours; field trips. The morphology, physiology, development, systematics, behavior, and ecology of insects. The eight-unit course covers the same basic lecture and laboratory material in two and one-half intensive weeks, followed by an extended field trip where students do individual field projects in insect biology.

Mr. Greenfield

110. Vertebrate Morphology. Lecture, three hours; laboratory, four hours. Prerequisites: courses 6, 5L, 6. A study of vertebrate morphology and evolution from the viewpoint of comparative anatomy of adult forms, developmental anatomy, and paleontology. Laboratory study of selected vertebrates.

Mr. Vaughn (F,W)

111. Biology of Vertebrates. Lecture, three hours; demonstration/field trips/discussion, three hours. Prerequisites: courses 5, 5L, 6. The adaptations, behavior, and ecology of vertebrates.

Mr. McFarland, Mr. Howell, Mr. Vitt

112. Ichthyology. Lecture, two hours; laboratory, six hours; field trips. Prerequisites: courses 5, 6, and 110 or 111, or consent of instructor. Limited to 24 students. The biology of freshwater and marine fishes, with emphasis on systematics, morphol- ogy, zoogeography, and ecology. Field trips examine the fishes of the Southern California shoreline, tidepools, and coastal streams.

Mr. Buhl

113. Herpetology (4 or 8 units). Prerequisites: courses 5, 6. Recommended: courses 111, 120, 122. Offered alternately as a four-unit course to be given during a conventional academic quarter or as an eight-unit course as part of the Field Biology Quarter. The four-unit course has lecture, three hours; laboratory, six hours; additional four-week intensive field trips. The systematics, distribution, physiology, behavior, and ecology of amphibi ans and reptiles. The eight-unit course covers the same basic lecture and laboratory material in two and one-half intensive weeks, followed by an extended field trip where students do individual field projects in behavior, physiological ecology, or field ecology.

Mr. Cody, Mr. Vance (F)

114. Ornithology. Lecture, two hours; laboratory/discussion/field trips, six hours. Prerequisites: course 111, consent of instructor. Limited enrollment. The systematics, distribution, physiology, behavior, and ecology of birds.

Mr. Howell

115. Mammalogy. Lecture, three hours; laboratory, four hours; field trips. Prerequisites: course 111 or equivalent, consent of instructor. The evolution, ecology, behavior, and physiology of mammals.

Mr. Hespenheide

116A. Honors Seminar in Organismic and Evolutionary Biology (2 units). Prerequisites: course 5 and consent of instructor. Reading and group discussion of organismic topics introduced in course 5. Students are expected to participate in the honors program and continue into course 116BH. P/NP (for students unable to take course 116BH due to academic or scheduling problems) or in Progress (credit to be given only on completion of course 116BH) grading.

116BH. Honors Seminar in Organismic and Evolutionary Biology (2 units). Prerequisites: courses 6, 116A. Readings and group discussion of organismic and evolutionary and ecological topics introduced in course 6. Students are expected to participate in the honors program and must have taken course 116AH the previous quarter.

117. Vertebrate Paleontology. (Formerly numbered M117.) Lecture, three hours; laboratory, three hours. Prerequisite: course 110. Recommended: a course in general geology. Limited enrollment. The fossil record of the evolution of the vertebrates, with emphasis on the morphology of primitive forms in the series from fish to mammal.

Mr. Vaughn (Sp)

M118. Paleobotany. (Same as Earth and Space Sciences M118.) Lecture, three hours; laboratory, three hours. Prerequisite: one course in biological science or consent of instructor. Required: Earth and Space Sciences 2 or equivalent. Survey of morphol- ogy, paleobiology, and evolution of vascular and nonvascular plants during geologic time, with particular emphasis on major evolutionary events.

Mr. Schopf

119. Mathematical Ecology. Lecture, three hours. Prerequisites: course 6 and Mathematics 32A, or consent of instructor. Recommended: course 122. Uses of and group discussion of organismic mathematical models, formulated as multidimensional, nonlinear, differential, or difference equations, to explore the structure and dynamics of ecological populations and communities.

Mr. Vance

120. Evolutionary Biology. Lecture, three hours; laboratory, two hours. Prerequisite: completion of "Preparation for the Major" courses. Highly recommended: Mathematics 31A, 31B, 32A. Recommended for biology majors specializing in environmental and population biology. Introduction to the mechanics and processes of evolution, with emphasis on natural selection, population genetics, speciation, evolutionary rates, and patterns of adaptation.

Mr. Cody, Mr. Hespenheide (W)

121. Seminar in Ecology (2 units). Prerequisites: course 120 or 122, consent of instructor. Undergraduate seminar in ecology; reading and discussion of current research, including preparation of review paper or annotated bibliography. May be repeated twice for credit.

Mr. Hespenheide

122. Ecology. Lecture, three hours; laboratory, three hours. Prerequisite: completion of "Preparation for the Major" courses. Highly recommended: Mathematics 31A, 31B, 32A. Recommended for biology majors specializing in environmental and population biology. Introduction to population and community ecology; emphasis on the growth and distribution of populations, interactions between species, and the structure, dynamics, and functions of communities and ecosystems.

Mr. Cody, Mr. Vance (F)

123. Ecology of Marine Communities. Five-week intensive course. Lecture, five hours; laboratory, 15 hours. Prerequisite: completion of "Preparation for the Major" courses or consent of instructor. Field study of the natural history and ecology of marine organisms and communities, involving an independent research project. Given at the Catalina Marine Science Center.

Mr. Vance
Analysis of the ecological roles of insects in terrestrial communities, with emphasis on interactions with both plants and vertebrates. Group and individual field projects during an extended field trip.

Mr. Greenfield, Mr. Narins


Mr. Siegel (F,W,Sp)

138. Developmental Biology. Lecture, three hours; discussion, one hour. Prerequisite: completion of "Preparation for the Major" courses. Synopsis of fundamental concepts in embryology and a survey of current topics in developmental biology.

Mr. Lengyel, Mr. O'Connor, Mr. Tobin

139. Introductory Laboratory in Developmental Biology. Lecture, two hours; laboratory, six hours. Prerequisites: course 138, consent of instructor. Introductory course in developmental biology, including cell and organ culture and biochemical analysis of developing systems.

141. Molecular Basis of Plant Differentiation and Development. Lecture, three hours; discussion, one hour. Prerequisites: courses 5, 7, 8. An in-depth study of the basic processes of development and the molecular aspects of the developmental process as it relates to the plant kingdom. Discussion of a variety of developing systems (protoplasts, fungi, lower and higher plants), with the goal of developing a unified concept of differentiation.

Mr. Goldberg, Ms. Tobin (Sp)

142A-142B-142C. Seminar on Topics in Developmental Biology (2 units each). Prerequisites: course 138, consent of instructor. Undergraduate seminar on topics in developmental biology. Reading and group discussions of current research.

Ms. Lengyel, Mr. O'Connor, Mr. Tobin (F,W,Sp)

143. Molecular Cell Biology. Lecture, three hours; discussion, one hour. Prerequisites: courses 5, 7, 8, chemically related courses through Chemistry 25. Molecular biology as applied to the study of eukaryotic cells. Molecular aspects of organelles such as the nucleus, mitochondrion, cytoskeleton, golgi apparatus, plasma membrane, and extracellular matrix. Other topics include molecular evolution, the cell cycle, and the cell biology of cancer.

Ms. Bulinski, Mr. Simpson

144. Molecular Biology. Lecture, three hours; discussion, one hour. Prerequisites: courses 5, 7, 8. Strongly recommended: Chemistry 25C. A core course in molecular biology emphasizing the synthesis, structure, function, and interactions of biological macromolecules.

145A-145B-145C, Molecular Biology Laboratory. Laboratory, 12 hours. Prerequisites: consent of instructor. This course in experimental molecular biology in which students carry out original research under supervision. Space is limited, and arrangements must be made in advance with the instructor.

Mr. Sailer (F,W,Sp)

146. Physiochemical Biology. Lecture, three hours; discussion, one hour. Prerequisites: courses 5 and 7, or consent of instructor, and Physics 6C or equivalent. A phsyiochemical analysis of the physiology of cells and organelles, with emphasis on membranes, thermodynamics of solute and water movement, light absorption, and subcellular energy transduction.

Mr. Nobeil (F)

147. Biological Oceanography. Five-week intensive course. Lecture, five hours; laboratory, 15 hours. Prerequisite: completion of "Preparation for the Major" courses or consent of instructor. Lectures include physical, chemical, and biological factors affecting the marine environment and population dynamics. Natural history of major phytoplankton and zooplankton taxa; production in marine food chains; adaptation to pelagic habitats. Laboratory includes systematic, morphological, and histological procedures, and a study of local marine plankton, with emphasis on measurement of feeding, primary and secondary productivity, and nutrient flux. Given at the Catalina Marine Science Center.

Mr. Muscatine

148. Marine Plants. Five-week intensive course. Lecture, five hours; laboratory, 15 hours. Prerequisite: completion of "Preparation for the Major" courses or consent of instructor. An introduction to the general biology of marine algae, including basic structures of algae and systems of classification, and an introduction to the physiology and ecology of marine algae. Techniques in culture and laboratory investigation and utilization of algae. Given at the Catalina Marine Science Center.

Mr. Chapmann

152. Functional Plant Anatomy. Lecture, three hours; laboratory, six hours. Prerequisites: courses 5, 7, 8, or equivalent, or consent of instructor. The structure and functional significance of the various cell and tissue types in higher plants, plus the patterns of growth and differentiation in roots, stems, leaves, flowers, and fruits. Prerequisites: Chemistry 21A, 21B, or equivalent.

Mr. Cascarono, Mr. James

154. Functional Ultrastructure of Cells and Tissues. Lecture, three hours; discussion, one hour. Prerequisites: course 5 or 7, Chemistry 21, 23, 25, or equivalent. Introduction to the structural and functional significance of the supermolecular and molecular levels of cells. Functional significance of membrane structure, molecular basis of absorption, secretion, and muscle contraction. Conventional and advanced methods in ultrastructural analysis, electron microscopy. Integration and summarization of structural information.

Mr. S抱怨and

155. Analytical Microscopy and Cytology. Lecture, three hours; laboratory, three hours. Prerequisites: courses 3A, 3B, and 3C, or 6A, 6B, and 6C, or equivalent. Microscopy and cytology. Designed for students in the biological sciences to acquaint them with quantitative cytology, with emphasis on bright field, dark field, phase contrast, interference, polarization analysis, fluorescence microscopy, and electron microscopy.

Mr. James

CM156. Human Genetics. (Same as Biomatematiccs CM156.) Lecture, three hours; discussion, one hour. Prerequisites: course 8, Chemistry 23. A survey introduction to the basic concepts of human genetics, including Mendelian genetics, chromosomal 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 the methodology used to answer such questions. Concurrently scheduled with course CM256.

Mr. Meriam, Ms. Spence (Sp)
157. Gene Manipulation: Genetic Engineering. Lecture, three hours; discussion, two hours. Prerequisite: course 138 or 144 or consent of instructor. A survey of the methods and applications of recombinant DNA research as applied to both basic scientific research and the biotechnology industry.

Mr. Sailer

158. Cell Biology (6 units). Lecture, three hours; laboratory, six hours. Prerequisite: completion of "Preparation for the Major" courses. The cell biology of eukaryotic cells, with emphasis on the correlation of structure and function to the molecular, organellar, and cellular levels.

Mr. Cascarano, Mr. James, Mr. Simpson


Mr. Laties (F)

163. Plant Physiology Laboratory. Lecture, one hour; discussion, one hour; laboratory, eight hours. Prerequisite: course 162. Limited enrollment. Students must determine their own research projects in plant physiology research by performing experiments based on the lecture material in course 162. Subsequently, students working singly or in groups undertake a research project of their own design.

164. Field Biology of Marine Fishes. Five-week intensive course. Lecture, four hours; laboratory, 15 hours. Prerequisite: completion of "Preparation for the Major" courses or consent of instructor. Introduction to the physiological adaptations of marine vertebrates to the major physicochemical variables of the oceans of the world and to the major marine habitats. Emphasis on the marine vertebrates of the Southern California waters. Given at the Catalina Marine Science Center.

Mr. Gordon

165. Ecological Physiology of Marine Vertebrates. Five-week intensive course. Lecture, five hours; laboratory, 15 hours. Prerequisite: completion of "Preparation for the Major" courses or consent of instructor. Introduction to the physiological adaptations of marine vertebrates to the major physicochemical variables of the oceans of the world and to the major marine habitats. Emphasis on the marine vertebrates of the Southern California waters. Given at the Catalina Marine Science Center.

Mr. Buth

166. Animal Physiology (6 units). Lecture, three hours; laboratory, five hours. Prerequisite: completion of "Preparation for the Major" courses. Not open for credit to students with credit for course 167 or 170. An introduction to the physiological adaptations of marine vertebrates to the major physicochemical variables of the oceans of the world and to the major marine habitats. Emphasis on the marine vertebrates of the Southern California waters. Given at the Catalina Marine Science Center.

Mr. Gordon

168. Insect Physiology. Lecture, two hours; laboratory, six hours. Prerequisite: course 158 or 167 or equivalent. Survey of the physiology of insects, with emphasis on functional adaptations.

Mr. Engellman

169. Comparative Physiology. Lecture, three hours; laboratory, four hours. Prerequisites: courses 158, 166. A detailed analysis of selected aspects of vertebrate and invertebrate physiology. Not open for credit to students with credit for course 166 or 167.

Mr. Engellman

170. Animal Environmental Physiology (6 units). Lecture, three hours; laboratory, five hours. Prerequisite: completion of preparation for the major courses. Not open for credit to students with credit for course 166 or 167. An introduction to vertebrate physiological ecology. Mr. Nagy, Mr. Nairn

171. Principles of Neurobiology. Lecture, three hours; discussion, one hour. Prerequisite: course 166 or consent of instructor. An introduction to basic principles of neurobiology, including a description of the structure of neurons and nervous systems; the ionic mechanisms responsible for generating membrane potentials, action potentials, and synaptic potentials; the properties of synaptic transmission, the information processing in neural circuits, and the neural control of movement; development of and trophic interactions between cells of the nervous system.

Mr. Eckert, Mr. O'Lague

172A-172B. Introductory Laboratory in Neurophysiology. Laboratory, eight hours. Prerequisite: course 171 or consent of instructor. Limited enrollment. Courses must be taken concurrently. Laboratory investigation of the function of central and peripheral nervous systems in invertebrates and vertebrates. Emphasis on electrophysiological approaches to basic neurophysiological problems.

Mr. Eckert, Mr. O'Lague

173. Anatomy and Physiology of Sense Organs. Lecture, three hours; discussion, one hour. Prerequisite: course 171 or equivalent. The anatomy and physiology of the sense organs, with emphasis on comparative aspects.

Mr. Narins

177. Introductory General Endocrinology. Lecture, three hours; laboratory, six hours. Prerequisites: courses 158 or 166 or equivalent, one course in biochemistry. Principles of chemical integration in biological systems.

Mr. Engellman

179. Invertebrate Endocrinology. Lecture, three hours. Prerequisites: course 158 or 167 or consent of instructor. A comprehensive treatment of invertebrate endocrinology.

Mr. Engellman

180. Advanced Topics in General Endocrinology. Lecture, three hours; discussion, one hour. Prerequisite: course 177 or consent of instructor. Detailed consideration of selected mechanisms in endocrine control of growth and differentiation.

181. Parasitology and Symbiosis (6 units). Lecture, three hours; laboratory, six hours. Prerequisites: courses 5, 7. An introduction to the principles, biology, and evolution of infectiousness, symbiosis, and parasitism, emphasizing protozoan and helminth parasites, including those of man.

Mr. Macniss

182. Experimental Parasitology. Laboratory, eight hours. Prerequisite: consent of instructor. Introduction to the research study of parasites in experiments on minimal basic biological problems and to problems concerning parasitism.

Mr. Macniss

M185. Immunology. (Same as Microbiology M185 and Microbiology and Immunology M185.) Laboratory, 12 hours. Prerequisites: courses 158, 159, or equivalent. Detailed consideration of the immune system. Mr. Clark, Mr. Sercarz (W)

M186. Experimental Design in Immunology. (Same as Microbiology M186 and Microbiology and Immunology M186.) Laboratory, 12 hours. Prerequisites: course 158, consent of instructor. Corequisite: course M187. Emphasis on design of experiments and the appropriate application of statistics. Mr. Klaver, Mr. Sercarz (W)

190A-190D. Honors Research in Biology (2 to 4 units each). Prerequisites: senior standing, consent of undergraduate adviser. Individual research designed to broaden and deepen the student's knowledge of some phase of biology. Must be taken for at least two quarters and for a total of at least eight units. In Progress grading (credit to be given only on completion of course 190B). Students may elect to enroll in additional research through courses 190C-190D (letter grading). A report on progress must be presented to the undergraduate adviser each quarter a 190 course is taken. A maximum of eight units may be applied toward the biology major.

199. Special Studies (2 to 16 units). Prerequisite: consent of instructor and undergraduate adviser, based on a written proposal outlining the study or research to be undertaken. The proposal should be worked out in consultation with the instructor and submitted for approval to the undergraduate adviser before the day instruction begins in that quarter. At the end of the quarter a report describing the progress of the study or research and signed by the student and the instructor must be presented to the undergraduate adviser. Students who wish to take more than eight units of course 199 in any one quarter must obtain authorization from the department chair and the appropriate dean. Only one 199 course may be applied toward the biology major.

(F, W, Sp)

Graduate Courses

Consent of instructor is required for admission to all graduate courses. Additional prerequisites are stated in the course descriptions.

201. Topics in Organismal Plant Biology. Lecture, three hours; laboratory, three hours. Topics in organismal plant biology, including plant cell and tissue characteristics, plant growth and development, transport of solutes, gas exchange, environmental physiology, and the biology of phytohormones.

Mr. Phinney

202. Principles of Systematics and Taxonomy. Lecture, three hours; discussion, two hours. Prerequisite: course 120. The concepts, principles, and methods involved in the inference of evolutionary relationships and the application of biological nomenclature.

Mr. Buth


204A. Advanced Algae. A consideration of current research in experimental phyology. Topics include a discussion of the appropriate aspects of chemical and physical oceanography and limnology; algae physiology; experimental ecology of benthic and planktonic algae.

Mr. Chapman

204B. Advanced Algae. Lecture, three hours; laboratory, six hours. Designed to introduce students to current research in algal physiology. Laboratory section is designed to teach students, by practical application to unknowns, how to identify algae by appropriate application of keys.

Mr. Chapman

205. Marine Invertebrate Biology (8 units). Functional morphology, life histories, and systematics of marine invertebrates of all major and most minor taxa; emphasis on the living animal and its habitat. Given at the Catalina 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.

Mr. Buth
207. Molecular and Cellular Biophysics. Lecture, three hours. Prerequisites: Chemistry 25, 110A, Mathematics 32A or equivalent, and Physics 6C, or consent of instructor. Strongly recommended: Chemistry 110B or 115B. Development of areas of physics, including thermodynamics, diffusion, statistical mechanics, and molecular forces. Application to areas of molecular and cellular biology, including macromolecules, characterization, enzyme catalysis, assembly of biological structures, cytology; active transport, electrophysiology, and energy transduction. Biological applications of probability, statistics, and fluctuations.

Mr. Jackson

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 the vertebrate locomotor, feeding, and circulatory systems. Laboratory includes comparative and experimental analyses of morphological adaptation. Independent project required. May be repeated once for credit.

209. Behavior of Arthropods. Lecture, three hours; discussion, two hours. Prerequisites: course 105 or equivalent, consent of instructor. Advanced study of topics in the behavior of terrestrial arthropods, including communication, feeding, reproductive, and social behavior. Emphasis on both mechanistic and adaptive approaches toward understanding behavior. Independent project required.

Mr. Greenfield

210. Advanced Ornithology. Lecture, two hours; laboratory, two hours; fieldwork, two hours. Prerequisites: courses 110, 114, or equivalent, consent of instructor. Advanced study of topics in avian biology, including systematics, distribution, behavior, and ecology. Students carry out individual study projects in laboratory, museum, or field.

211. Animal Sociology. Lecture, two hours; discussion, two hours. Prerequisite: course 129 or equivalent. The description, analysis, physiology, ecology, and evolution of different social systems in animals.

C212. Experimental Invertebrate Zoology (6 units). Lecture, two hours; laboratory, 12 hours. Prerequisites: courses 105, 129, and 166 or 167 (either may be taken concurrently). Advanced treatment of physiology, behavior, and ecology of invertebrates, with emphasis on independent laboratory and field investigations. Concurrently scheduled with course C104.

Mr. Morin

213. Community Ecology (2 units). Lecture, three hours. Prerequisites: course 122 or equivalent, one year of calculus. Investigation of the structure and function of animal communities, in the laboratory and in practice (includes the concepts of coexistence, competition, niche, and diversity).

Mr. Cody

214. Ecological Physiology (2 units). ( Formerly numbered 214.) A consideration of ecologically relevant aspects of animal physiology. Concurrently scheduled with course C134.

Mr. Bartholomew, Mr. Nagy

215. Theoretical Population Biology. Lecture, three hours. Prerequisites: courses 6, 8, and Mathematics 3C or equivalent corequisite or consent of instructor. Not open to students with credit for course 119. The use of mathematical models in studying ecological and evolutionary systems. Relevant mathematical techniques discussed include basic calculus, differential equations, linear algebra, and probability.

Mr. Taylor, Mr. Vance

217. Marine Ecology (8 units). Structure, diversity, and energetics of marine communities; behavior, population and community dynamics; physical and biological components; associated oceanography and geology. Given at the Catalina Marine Science Center.

Mr. Vance

218. Oceanology (8 units). Ecology and dynamics of pelagic and benthic associations; physicochemical properties of seawater and marine substrates and their biological significance; qualitative and quantitative methods of oceanology. Given at the Catalina Marine Science Center.

219. Animal Behavior in Laboratory and Field. Discussion, two hours; laboratory, six to eight hours. Prerequisites: course 129, consent of instructor. Limited enrollment. Laboratory and field studies of selected problems in animal behavior. Topics include: behavioral ecology, social behavior, and ethology. Independent project required. May be taken twice for credit.

Mr. Merriam

221. Genetic Analysis. Lecture/discussion, three hours. Prerequisite: course 8 or equivalent. Examples of genetic analysis in eukaryotic organisms by means of mutation and chromosome changes. Readings in the literature are provided. Topics include: Oregonia chromosome behavior, techniques of gene localization, the one gene-one chromosome hypothesis, meiotic mutants, mosaic animals and cell lineage, behavior, and X chromosome inactivation.

222A-222F. Topics in Genetics. Prerequisite: course 8. Intensive study of selected topics.

223A-223B. Advanced Genetics Laboratories. Laboratory, nine hours. Prerequisites: course 8 or equivalent, consent of instructor. Original research with supervision in eukaryotic genetics. Topics include transmission, evolution, and behavioral genetics. May not be repeated for credit.

Mr. Merriam, Mr. Siegel

224. Developmental Biology of Marine Organisms (8 units). Descriptive and experimental study of different stages of marine plants and animals; patterns of reproductive biology; larval biology; metamorphosis. Given at the Catalina Marine Science Center.

225. Special Topics in Development. Lecture, three hours. Variable topics emphasizing the control of eukaryotic gene expression and morphogenesis. Special attention to the role of hormones in the modulation of gene expression during development.

Mr. O'Connor

227. Chromosome Structure and Replication. Lecture, three hours. Prerequisite: course 8, Chemistry 157A, 157B, or consent of instructor. A survey of biochemical and biophysical investigations of the structure and replication of chromosomal nucleic acids, with emphasis on bacterial and viral systems.

Mr. Ray


Mr. Grunstein, Mr. Ray

229. Structural Macromolecules. Lecture, three hours; discussion, one hour. The comprehensive molecular biology of selected structural proteins and polysaccharides, including cellular synthesis, structure and physical properties, and integrated biological functions.

Mr. Fessler

M230A. Structural Molecular Biology Laboratory (2 units). (Same as Chemistry M230A and Microbiology M230A.) Lecture, two hours; discussion, one hour. Prerequisite: consent of instructor based on a written research proposal. Fundamentals of electron microscopy. Introduction to electron microscopy and its use in structural biology.

Mr. Eisinger, Mr. Lake (W)

M230C. Structural Molecular Biology Laboratory. (Same as Chemistry M230C and Microbiology M230C.) Laboratory, 10 hours. Prerequisite: consent of instructor based on a written research proposal. Practical experience utilizing single crystal X-ray diffraction, low angle X-ray diffraction, electron diffraction, optical diffraction, optical filtering, three-dimensional reconstruction from electron micrographs, and model building.

Mr. Eisinger, Ms. Kasamatsu (F, alternate years)

M230D. Structural Molecular Biology Laboratory (2 units). (Same as Chemistry M230D.) Laboratory, 10 hours. Corequisite: course M230B. Methods in structural molecular biology including experimental techniques applied to structure of cells and to molecular structures of cellular components. Intensive training in electron microscopy techniques and in the use of the electron microscope for high resolution electron microscopy.

Mr. Sjostrand

M231A. Paradigms of Evolution. (Formerly numbered M223.) Lecture, two hours; discussion; two hours. Prerequisite: consent of instructor. The range of conceptual foundations underlying evolutionary studies in biology and the use of current evolutionary and population genetics. Applied to case studies in the field of parasitology.

Mr. Brunk, Mr. Campbell

231B. Molecular Evolution. (Formerly numbered 231.) Lecture, three hours; discussion, one hour. Current topics in molecular evolutionary biology. Conceptual foundations of evolutionary theory and methodology in lectures, discussion, and student presentations. S/U or letter grading.

Mr. Brunk

232. Experimental Molecular Developmental Biology (8 units). Lecture, one hour; discussion, two hours; lab, 12 hours. Prerequisites: course 138, 144, and/or consent of instructor. A laboratory course in the biochemical expression and regulation of differentiation in eukaryotes.

Mr. Fossett, Ms. Lengyel, Mr. Tobin

233A-233B. Electron Microscopy of Cells (8 units each). Lecture, four hours; laboratory, 20 hours; demonstration, three hours. Electron microscopic techniques applied to structure of cells and to molecular structure of cellular components. Intensive training in electron microscopy techniques and in the use of the electron microscope for high resolution electron microscopy.

Mr. Sjostrand

234A. Advanced Topics in Developmental Biology. (Formerly numbered 234.) Especially intended for first- and second-year graduate students and as an overview of research questions on developmental biology available within the Biology Department and of the significant new advances in the discipline. Fundamental questions in molecular biology and structural biology are approached with examples from current literature. Topics include differential gene activity, gene localization, maternal effect and homeotic mutations, the determined cell state, cell identification, hormone receptors and hormone-mediated responses, and developmental neurobiology and emphasize the analysis of genes implicated in development. Students are strongly encouraged to take both courses 234A and 234B, since these represent a survey of modern biology as appropriate preparation for graduate study. S/U or letter grading.

234B. Advanced Topics in Cell Biology. Lecture, two hours; discussion, two hours. Especially intended for first- and second-year graduate students and as an overview of research questions on cell biology available within the Biology Department and of the significant new advances within the discipline. Fundamental questions in cell biology are approached with examples from current literature.

Mr. Eisinger

235. Current Topics in Escherichia coli Genetics (2 units). (Formerly numbered 246.) Prerequisite: course 596. Seminar on topics from current literature in Escherichia coli molecular genetics, with emphasis on using nonsense suppression to effect protein engineering and to study mechanisms of mutagenesis.

Mr. Miller (F)
S/U grading. Mr. Greenfield
The main theme varies from year to year, but usually of specific topics in entomology and related fields.

265. Seminar in Biophysical Plant Ecology (2 units).
   Mr. Nobcl

266. Seminar in Plant Ecology (2 units).
   Mr. Cody, Mr. Thompson

267. Seminar on Current Topics in Evolutionary Ecology (2 units).
   Mr. Cody

268. Seminar in Population Biology (2 units).
   Mr. Cody

269. Seminar in Animal Ecology (2 units). Discussion, three hours. Advanced study of specific topics in animal ecology and related fields.

270. Seminar in Environmental Physiology (2 units). S/U grading. Mr. Bartholomew, Mr. Nagy

271. Seminar in Phycology and Mycology (2 units). Prerequisites: course 100 or equivalent, consent of instructor. Advanced study of biology of algae and fungi. Topics in physiological ecology, physiology, and biochemistry of algae and fungi, and their industrial uses. Algae and fungi as experimental organisms. Phylogeny and origin of eukaryotic organisms. Evolutionary origin of chloroplasts. Mr. Chapman

272. Seminar in Marine Biology (2 units).
   Mr. Gordon, Mr. Morin, Mr. Muscatine

273. Seminar in Entomology (2 units). Discussion of specific topics in entomology and related fields. The main theme varies from year to year, but usually emphasizes areas such as behavior, ecology, and evolution. S/U grading. Mr. Greenfield

274. Seminar in Behavioral Ecology (2 units). Discussion of theoretical and empirical aspects of topics in behavioral ecology.
   Mr. H. Gibson (W)

275. Seminar in Behavior Research Problems. Lecture, three hours; laboratory, two hours. Prerequisite: course 130.
   Mr. Kavanau

276. Seminar in Molecular Genetics (2 units). Topics vary each quarter.
   Mr. Salser

277. Seminar in Genetics (2 units).
   Mr. Eberhard, Mr. Merriam, Mr. Siegel

278. Seminar in Information Processing in Eukaryote Cells (2 units). Discussion, three hours. Prerequisites: course 157A, and 157B, or consent of instructor. Structure and organization of eukaryotic DNA; nuclear RNA species; definition and properties of eukaryote mRNA; translation of mRNA; current related topics.
   Mr. Clark

   Mr. Tobin

280. Seminar in Chromosome Structure and Replication (2 units). Prerequisite: course 227. Current topics in the field of control and mechanism of DNA replication.
   Mr. Ray

281. Seminar in Molecular Biology (2 units).
   Mr. Brunk, Mr. Fessler, Mr. Ray

282. Seminar in Vertebrate Paleontology (2 units).
   Mr. Vaughn

283. Seminar on Topics in Cell Biology (2 units). A discussion of various topics on the biology of eukaryote cells. Topics vary from year to year and include topics on cell biology, cell organelles, cell signaling, and cell cycle. Prerequisites: courses 100-125, consent of instructor. In-depth analysis of current problems in the biology, biochemistry, molecular biology of structurally related systems, involving critical evaluation of recent findings and publications on the biosynthesis, structure, and biodegradation of these molecules.
   Mr. Fessler

284. Seminar in Protein Synthesis (2 units). Discussion, one hour; discussion, three hours. Prerequisites: courses 138, 144, and/or consent of instructor. Detailed analysis of the current understanding of the structural and functional events occurring during protein synthesis.
   Mr. Lake

285. Seminar in Protein Synthesis (2 units). Discussion, three hours. Prerequisites: courses 144 and/or consent of instructor. A detailed analysis of the current understanding of the structural and functional events occurring during protein synthesis.
   Mr. Fessler

286. Seminar in Plant Development (2 units). Lecture, two hours; demonstration, one hour. Prerequisites: a course in plant physiology, at least one advanced undergraduate or graduate course in plant development or biochemistry, and Chemistry 157A, 157B, or equivalent. Seminar on specific topics in plant development.
   Content varies each quarter.
   Mr. Phinney, Ms. Tobin

287. Seminar in Comparative Cell Physiology (2 units).
   Mr. Cascarano, Mr. James

288. Seminar in Plant Cell Biology (2 units).
   Recommended prerequisite: course 162.
   Ms. Gonzalez

289. Seminar in Plant Physiology (2 units).
   Mr. Lilies

290. Seminar in Comparative Physiology (2 units).
   Mr. Gordon, Mr. Narins

291. Seminar in Physiology and Biochemistry of Arthropods (2 units).
   Mr. Engelmann

292. Seminar on Topics in Ultrastructure (2 units).

293. Seminar on Current Aspects of Population Genetics (2 units).
   Mr. Thorner

294. Seminar in Neurophysiology (2 units).
   Mr. Eckert, Mr. O'Laoue

295. Seminar in Biological Applications of Flow Cytometry (2 units). Lecture, two hours; demonstration, one hour. Prerequisite: B.S. or Ph.D. in an interdisciplinary or biochemistry-related field. The latter portion of the seminar is topical and varies from year to year.
   Mr. O'Connor

296. Seminar in Molecular Endocrinology (2 units).

297. Seminar on Current Topics in Molecular Biology (2 units). (Same as Biological Chemistry M298, Chemistry M298, Microbiology M298, Microbiology and Immunology M298, and Molecular Biology M298.) Prerequisite: consent of instructor and graduate standing or consent of instructor. Initial lecture focuses on instrumentation design and operation. Subsequent lectures present specific biological paradigms whose unresolved questions can be best answered by means of fluorescent flow cytometry. The latter portion of the seminar is topical and varies from year to year.
   Mr. O'Connor

298. Seminar in Molecular Endocrinology (2 units).

299. Seminar in Parasitology (2 units).
   Mr. Macnich

300. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the active guidance and supervision of a regular faculty member who responds to the curriculum and instruction at the University. May be repeated for credit.
   S/U grading.

495. Preparation for the Teaching of Biology in Higher Education (2 units). Prerequisites: graduate standing, consent of instructor. Study of problems and methodologies in teaching biology, which includes workshops, seminars, apprentice teaching, and peer observation.
   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. Course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

506. Directed Individual (or Tutorial) Studies (2 to 12 units).

509F. Directed Individual (or Tutorial) Studies (2 to 8 units). Directed individual (or tutorial) studies at the Catalina Marine Science Center.

597. Preparation for M.A. Comprehensive Examination or Ph.D. Qualifying Examination (2 to 12 units). May not be applied toward the M.A. or Ph.D. course requirements. S/U grading.

598. M.A. Thesis Research and Writing (2 to 12 units).

599. Ph.D. Dissertation Research and Writing (2 to 12 units).

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**Business and Administration (Interdepartmental)**

A316 Murphy Hall, (213) 825-1965

**Additional Coursework for Students Interested in Business and Administration**

The Program 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 wish to major in a foreign language to become familiar with the literature and culture of other countries, and then add this program to gain a basic understanding of economics, accounting, and statistics. Other students interested in working for a governmental agency or nonprofit corporation might wish to add this program to a social science major. Students with an interest in a liberal arts area, who are not planning to go to graduate school, may wish 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. Students with a particular interest in accounting, banking, and finance are directed to the economics/business 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 program. You may satisfy one of the field studies course requirements by completing an independent study course (199), taken in an appropriate department with prior consent of the program faculty adviser. You also are required to seek guidance from a field studies coordinator in choosing and researching your topic.

To enter the program, you must file a petition with the College Counseling Service in the College of Letters and Science by the time you have completed 120 units. If you do not complete the program prior to graduation, you must petition out of the program to be eligible to graduate. All degree requirements, including the specific requirements for this program, must be fulfilled within 228 units. When you have successfully completed all program requirements, you receive a certificate of completion. A statement of completion is also noted on your transcript.

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.

The following requirements are in effect for students entering UCLA in Fall Quarter 1986 (check with the College Counseling Service regarding requirement changes).

Core Courses
Required: Economics 1 and 2, or 100; Management 1A, 1B; one course in statistics; one course in mathematics (except Mathematics A, 1, 38A, 38B, 50, 104); two courses from English 4, 30, 100W, 131A through 131H, 136A, 136B, Speech 1 (English 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: Program in Computing 10A, 10B, 10C, 30, Computer Science 141, Anthropology 186A, 186B, Economics 141, 147A, 147B, Geography 171, Political Science 6, 102, Psychology M142, 144, 150, 151, Sociology 109, 116, 118; (2) critical reasoning: Engineering 11, 12, Philosophy 9, 31, 32, Psychology 112C.

Field Studies
Required: Any three courses from the following list:
Business and Administration Communications and Interactions: Communication Studies 100, 101, Geography 146, Psychology 136A, 137A, 174, Sociology 152.
Business Logistics: Geography 145, 148, 149, Sociology 141.
Cognitive Science: Linguistics 1 or 100, 10, Materials Science and Engineering M107A or Psychology M153, Psychology 110, 112A, 112B, 112C, 112E.

Contemporary Administration: Anthropology 150, Geography 148, Political Science 173, 190, Psychology 148, Sociology 141.


United States Business Institutions: History 149A, Political Science 173, Sociology 121, 141.

Chemistry and Biochemistry

3010 Young Hall, (213) 825-4219

Professors
Frank A. L. Anet, Ph.D. (Organic Chemistry)
Daniel E. Atkinson, Ph.D. (Biochemistry)
Mario E. Baur, Ph.D. (Physical Chemistry)
Kyle D. Bayes, Ph.D. (Physical Chemistry)
Richard B. Bernstein, Ph.D. (Physical Chemistry)
Paul D. Boyer, Ph.D. (Biochemistry)
Orville L. Chapman, Ph.D. (Organic Chemistry)
Donald J. Cram, Ph.D. (Saul Winstein Professor of Organic Chemistry)
Richard E. Dickerson, Ph.D. (Biochemistry and Molecular Biology)
David S. Eisenberg, Ph.D. (Physical Chemistry and Molecular Biology)
Mostafa A. El-Sayed, Ph.D. (Physical Chemistry)
Paul S. Farrington, Ph.D. (Chemistry)
Christopher S. Foote, Ph.D. (Organic Chemistry and Biochemistry)
William M. Gelbart, Ph.D. (Physical Chemistry)
M. Frederick Hawthorne, Ph.D. (Inorganic and Organometallic Chemistry)
Kendall N. Houk, Ph.D. (Organic and Theoretical Chemistry)
Wayne L. Hubbell, Ph.D. (Biochemistry and Jules Stein Professor of Ophthalmology)
Michael E. Jung, Ph.D. (Organic Chemistry and Biochemistry)
Herbert D. Kaez, Ph.D. (Inorganic and Organometallic Chemistry)
Daniel Kivelson, Ph.D. (Physical Chemistry)
Charles M. Knobler, Ph.D. (Physical Chemistry)
Chair
William G. McMillan, Jr., Ph.D. (Chemical Physics)
Malcolm F. Nicoll, Ph.D. (Physical Chemistry)
Emil Reiss, Ph.D. (Biochemistry and Molecular Biology)
Howard Reiss, Ph.D. (Physical Chemistry)
Verne N. Schumaker, Ph.D. (Biochemistry and Molecular Biology)

Robert L. Scott, Ph.D. (Physical Chemistry)
Roberts A. Smith, Ph.D. (Biochemistry)
Charles E. Strouse, Ph.D. (Inorganic Chemistry)
Kenneth N. Trueblood, Ph.D. (Physical Chemistry)
Joan S. Valentine, Ph.D. (Inorganic Chemistry and Biochemistry)
John T. Wasson, Ph.D. (Geochemistry and Chemistry)
Richard L. Weiss, Ph.D. (Biochemistry), Vice Chair
Charles A. West, Ph.D. (Biochemistry)
Jeffrey I. Zink, Ph.D. (Inorganic Chemistry)
Francis E. Blacet, Ph.D., D.S., Emeritus
Clifford S. Garner, Ph.D., D.S., Emeritus
E. Russell Hardwick, Ph.D., Emeritus
Thomas L. Jacobs, Ph.D., Emeritus

Associate Professors
Steven G. Clarke, Ph.D. (Biochemistry)
Francois N. Diederich, Dzter.nat. (Organic and Bioinorganic Chemistry)
Jay D. Gratia, Ph.D. (Biochemistry)
John M. Jordan, Ph.D. (Biochemistry)
Harold G. Martinson, Ph.D. (Biochemistry and Molecular Biology)
R. Stanley Williams, Ph.D. (Physical Chemistry)

Assistant Professors
Robert E. Cohen, Ph.D. (Biochemistry)
David Farrelly, Ph.D. (Theoretical Chemistry)
Juli F. Felgon, Ph.D. (Biochemistry)
Peter M. Felker, Ph.D. (Chemical Physics)
William H. Hersh, Ph.D. (Organic and Organometallic Chemistry)
Douglas C. Rees, Ph.D. (Biochemistry)
Robert L. Whetten, Ph.D. (Physical Chemistry)

Lecturers
Sandra I. Lamb, Ph.D. (Chemistry)
Lawrence H. Levine, Ph.D. (Chemistry)
Arlene A. Russell, Ph.D. (Chemistry)

Adjunct Professor
Seymour Siegel, Ph.D. (Physical 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). The department offers three undergraduate majors: one in chemistry with an emphasis on inorganic, organic, or physical chemistry, a second major in biochemistry, and a third in general chemistry. The chemistry and biochemistry majors are designed to prepare students for graduate studies in each field, for entry into professional schools in the health sciences, and for careers in industries and businesses that depend on chemically and biochemically based technology. The general chemistry major is intended for students who wish to acquire considerable chemical background in preparation for careers outside chemistry.
Graduate research and training programs leading to the M.S. and Ph.D. degrees in Chemistry and in Biochemistry are also offered.

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 C – 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 will be accepted into the departmental majors only if they have completed the following courses or their equivalents: the entire Chemistry 11 series, Mathematics 31A, 31B, 32A, Physics 8A, 8B/8BL, 8C/8CL (or a year of calculus-based physics). For biochemistry majors, a year of biology may replace the physics. For chemistry majors, Mathematics 32B is recommended.

Transfer students with more than 105 quarter units will be accepted into the departmental majors only if they have completed the following courses or their equivalents: the entire Chemistry 11 series and 21, Mathematics 31A, 31B, 32A Physics 8A, 8B/8BL, 8C/8CL (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 21. Transfer students should consult the department’s Undergraduate Office for assistance in planning their programs.

You may not take or repeat a chemistry or biochemistry course for credit if you have credit for a more advanced course which has the first course as a prerequisite.

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.

Each of the major programs is outlined below. Students may contact Dorothy Seymour, Undergraduate Counselor, for help and advice (4016 Young Hall).

Preliminary Examination for Chemistry 11A

If you wish to enroll in Chemistry 11A or 11AH, you must take the Chemistry/Mathematics Preliminary Examination in Chemistry during the enrollment period for the quarter in which you intend to take these courses. Enrollment usually is limited to students who have passed the examination. It will be given in 2250 Young Hall on Tuesday, September 23, 1986; Wednesday, October 29, 1986; Wednesday, February 4, 1987; and Saturday, May 30, 1987.

If your performance on the examination does not qualify you for immediate admission to Chemistry 11A, but you wish to enroll in a subsequent quarter, you may be eligible for enrollment in Los Angeles City College (LACC) Chemistry 17. This course is given at UCLA during the Fall Quarter (and occasionally other quarters) expressly for UCLA students preparing for Chemistry 11A. If you successfully complete LACC course 17, you are entitled to admission to course 11A for the next three quarters. Offered on a Passed/Not Passed basis, LACC 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.

Bachelor of Science in Chemistry

For students who intend to pursue a career in chemistry.

Preparation for the Major

Required: Chemistry 11A, 11B/11BL, 11C/11CL, 21, 23; Biochemistry 25; Physics 8A, 8B/8BL, 8C/8CL (8D/8DL strongly recommended); Mathematics 31A, 31B, 32A, 32B, 33A. 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.

Bachelor of Science in Biochemistry

For students preparing for careers in biochemistry or other fields requiring extensive preparation in both chemistry and biology.

Preparation for the Major

Required: Chemistry 11A, 11B/11BL, 11C/11CL, 21, 23; Biochemistry 25; Mathematics 31A, 31B, 32A, 33A; three courses (including laboratory) from Physics 6A*, 6B, 6C, 8A, 8B/8BL, 8C/8CL, 8D/8DL.

*If physics courses from both the 6 and 8 series are taken, undue duplication must be avoided.

The Major

Required: Chemistry 110A, 133A, 133B, 133C; Biochemistry 154, 156, 157A, 157B; one course from each of the following five categories: (1) Microbiology 101; (2) Biology 138, 141, 153, 154, CM156, or Microbiology 111; (3) Biology 158, 162, 166, 167, or Microbiology 113; (4) one upper division or graduate-level course in biology, chemistry and biochemistry, or microbiology; (5) one upper division or graduate-level course in biology, biological chemistry, chemistry and biochemistry, mathematics, microbiology, or physics. Courses selected to satisfy categories 4 and 5 must be approved by the undergraduate adviser (Biochemistry).

Bachelor of Science in General Chemistry

For students who wish to acquire considerable chemical background in preparation for careers outside chemistry. The requirements are accordingly quite flexible. The major may be appropriate for some students who plan to enter professional schools, such as those of medicine, dentistry, or public health.

Preparation for the Major

Required: Chemistry 11A, 11B/11BL, 11C/11CL, 21, 23; Chemistry 25; Mathematics 31A, 31B, 32A, 33A; three courses (including laboratory) from Physics 6A*, 6B, 6C, 8A, 8B/8BL, 8C/8CL, 8D/8DL.

*If physics courses from both the 6 and 8 series are taken, undue duplication must be avoided.

To enter the major, you must complete the preparation courses with at least a 2.0 average.

The Major

Required: Six upper division courses in the department, including at least one in physical chemistry and at least two with laboratory work; six additional upper division courses. A 2.0 average is required in all upper division courses in the department. The program should be coherent in terms of your interests and objectives and must be based on a written proposal and approved by the undergraduate adviser (Chemistry).

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, Graduate Office, Department of Chemistry and Biochemistry, 4006 Young Hall, UCLA, Los Angeles, CA 90024.
Admission
An excellent undergraduate record is required in addition to the University minimum requirements. Graduate Record Examination (GRE) Aptitude and Advanced Tests are recommended.

Each student admitted to graduate standing is given orientation examinations at the beginning of the first quarter in physical, organic, analytical, and inorganic chemistry or biochemistry. The main purpose of the orientation requirement is to help you and your adviser plan a suitable course program. The examinations include material covered in upper division courses in biochemistry, 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.

You are encouraged to become familiar with research activities of all faculty in your area of interest and to join a research group as soon as possible. Biochemistry students rotate through at least two research groups during the Fall and Winter Quarters, with a final selection made during the Spring Quarter.

Foreign Language Requirement
Language requirements for the different areas of specialization are as follows: biochemistry — none; inorganic — German or a coordinated course in computer programming; organic — German; physical — German or French or, with consent of the research director, a substitute course program or a coordinated course in computer programming. Either the Educational Testing Service (ETS) examination (with a score of 500) or the departmental examination is acceptable. The substitute course program should consist of 10 units of coordinated upper division or graduate courses forming a minor field of concentration. These courses may be taken on an S/U grading basis but may not be applied toward the departmental course requirements. There is no language requirement for the M.S. degrees.

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 174, 207, C275, C276A, 276B, 277, 279

Substitutions may be made with consent of the area adviser. With consent of the graduate adviser, courses of directed individual study, but not research courses, may replace any of the courses listed above.

Up to 24 units of course 596 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. However, in exceptional cases where Plan II (comprehensive examination plan) is used, an additional six units of course 597 and six units from course 228, 246, or 278 may be applied toward the graduate course requirement and the total course requirement.

Biochemistry M.S.: The M.S. in Biochemistry may be obtained by the thesis plan or the comprehensive examination plan. Course requirements vary for each plan, as follows.

Plan I (Thesis Plan): A total of 36 units is required. Of these, 20 must be at the graduate level and include a minimum of 12 units from Chemistry M253, M255, M263, M267. Registration in course 268 is required for three quarters but is not applicable to the 36-unit requirement.

Up to 22 units of course 596 or 598 may be applied toward the total course requirement; up to eight units may be applied toward the graduate course requirement.

After completion of course requirements, you should consult your research adviser to form a thesis committee.

Plan II (Comprehensive Examination Plan): A total of 36 units is required. Of these, 20 must be at the graduate level and include a minimum of 12 units from Chemistry M253, M255, M263, M267. You may apply six units of course 268 and six units of course 597 to the graduate course requirement and the total course requirement. With the exception of Chemistry 268 and 597, all courses must be taken for a letter grade.

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. Required coursework must be completed before advancement to candidacy.

(1) Required background material: Chemistry 173; (2) two courses from C276A, 276B, 277; (3) two courses from 174, 207, 271A through 271Z, C275, 279; (4) two courses from physical chemistry (C213B, C215A, C215B, 215D, C223A) or organic chemistry (232, 236, 241A through 241Z, 242, C243A, C243B, 244, 245, 246) or biochemistry (157A); (5) Chemistry 278.

Organic Chemistry
(1) Required background material: Chemistry 133A, 133B, 133C, 136, 144; (2) courses C243A, C243B; (3) one course from C213B, 245, 276A; (4) one additional course from physical chemistry (C215A, 221A through 221Z, C223A) or inorganic chemistry (173, 245, C276A or biochemistry (157A, 157B); (5) two courses from 207, 232, 236, 241A through 241Z, 242, 244, 245, 246; (6) Chemistry 248.

Physical Chemistry
(1) Required background material: Chemistry 110A, 110B, 113A; (2) courses C215A, C215B, C223A, C223B, or equivalent; (3) course 228 each quarter; (4) one quarter of course 218 (for presentation of research); (5) two courses (for letter grade credit) from C210C, 215C, 215D, 223C, 225; (6) two courses (with S/U grading option) from C210C, 215C, 215D, 221A through 221F, 223C, 225, C243A, C276A, 277, Mathematics 213A, 105A, 110A, 110B, 131, 132, 140. Substitutions may be made with consent of the graduate adviser (physical chemistry).

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 orientation examinations and courses taken prior to entry into the graduate program. Required coursework must be completed before advancement to candidacy.

(1) Required background material: Chemistry 110A, 133A, 133B, 133C, 156, 157A, 157B, some coursework in the life sciences, and some biochemistry laboratory experience. Deficiencies in background may be made up after admission.

(2) Core courses M253, M255, M263, M267 (18 units).

(3) An additional 12 units of upper division or graduate courses subject to the consent of the graduate adviser. It is recommended that eight of these units be from other than biochemistry offerings. Advanced courses taken elsewhere or as an undergraduate may be substituted for some of these units in appropriate cases. Seminar courses are not normally applicable.

(4) Chemistry 258 for three quarters.

Teaching Experience
One year of teaching experience is required.
Qualifying Examinations

Rather than a single comprehensive examination, the department gives all 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 quarter 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 quarter 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 and three out of nine. Fifteen attempts will normally be the maximum.

At the end of the first and second year, your overall progress is evaluated by the graduate study committee, taking into account performance in courses, cumulative examinations, and research. The committee may recommend that you (1) proceed to the oral examinations, (2) be redirected to the M.S. program, or (3) be terminated.

The University Oral Qualifying Examination is based on your research proposal which should represent independent work and should offer the doctoral committee an opportunity to judge your ability to think creatively and to formulate significant ideas for research. The examination is to be attempted by the end of the seventh quarter (sixth quarter for biochemistry). Failure to comply with this time schedule may result in disqualification from the Ph.D. program unless permission has been given by the area adviser. The committee's decision to advance you to candidacy, to allow you to repeat the oral, or to disqualify you is based on the quality of the written proposal, the adequacy of the oral presentation, your overall record at UCLA as reflected in coursework and examinations, and your research ability.

When a satisfactory report on the completion of the written and oral qualifying examinations, course requirements, and the departmental language requirement has been submitted, you are eligible for formal advancement 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 with the doctoral committee.

Lower Division Courses

2. Introductory Chemistry. Lecture, two hours; discussion, two hours. Not open to students with credit for course 11A. Designed to meet part of the Requirements for nonscience majors and nonscience concentrations. The course includes some of the submicroscopic world of chemistry, ranging from protons to proteins in subject matter. Refer to “Requirements for the Bachelor's Degree” in the College of Letters and Science section of this catalog for other credit limitations on this course.

Mr. Harrington, Mr. Hardwick (F, W, Sp)

11A. General Chemistry. Lecture, four hours; discussion, one hour. Prerequisites: high school chemistry or equivalent background and three and one-half years of high school mathematics. Recommended: high school physics. Required of all majors in chemistry and biochemistry. Students lacking the prerequisites may qualify for admission by exceptional performance on the Chemistry/Mathematics Preliminary Examination.) All students who intend to take this course must take the Chemistry/Mathematics Preliminary Examination (enrollment is usually limited to students who have passed the examination). Atomic theory and stoichiometry; states of matter and phase equilibrium; gases; liquids and solutions; acids, bases, and salts; equilibrium in gases and solutions; solubility and solubility equilibria; oxidation and reduction.

Mr. Baur, Mr. Harrington, Mr. Trueblood (F, W, Sp)

11AH. General Chemistry (Honors). Lecture, four hours; discussion, one hour. Prerequisites: high school chemistry or equivalent background and three and one-half years of high school mathematics. Recommended: high school physics. Required of all majors in chemistry and biochemistry. Students lacking the prerequisites may qualify for admission by exceptional performance on the Chemistry/Mathematics Preliminary Examination. All students who intend to take this course must take the Chemistry/Mathematics Preliminary Examination (enrollment is usually limited to students who have passed the examination). An honors course parallel to course 11A.

Mr. El-Sayed, Mr. Gelbart (F, W, Sp)

11B. General Chemistry. Lecture, three hours; discussion, one hour. Prerequisites: course 11A or 11AH with a grade of C- or better or consent of instructor. Thermochemistry and thermodynamics; electrochemistry; chemical kinetics; quantum theory and electronic structure of atoms; periodicity of chemical properties.

Dr. Kaesz, Mr. Kivelson, Mr. Knobler (F, W, Sp)

11BH. General Chemistry (Honors). Lecture, three hours; discussion, one hour. Prerequisites: course 11AH with a grade of B- or better or course 11A, and consent of instructor. An honors course parallel to course 11B.

Mr. Baur, Mr. Nicol (W)

11BL. General Chemistry Laboratory (1 unit). Laboratory, four hours. Prerequisites: course 11A with a grade of C- or better or consent of instructor. Corequisite: course 11B. A course in fundamental chemical laboratory techniques, using volumetric and potentiometric procedures; Beer's Law.

Mr. Harrington, Mr. Hawthorne, Ms. Valentine (F, W, Sp)

11C. General Chemistry (3 units). Lecture, two hours. Prerequisites: course 11B or 11BH with a grade of C- or better or consent of instructor. Bonding and molecular structure; descriptive inorganic chemistry presented in terms of the principles discussed in courses 11A and 11B.

Mr. Harrington, Mr. Hawthorne, Ms. Valentine (F, W, Sp)

11CH. General Chemistry (Honors) (3 units). Lecture, two hours. Prerequisites: course 11BL with a grade of B- or better or course 11B, and consent of instructor. An honors course parallel to course 11C.

Mr. El-Sayed, Mr. McMillian (Sp)

11CL. General Chemistry Laboratory (2 units), Laboratory, eight hours. Prerequisites: course 11BL with a grade of C- or better. Corequisite: course 11C (must or already have been passed with a grade of C- or better). Enrollment priority, if needed, given to those taking course 11C concurrently. Rates of reactions; quantitative volumetric analysis; qualitative inorganic analysis; inorganic synthesis; column chromatography; colorimetric analysis.

Mr. Reisler, Mr. Weiss, Mr. West (F, W, Sp)

15. Organic Chemistry and Biochemistry for Pre-Presidential Kinesiology. Prerequisites: course 11A with a grade of C- or better. Not open to students with credit for course 21. Recommended for students in certain areas of kinesiology and in the prenursing, prephysical therapy, and predentistry hygiene curricula. Does not meet requirements for admission to medical and dental schools nor does it satisfy the requirements of any major in Letters and Science other than certain areas of kinesiology. An introduction to the structures and reactions of organic compounds, particularly with respect to their roles and their transformations in living systems.

Ms. Lamb (F, W)

15L. Chemistry Laboratory for Pre-Presidential and Kinesiology (1 unit). Laboratory, four hours. Corequisite: course 15 (or must already have been passed with a grade of C- or better). Does not meet requirements for admission to medical and dental schools. An introduction to experimental work with aqueous solutions and the preparation, isolation, and characterization of organic compounds, particularly some of those important in living systems.

Ms. Lamb (F, W)

21. Organic Structure and Reactions. Lecture/discussion. Prerequisites: courses 11C, 11CL (may be taken concurrently), with grades of C- or better, or consent of instructor. Structure, reactivity, and properties of organic compounds. The theory of functional groups, chemical bonds, molecular structure, and stereochemistry of organic compounds.

Mr. Cram, Mr. Hersh (F, W, Sp)

23. Bioorganic Structure and Reactions. Lecture, three hours; discussion, one hour; laboratory, four hours. Prerequisites: courses 11CL and 21 with grades of C- or better or consent of instructor. Organic chemistry and biochemistry. The structures of classes most important to biological functions: amino acids, carbohydrates, etc. Sulfur, phosphorous, and anhydride chemistry. Methods of separation, purification, and identification of organic compounds; extraction, crystallization, distillation, and chromatography.

Mr. Clarke, Mr. Jordan, Ms. Lamb (F, W, Sp)

25. Elemental Biochemistry. Lecture, three hours; discussion, one hour; laboratory, four hours. Prerequisites: courses 11CL and 21 with grades of C- or better or consent of instructor. Protein structure and function; enzyme catalysis; intermediary metabolism; cell constituents; properties and biosynthesis of nucleic acids and proteins. Purification and characterization of biological macromolecules; spectrophotometry; catalysis; enzyme kinetics; gel filtration and paper chromatography; viscometry; utilization of radioisotopes.

Mr. Reisler, Mr. Weiss, Mr. West (F, W, Sp)

96. Special Courses in Chemistry (1 to 4 units). To be arranged. Prerequisite: consent of undergraduate adviser (Chemistry).

(F, W, Sp)

Upper Division Courses

103. Environmental Chemistry. Prerequisites: courses 21, 23, and 25, or consent of instructor. Chemical aspects of air and water pollution, solid waste disposal, energy resources, and pesticide effects. Chemical reactions in the environment and the effect of chemical processes on the environment.

Mr. Baur, Ms. Lamb (Sp)
110A. Physical Chemistry: Chemical Thermodynamics. Lecture, four hours; discussion, one hour. Prerequisites: course 11C, Physics 6B or 6C (may be taken concurrently), Mathematics 3A, 3B, 32A or, for life science majors, Mathematics 3C. An understanding of basic chemical thermodynamics. Mr. Bernstein, Mr. McMillan, Mr. Trueblood (F, W, Sp)

110B. Physical Chemistry: Chemical Equilibrium, Electrochemistry, and Kinetics. Lecture, four hours; discussion, one hour. Prerequisites: course 110A, Physics 6C. Introduction to statistical thermodynamics, kinetic theory of gases, chemical kinetics, phase equilibria, chemical equilibria in solutions, electrochemistry. Mr. Kivelson, Mr. McMillan, Mr. Reiss (W, Sp)

C110C. Physical Chemistry: Charges, Fields, and Matter. (Formerly numbered 110C.) Lecture, three hours; discussion, one hour. Prerequisite: course 110A. Topics include electromagnetic fields in matter — susceptibility, magnetic polarization and relaxation; multipole, van der Waals forces; classical EM waves — propagation, refraction, scattering, absorption, optical rotation and rotational dispersion, magnetic effects; radiation — multipole, black-body, Einstein coefficients, lasers; scattering and diffraction — Rayleigh, Mie, Raman, X-ray, neutron, nuclear — by particles, molecules, lattices; resonance phenomena — light, EPR, NMR, NQR, Mössbauer; electrotrolytes — ion activity, conductivity, rate effects. May be concurrently scheduled with course C210C.

Mr. McMillan (Sp)

113A. Physical Chemistry: Introduction to Quantum Chemistry. Lecture, four hours; discussion, one hour. Prerequisites: course 11C, Physics 6C or 6C, Mathematics 3A, 3B, 32A, 33A. An introduction to the principles and applications of quantum chemistry; atomic structure and spectra; harmonic oscillator; rigid rotor, molecular spectra.

Mr. Bayes, Mr. Gelbart, Mr. Scott (F, Sp)

C113B. Physical Chemistry: Introduction to Molecular Spectroscopy. Lecture/quiz, five hours. Prerequisite: course 113A or equivalent. Spectroscopic applications of basic quantum chemistry, including light-matter interaction, origin of selection rules, rotation-vibration spectra, anharmonic effects, electronic spectra, Franck-Condon principle, and topics from Raman, microwave, ESR, NMR, laser spectroscopy, and radiationless transitions. May be concurrently scheduled with course C213B.

Mr. Bayes, Mr. Williams (W)

114. Physical Chemistry Laboratory. Lecture, two hours; laboratory, eight hours. Prerequisites: courses 111C, 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. Bayes, Mr. Trueblood, Mr. Williams (F, W, Sp)

114H. Physical Chemistry Laboratory (Honors). Lecture, two hours; laboratory, eight hours. Prerequisites: courses 111C, 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 the instructor.

Mr. Bayes, Mr. Trueblood, Mr. Williams (F, W, Sp)

C115A-C115B. Quantum Chemistry. Lecture, four hours; discussion, one hour. Prerequisites: courses 113A, Mathematics 31A, 31B, 32A, 32B, 33A. Recommended: knowledge of differential equations equivalent to Mathematics 135A or Physics 131 and of analytic mechanics equivalent to Physics 105A. Course C115A or Physics 115B is prerequisite to C115B. Students entering course C115A are normally expected to take course C115B the following quarter. Designed for chemistry students with a serious interest in quantum chemistry. Postulates and systematic development of nonrelativistic quantum mechanics; angular momentum; hydrogen atom; matrix techniques; approximation methods; time dependent problems; atoms; spectroscopy; magnetic resonance; chemical bonding. May be concurrently scheduled with courses C215A-C215B.

Mr. Farrellly, Mr. Gelbart (W, C115A; Sp, C115B)

121. Special Topics in Physical Chemistry. Prerequisite: course 110B. Recommended: course 113A, Physics 6D. Topics of considerable research interest presented at a level suitable for students who have completed the junior-year courses in physical chemistry.

C121A-C121B. Classical and Statistical Thermodynamics. Lecture, four hours; discussion, one hour. Prerequisite: course 113A. Rigorous presentation of the fundamentals of classical thermodynamics. Principles of statistical thermodynamics; probability, ensembles, partition functions, molecular models of perfect gas. Applications of classical and statistical thermodynamics selected from diatomic polyatomic gases, the solid and fluid states, phase equilibria, electric and magnetic effects, ortho-para hydrogen, chemical equilibria, reactions, and the impermeability of gas, non electrolyte and electrolyte solutions, surface phenomena, high polymers, gravitation. May be concurrently scheduled with courses 223A-C223B.

Mr. Reiss, Mr. Scott (Sp), C121A; W, C121B)

125. Computers in Chemistry. Lecture, three hours. Prerequisites: courses 110A, 110B, 113A, a working 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. Levine (F)

133A. Intermediate Organic Chemistry. Prerequisite: course 133A, 133B, 133C, or equivalent, with grades of C- or better, or consent of instructor. Structure, reactivity, and spectroscopic properties of organic compounds.

Mr. Anet, Mr. Foote (F, Sp)

133B. Intermediate Organic Chemistry. Lecture, three hours; laboratory, one hour. Prerequisite: course 133A with a grade of C- or better. Lectures include reactions, mechanisms, and synthesis in organic chemistry; common classes of compounds and reactions. Laboratory includes methods of organic reactions, synthesis, isolation, and characterization.

Mr. Anet, Mr. Foote (W)

133BG. Intermediate Organic Chemistry (2 units). Lecture/quiz, three hours. Open only with consent of graduate adviser (Chemistry) to graduate students who have not taken course 133B at UCLA.

Mr. Anet, Mr. Foote (W, Sp)

136. Organic Structural Methods. Lecture, two hours; laboratory, eight hours. Prerequisites: courses 133A, 133B, 133C, or equivalent, with grades of C- or better, or consent of instructor. A laboratory course in organic structure determination by chemical and spectroscopic methods; microtechniques.

Mr. Foote (F)

143A. Structure and Mechanism in Organic Chemistry. Lecture, three hours; discussion, one hour. Prerequisites: courses 133A, 133B, 133C (may be taken concurrently), or equivalent, with grades of C- or better, or consent of instructor. Mechanisms of organic reactions. Acidity and acid catalysis; linear free energy relationships. Molecular orbital theory; photochemistry; pericyclic reactions. May be concurrently scheduled with course 243A.

Mr. Chapman

C143B. Mechanism and Structure in Organic Chemistry with Laboratory, three hours; discussion, one hour. Prerequisite: course 143A with a grade of C- or better or consent of instructor. Mechanisms of organic reactions; structure and detection of reactive intermediates. May be concurrently scheduled with course C143A.

144. Laboratory Methods in Organic Synthesis. Lecture, two hours; laboratory, eight hours. Prerequisite: course 133C or equivalent instruction, including spectroscopic methods of organic chemistry, with a grade of C- or better, or consent of instructor. Laboratory methods of synthetic organic chemistry, including reactions under inert atmosphere, semimicro scale reaction techniques, synthesis of natural products, and molecules of theoretical interest.

Mr. Jung (Sp)

144G. Laboratory Methods in Organic Synthesis (2 units). Consists of the lecture portion only of course 144. Open only with consent of graduate adviser to graduate students who have not taken course 144 at UCLA and who do not wish to take the laboratory portion of course 144.

Mr. Jung

152. Biochemistry. Lecture, four hours; discussion, one hour. Prerequisite: course 25. Not open to students who have taken course 157A at UCLA and who do not wish to take the laboratory portion of course 144.

Mr. Boyer, Mr. Smith (F)

154. Biochemical Methods. Lecture/quiz, two hours; laboratory, eight hours. Prerequisite: course 25. Recommended: course 152 or 157A. Applications of biochemical methods to metabolism, reactions, properties of living systems; enzymes; proteins; nucleic acids and other tissue constituents.

Mr. Clarke, Mr. Gralla, Mr. Martinson (W, Sp)

156. Biophysical Chemistry. Lecture, four hours; discussion, one hour. Prerequisite: course 110A. Solution thermodynamics of biochemical systems; biochemical kinetics; energy levels, spectroscopy, and bonding; topics from structural, hydrodynamic, statistical, and electrochemical methods of biochemistry.

Mr. Eisenberg, Mr. Rees, Mr. Schumaker (F)

157A. Biochemistry. Lecture, four hours; discussion, one hour. Prerequisites: courses 110A, 133B (may be taken concurrently). Enzymes; metabolic pathways and their integration and regulation; biological energetics.

Mr. Atkinson, Mr. Clarke, Mr. West (W)

157B. Biochemistry. Lecture, four hours; discussion, one hour. Prerequisite: course 157A. Biosynthetic metabolism; synthesis of organic acids and proteins, and control of these processes.

Mr. Atkinson, Mr. Clarke, Mr. Jordan (Sp)

173. Structural Inorganic Chemistry. Lecture, three hours; discussion, one hour. Prerequisite or corequisite: course 113A or 157A. Recommended: courses 113A or 156, 133B. Introduction to structure and bonding in inorganic compounds; molecular stereochemistry; donor-acceptor interactions; coordination compounds of the transition metals; elements of crystal-field and ligand-field theory.

Mr. Hawthorne, Mr. Kaez, Mr. Zink (F, W, Sp)
C210. Physical Chemistry: Charges, Fields, and Matter. Lecture, three hours; discussion, one hour. Prerequisite: course 110A. Topics include electrostatics, field distribution, multipole expansion, and boundary conditions.

223C. Statistical Mechanics. Lecture, three hours; discussion, one hour. Prerequisites: courses C215B, C223B, Physics 131, or equivalent. Fundamentals of statistical thermodynamics. May be concurrently scheduled with courses C123A-C123B.

Mr. Reiss, Mr. Scott (F, C223A; W, C223B)

223D. Advanced Topics in Physical Chemistry. Lecture, discussion. May be repeated for credit. S/U grading.

Advanced Topics in Physical Chemistry Laboratory (2 units). Laboratory, 10 hours. Consent of instructor required. Directed Individual Study or Research under a contracted faculty sponsor. Staff, outside speakers, postdoctoral fellows, and graduate students. May be repeated for credit. S/U grading.

M230A. Structural Molecular Biology. (Same as Biology M230A and Microbiology M230A.) Lecture, two hours; discussion, one hour. Prerequisite: courses C215B, Physics 131, or equivalent. May be concurrently scheduled with courses C215B-C223B.

Mr. Eisinger, Ms. Kasamatsu (F, alternate years)


Mr. Eisinger, Mr. Lake (W)


Mr. Eisinger, Ms. Kasamatsu (F, alternate years)

M230D. Structural Molecular Biology Laboratory (2 units). Laboratory, 10 hours. Corequisite: course M230B. May be concurrently scheduled with courses C215B-C223B. Staff, outside speakers, postdoctoral fellows, and graduate students. May be repeated for credit. S/U grading.

Mr. Eisinger, Mr. Lake (W)
226. Stereocorrelation and Conformational Analysis. Lecture/discussion, three hours. Prerequisite or corequisite: course C143A or consent of instructor. Molecular symmetry, chirality, prochirality, stereochemistry in vinyl polymers, atropoisomerism, diastereomeric interactions in solution, conformations of cyclic and acyclic molecules. Mr. Junge.

236. Spectroscopic Methods of Organic Chemistry. Lecture, three hours. Prerequisite or corequisite: course C243A or consent of instructor. Prerequisite: or corequisite: courses 133A, 133C, consent of instructor, 157A, 157B, courses in genetics and molecular biology, consent of instructor. Structure and organization of animal cells, cell-cell contact, motility of cell and mobility of cellular components; chemical structures, interactions, interactions between cytoplasm and nucleus, genetic analysis in higher eukaryotic cells, biochemistry of tissue development and organization. Mr. Jordan and invited Speakers.

21A-241Z. Special Topics in Organic Chemistry (2 to 4 units each). Prerequisite or corequisite: course C243A or equivalent or consent of instructor. Each course ensembles a recognized specialty in organic chemistry, generally taught by a staff member whose research interests embrace that specialty.

242. Organic Photochemistry. Lecture/discussion, three hours. Prerequisite or corequisite: course C243A or consent of instructor. Interactions of light with organic molecules; mechanistic and preparative photochemistry.

243A. Organic Chemistry: Structure and Mechanisms. Lecture, discussion, one hour. Prerequisites: courses 110B, 113A, 133C (may be taken concurrently), or equivalent, with grades of C- or better, or consent of instructor. Mechanisms of organic reactions; structure and function of cellular components; enzyme-catalyzed reactions; mechanisms and energy relationships; isoelectric points. Molecular orbital theory; photochemistry; pericyclic reactions. May be concurrently scheduled with course C143A. S/U or letter grading. Mr. Chapman (F).

243B. Organic Chemistry: Mechanism and Structure. Lecture, three hours; discussion, one hour. Prerequisite: course C243A or consent of instructor. Mechanisms of organic reactions; structure and detection of reactive intermediates. May be concurrently scheduled with course C143B. S/U or letter grading. Mr. Chapman (W).

244. Strategy and Design in Organic Synthesis. Lecture/discussion, three hours. Prerequisite or corequisite: course C243A or consent of instructor. The theory behind the planning of syntheses of complex molecules from simpler ones. Organic reactions and their use in the synthetic process. The reasoning and art involved in organic synthesis.

245. Applications of Electronic Theory in Organic Chemistry. Lecture, discussion, one hour. Prerequisite or corequisite: course C243A or consent of instructor. A review of molecular orbital theory; introduction to alternative theoretical methods; aromaticity and homoaromaticity; Huckel and Møbius conjugation; Woodward-Hoffmann theory of concerted pericyclic reactions; through-bond and through-space interactions; an introduction to photoelectron spectroscopy; frontier molecular orbital theory; related specialized topics.

246. Bioorganic Chemistry. Lecture/discussion, three hours. Prerequisite or corequisite: course C243A or consent of instructor. Organic chemical models for biological processes; synthetic models for enzyme-catalyzed reactions; catalysis, and inhibition; models for transport; solid support chemistry; mechanisms for differential complexation.

247. Organic Colloquium (2 units). Seminars in organic chemistry and related areas presented by staff, outside speakers, postdoctoral fellows, and graduate students on topics of current biochemical research interest. May be repeated for credit. S/U grading.

248. Organic Chemistry Student Seminar (2 units). Seminars presented by staff, outside speakers, postdoctoral fellows, and graduate students. May be repeated for credit. S/U grading.


250. Topics in the Biochemistry and Molecular Biology of Animal Cells. Lecture, three hours. Prerequisites: courses 133A, 133C, consent of instructor, 157A, 157B, courses in genetics and molecular biology, consent of instructor. Study and organization of animal cells, cell-cell contact, motility of cell and mobility of cellular components; chemical structures, interactions, interactions between cytoplasm and nucleus, genetic analysis in higher eukaryotic cells, biochemistry of tissue development and organization. Mr. Jordan and invited Speakers.

251A-251Z. Advanced Topics in Organic Chemistry (2 to 4 units each). Prerequisite: consent of instructor. Each course ensembles a recognized specialty in biochemistry, generally taught by a staff member whose research interests embrace that specialty.

254. Advanced Biochemical Methods. Lecture/quiz, two hours; laboratory, eight hours. Prerequisites: course 156 or consent of instructor. Recommended corequisites: courses 157A and 157B, courses in genetics and molecular biology. May be concurrently scheduled with courses C143A, C143B. S/U grading.

255. Biological Catalysis (1 to 6 units). (Same as Biological Chemistry M255.) Prerequisites: course 110A, or consent of instructor. Lecture or recitation, five hours. Prerequisites: courses 110A, 156, 157A, and 157B, or Biological Chemistry 101A-101B or 201A-201B, or consent of instructor. Considers mechanisms and catalytic properties of enzymes and other macromolecular complexes, with emphasis on theory and methodology; correlation of structure and biological properties; chemical synthesis and properties of polysaccharides and polynucleotides. (F).

271A-271Z. Selected Topics (1 to 6 units each). (Same as Biological Chemistry 271A-271Z.) May be repeated for credit. S/U grading.

286. Biochemistry Research Seminar (2 units). Seminars presented by staff, outside speakers, postdoctoral fellows, and graduate students on topics of current biochemical research interest. May be repeated for credit. S/U grading.

267. Macromolecular Metabolism and Subcellular Organization (6 units). (Same as Biological Chemistry M267.) Lecture or recitation, five hours. Prerequisites: one course from 157A and 157B or Biological Chemistry 101A-101B or 201A-201B, or equivalent. Recommended: course M253. Metabolism of nucleic acids and proteins; biosynthesis of complex lipids and polysaccharides; structure and properties of cellular organelles.

268. Biochemistry Research Seminar (2 units). Seminars presented by staff, outside speakers, postdoctoral fellows, and graduate students on topics of current biochemical research interest. May be repeated for credit. S/U grading.

273. Developmental Biochemistry (2 units). (Same as Biological Chemistry M273.) Prerequisite: course M267 or consent of instructor. Biochemical aspects of development and cell differentiation. Includes key cell functions, and differential gene expression. The biochemistry of cell division, macromolecular synthesis, chromatin formation in gene expression, cell-cell interactions, membrane organization, and growth as they contribute to such topics as hormone induction, morphogenesis, and viral transformation. Emphasis on the use of differentiating in vivo systems and cell culture as models for current biochemical research. Mr. Harary, Mr. Herschman 271A-271Z. Advanced Topics in Inorganic Chemistry (2 to 4 units each). Prerequisite: consent of instructor. Each course ensembles a recognized specialty in inorganic chemistry, generally taught by a staff member whose research interests embrace that specialty.

275. Inorganic Chemistry: Reaction Mechanisms. Lecture/discussion. Prerequisites: courses 110A, 110B, 113A, 173, or equivalent. Survey of inorganic reactions; mechanistic principles; electronic structure of metal ions; transition-metal coordination chemistry; inner- and outer-sphere and chelate complexes; substitution, isomerization, and racemization reactions; stereochemistry; oxidation/reduction, free radical, polymerization, and photochemical reactions of inorganic species. May be concurrently scheduled with course C175.

Mr. Hawthorne, Ms. Valentine (F).
Chemistry/ 
Materials Science 
(Interdepartmental)

6532 Boelter Hall, (213) 825-5534

Professors
David L. Douglass, Ph.D. (Materials Science and Engineering) 
Bruce S. Dunn, Ph.D. (Materials Science and Engineering) 
M. Frederick Hawthorne, Ph.D. (Chemistry) 
Herbert D. Kaesz, Ph.D. (Chemistry) 
John D. Mackenzie, Ph.D. (Materials Science and Engineering) 
Malcolm F. Nicol, Ph.D. (Chemistry) 
Kanji Ono, Ph.D. (Materials Science and Engineering) 
Howard Reiss, Ph.D. (Chemistry)

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: Mathematics 31A, 31B, 32A, 32B, 33A, Physics 8A, 8B, 8C/8CL, 8D/8DL, Program in Computing 10A, Materials Science and Engineering 14, Chemistry 11A or 11AH, 11B or 11BH, 11C or 11CH, 11BL or 11CL, 21 (may be replaced by 133A if offered as part of the major), English 3.

The Major
Required: Chemistry 110A, 110B, 113A, C113B or C115A-C115B, 114, 173, one or two courses from C123A, C123B, 133A, 133B, 133C, 174, C175, C176; Materials Science and Engineering 144A, 146A, 147A, three to four courses from 140D, 141, 142A, 143A, 145A, 145B, 146F, 147B, 147E, two courses from 142L, 144L, 146L.

For further information, contact Barbara Brooks, Materials Science and Engineering, 6532 Boelter Hall.
The major is recommended for students preparing for graduate study as well as for public service careers. You are encouraged to spend up to one year in either (1) a service agency in the Chicano community or (2) a professional research project on the Chicano experience.

Preparation for the Major

Required: One course from each of the following departments: Anthropology 5, 6, or 22; Economics 1 or 2; History 6A, 6B, or 6C; Political Science 1; Sociology 1; Spanish 5 or equivalent. You must complete prerequisites for all courses selected.

The Major

This consists of three elements, one of which is optional (you must complete prerequisites for all courses in the major):

1. **Major Core** (nine courses): Chicano Studies M102, M105, M145, M147, M159A, M159B, M172T; History 197; Sociology 124* or 155*.

2. **Major Concentration**: Four courses in one discipline, selected from Anthropology 115P, 135A, 135B, 135Q, 136P, 138, M140, 150, 154, 166, 167, 185; Economics 110, 120, 121, 150, 151, 152, 172; English M104A, M104B, 106, 171, 172, 173, 174, 188, 189, 190; History 147B, 153, 154B, 160, 162, 163; Library and Information Science 111C, Political Science 115, 142, 149, 172B, 173, 174, 182A, 185, 190, 191; Psychology 127, 130, 134, 135, 135A, 137A, 137C, 143, 175; Sociology 109, 113, 120, 123, 125, 140, 142, M143, and 155* or 124*; Spanish 100A, 100B, 105A, 105B, 107, 115, M118A, M118B, 136A, 136B, 137, 139, 142, 143, 144, M149. You may petition to the committee in charge of the major to include in the major concentration a course not on the approved list. CED courses may be applied by petition.

3. **Optional Multidisciplinary Senior Thesis** — Prerequisite: senior standing. 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 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 quarter includes thesis conceptualization and formulation, along with preliminary data collection for the thesis. The second quarter 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 department chair and either the chair or adviser for the Chicano studies major. No more than two CED courses may be applied toward the major concentration.

### Upper Division Courses

**M102. 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 the development of Mexican-American and Chicano youth and communities.

**M103C. The Origins and Evolution of Chicano Theater.** (Same as Theater M103C,) Lecture, three hours. Prerequisite: upper division standing. An exploration of the development of Chicano theater from its beginnings in the legends and rituals of ancient Mexico to the work of Luis Valdez (late 1960s).

**M103D. Contemporary Chicano Theater.** (Same as Theater M103D) Lecture, three hours. Prerequisite: upper division standing. A study of recent trends in Chicano theater as reflected in the works of contemporary Chicano dramatists and theater (1970 to present). Mr. Zamora

**M105. The Chicano Experience in Literature.** (Same as English M105.) Prerequisite: satisfaction of Subject A requirement. The study of literature in English by and about Chicanos. Survey of the depiction of Chicano life and experiences in American literature generally, with emphasis on the development of Chicano literature itself, its cultural backgrounds, and distinctive uses of language. Mr. Paredes

**M145. Introduction to Chicano Literature.** (Same as Spanish M145.) Lecture, three hours. Prerequisite: Spanish 25 or 26. Recommended: Spanish 136B. Introduction to texts representative of the Chicano literary heritage. A 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 of the required reading is in Spanish. Bilingual and English works are included and discussed. Reading: Zd analysis of a number of important scholarly and critical statements pertaining to the characteristics and development of the Chicano literary corpus.

**M147. Minority Group Politics.** (Same as Political Science M147.) Lecture, three hours; discussion, one hour. Prerequisites: Political Science 1 plus one of the following: one additional 140-level political science course or one upper division course on race or ethnicity from history, political science, or sociology, or consent of instructor. A systematic evaluation of the functioning of the American polity related to problems of race and ethnicity. Topics include leadership, organization, ideology, conventional versus unconventional political behavior, inter-minority relations, co-optation, symbolism, and repression. Mr. Rocco

**M159A. History of the Chicano Peoples.** (Same as History M159A.) Lecture, three hours. A survey lecture course on the historical development of the Mexican (Chicano) community and people of Mexican descent (Indio-Mestizo-Mulato) north of the Rio through the 17th, 18th, and 19th centuries, with special focus on labor and politics. Provides an integrated understanding of the changes over time in the Mexican community by inquiry into the major formative historical forces affecting the community. Social structure, economy, labor, culture, political organization, conflict, and international relations. Emphasis on social forces, class analysis, social, economic, and labor conflict, ideas, domination and resistance. Developments related to historical events of significance occurring both in the United States and Mexico. Lectures, special presentations, reading assignments, written examinations, library and field research, and submission of a paper. Mr. Gómez-Quintones

**M159B. History of the Chicano Peoples.** (Same as History M159B) Lecture, three hours. A survey lecture course on the historical development of the Mexican (Chicano) community and people of Mexican descent in the United States through the 20th century, with special focus on labor and politics. Provides an integrated understanding of the changes over time in the Mexican community by inquiry into the major formative historical and policy issues affecting the community. Within 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 United States and Mexico. Lectures, special presentations, reading assignments, written examinations, library and field research, and submission of a paper. Mr. Gómez-Quintones

**M172T. Ethnohistory of Hispanic Cultures in the U.S.** (Same as Anthropology M172T) Lecture, three hours. Prerequisite: Anthropology 5 or 22 or consent of instructor. An ethnography of the social and cultural adaptations of the 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. Ms. Rodriguez

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**Classics**

7349 Bunche Hall, (213) 825-4171

**Professors**

Michael W. Haslam, Ph.D.
Philip Levine, Ph.D.
Bent T. M. Loftis, Ph.D.
Jaan Puhvel, Ph.D.
Milton V. Anastos, Ph.D., Emeritus
Paul A. Clement, Ph.D., Emeritus
Albert H. Travis, Ph.D., Emeritus

**Associate Professors**

Ann L. T. Bergen, Ph.D.
Andrew R. Dyck, Ph.D.
Bernard D. Frischer, Ph.D., Chair
Katherine C. King, Ph.D.
Steven Lattimore, Ph.D.

**Assistant Professors**

David L. Blank, Ph.D.
Sander M. Goldberg, Ph.D.

**Lecturers**

Helen C. Caldwell, M.A., Emeritus
Barbara E. Killian, M.A., Emeritus
Evelyn Venable Mohr, M.A., Emeritus

**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 the Classics (i.e., 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 purpose of the classical civilization major is to provide a balanced, yet focused, view of the ancient civilizations of Greece and Rome, both historically unique and universally typical human creations. The approach to the subject is accordingly both causal and comparative. The areas of study include the elements of culture — religion, mythology, philosophy, art, literature, language, the socioeconomic system, and politics. The requirements of the major encourage both breadth and depth: eight of the 14 required upper division courses (four from this department and four from other departments) must be taken in one of the four areas of concentration listed below; the remaining six upper division courses taken in this department may be selected to reflect your varied interests in the areas outside your concentration. The culmination of the program will be a senior paper, written during your senior year under professorial supervision. While this major is not designed to qualify you for graduate study in classics, it does not preclude a transition to advanced study in classics or related fields.

**Preparation for the Major**

*Required:* Classics 10 and 20.

**The Major**

*Required:* (1) Classics 195 and nine upper division courses in this department, of which no more than three may be selected from either Greek 100 through 130 or Latin 100 through 130 and of which four must be selected from the courses listed below under any one of the four areas of concentration; (2) any four related courses in other departments listed below in your chosen area of concentration. Total courses required: 14.

**Areas of Concentration**

1. **Language and Society:** Classics 180, three courses from either Latin 100 through 130 or Greek 100 through 130. 
3. **Literature and Society:** Classics 141, 142, 143, 144, 145, 150A, 150B, 152, 165. 
5. **Related courses:** Art History 103A, 103B, 103C, 103D, 105A, Geography 151, Sociology 125, same history and anthropology courses as above under item 3.

**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 142 and either 141 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 151A, 151B, 151C, 151D), classical linguistics (Classics 180), classical mythology (Classics 161, 162, 168), Greek and Roman religion (Classics 166A, 166B), ancient philosophy (Classics 145, Philosophy 101A, 101B, 102, Greek 101, 122, 123, 124), Byzantine civilization (Classics M170A, M170B), 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 110; (2) one upper division course in Greek; (3) Classics 142 and either 141 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 151A, 151B, 151C, 151D), classical linguistics (Classics 180), classical mythology (Classics 161, 162, 168), Greek and Roman religion (Classics 166A, 166B), ancient philosophy (Classics 145, Philosophy 101A, 101B, 102, Greek 101, 122, 123, 124), Byzantine civilization (Classics M170A, M170B), medieval Latin literature (Latin 131, 133). Total courses required: 16.

**Note:** Students in the classics, Greek, and Latin majors are permitted to take Greek 200A-200B and Latin 200A-200B. Two of these courses may replace one course in requirement 3 of the Greek and Latin majors and requirement 2 of the classics major, as well as two courses in requirement 1 of all three majors, thereby reducing the total number of required courses by one.
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 105 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.

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 classics (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 uses 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 may allow provisional admission in such cases.

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 and Latin (for the Greek M.A.) or Latin authors (for the Latin M.A.). The examinations consist of three two-hour written tests on sight translations from Greek and prepared texts from the Greek reading list (for the Classics and Greek M.A.), sight translations from Latin and prepared passages from the Latin reading list (for the Classics and Latin M.A.), and the history of Greek and Latin literature (Greek or Latin for the Greek or Latin M.A.). The three examinations may be taken on three separate days, which need not be during the same quarter. The M.A. examinations are normally given at the beginning of each quarter. All examinations may be repeated once; in exceptional cases and with consent of the departmental faculty, more than once.

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 (for the Greek M.A.) or Latin authors (for the Latin M.A.). The examinations consist of three two-hour written tests on sight translations from Greek and prepared texts from the Greek reading list (for the Classics and Greek M.A.), sight translations from Latin and prepared passages from the Latin reading list (for the Classics and Latin M.A.), and the history of Greek and Latin literature (Greek or Latin for the Greek or Latin M.A.). The three examinations may be taken on three separate days, which need not be during the same quarter. The M.A. examinations are normally given at the beginning of each quarter. All examinations may be repeated once; in exceptional cases and with consent of the departmental faculty, more than once.

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 5, 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 Educational Testing Service (ETS) reading examination (you need a minimum score of 500); for Italian, a written translation examination is administered by the department.

Course Requirements

For the Classics M.A., nine courses are required. These must include Greek 210 and Latin 210, one course each from the Greek 200A-200B-200C and Latin 200A-200B-200C series, and one course in the 201 through 229 series in each language. The three remaining courses are to be selected in consultation with the graduate adviser from the upper division and graduate courses offered by the department (or exceptionally by other UC departments or programs).

Nine courses are required for the Greek and Latin M.A. degrees. The University requires that at least five be graduate courses. For the Greek M.A., these must include Greek 210, two courses from the Greek 200A-200B-200C series, one course from the Greek 201 through 229 series, three additional upper division or graduate Greek courses, and two additional upper division or graduate courses to be selected in consultation with the graduate adviser. The Latin M.A. course requirements are identical except for the substitution of Latin for Greek courses.

No more than one 596 course may be applied toward the M.A. course requirements.

Ph.D. Degree

Admission

In addition to an M.A. degree (see below), 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 follows the comprehensive examination plan for the Ph.D. degree. Before the examination, you are expected to complete the departmental reading lists in Greek (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 examinations consist of three two-hour written tests on sight translations from Greek and prepared texts from the Greek reading list (for the Classics and Greek M.A.), sight translations from Latin and prepared passages from the Latin reading list (for the Classics and Latin M.A.), and the history of Greek and Latin literature (Greek or Latin for the Greek or Latin M.A.). The three examinations may be taken on three separate days, which need not be during the same quarter. The M.A. examinations are normally given at the beginning of each quarter. All examinations may be repeated once; in exceptional cases and with consent of the departmental faculty, more than once.

Qualifying Examinations

Before the qualifying examinations, you must complete the departmental Ph.D. reading list in either Greek or Latin authors, which is in addition to the M.A. reading lists and varies somewhat according to the area of specialization. In addition, students entering with the Greek M.A. must complete the Latin M.A. reading list; students entering with the Latin M.A. must complete the Greek M.A. reading list. Students are advanced to candidacy as a result of passing the qualifying examinations (which consist of written examinations covering translation, the reading lists, and your area of specialization) and the University Oral Qualifying Examination covering both the area of specialization and the general field of classical studies. Each examination may normally be repeated once.
Candidate in Philosophy Degree
You are eligible to receive the Ph.D. degree upon completion of all coursework and defenses. You must be an approved candidate and a regular faculty member. Consult with your advisor for the specific requirements for advancement to candidacy for the Ph.D.

Final Oral Examination
All defenses of the dissertation, which is written under the supervision of the individual advisor and must contribute significantly to research on the subject, may be oral or by written examination at the discretion of the dissertation committee.

Classics

Lower Division Courses

10. Survey of Classical Greek Literature. Knowledge of Greek is not required. Lectures, many illustrated, on Greek life and culture from the age of Homer to the Roman conquest. Discussion of art, literature, philosophy, and mythology.

150A. Origins of the Western View of Women: The Female in Greek Thought. (Formerly numbered 150.) Lecture, three hours. An interdisciplinary study of the 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.

150B. Origins of the Western View of Women: The Female in Roman and Early Christian Thought. (Formerly numbered 150.) Lecture, three hours. Course 150A is not prerequisite to 150B. An interdisciplinary study of the concept of the female in Roman and early Christian thought. Special emphasis on the status of the female with regard to sexuality, procreation, and the sacred.


151B. Classical Archaeology: Greco-Roman Architecture. Knowledge of Greek and Latin is not required. A general introduction to the study of Aeneas, Greco-Roman architecture. Mr. Lattimore.

151C. Classical Archaeology: Greco-Roman Sculpture. Knowledge of Greek and Latin is not required. A general introduction to the study of Aeneas, Greco, and Roman sculpture. Mr. Lattimore.

151D. Classical Archaeology: Greco-Roman Pottery. Knowledge of Greek and Latin is not required. A general introduction to the study of Aeneas, Greek, and Roman painting. Mr. Lattimore.

152. The Ancient City. A study of urban planning in the ancient world, with particular attention to the cities of classical Greek 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 the form, design, and function of the major municipal areas and buildings, and the provision of public amenities. Emphasis on reference to significant archaeological sites and contemporary sources. Mr. Frischer, Mr. Lattimore.

161. Introduction to Classical Mythology. The origins of classical myth; the substance of divine myth and heroic saga; the place of myth in religion; a survey of the study of classical mythology.

162. Classical Myth in Literature. The use of myth in the principal authors and genres of Greek and Roman literature, with examples of its influence in later literatures.

165. Ancient Athletics. A study of ancient Greek and Roman athletics and their connections with religion, politics, literature, and art.

166A. Greek Religion. A study of the religion of the ancient Greeks and Romans. Mr. Dyck.

166B. Roman Religion. A study of the religion of the ancient Romans.

166C. Introduction to Comparative Mythology. Prerequisite: course 161 or consent of instructor. The religious, mythological, and historical traditions of Greece and Rome compared with each other and with those of other ancient Near Eastern and European societies.

168A. Greek Literature. A study of Greek literature, exclusive of the prehistoric, archaic, or lyric periods. Mr. Puhvel.

168B. Roman Literature. A study of the literature of the ancient Romans.

170A. Byzantine Civilization. (Same as History M122A.) Emphasis on Byzantine poetry.

170B. Byzantine Civilization. (Same as History M122B.) Emphasis on Byzantine poetry.

180. Introduction to Classical Linguistics. Prerequisite: Greek 3, Latin 3. Basic knowledge of the comparative grammar of Greek and Latin and one of another and in the frame of Indo-European linguistics.

195. Senior Paper. Limited to seniors in classical civilization. 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.

Graduate Courses

200. History of Classical Scholarship. Mr. Dyck.

230A-230B. Language in Ancient Asia Minor. Prerequisite: consent of instructor. Survey of the language situation in Anatolia in the 2nd and 1st millennia B.C. Readings in Hitite, Palae, Luwan, Hieroglyphic, Lydia, and Lydian texts. Anatolian-Greek relationships and survivals in classical and Hellenistic times.

240. Etrusco-Latin. Prerequisite: consent of instructor. A survey of scholarly research on Etruscan language and culture, with analysis of epigraphic materials.

246. Greek and Latin Meter. Prerequisite: consent of instructor. A comprehensive survey of meter as it functions in classical poetry.

251A. Seminar in Classical Archaeology. The Aegean Bronze Age.

251B. Seminar in Classical Archaeology. Greco-Roman architecture.

251C. Seminar in Classical Archaeology. Greco-Roman sculpture.

251D. Seminar in Classical Archaeology. Greco-Roman painting.


260. Topics in Ancient Religion. Seminar, three hours. Prerequisite: consent of instructor.

268. Seminar in Comparative Mythology. Prerequisites: course 168, consent of instructor. Advanced study of selected topics in comparing Greek and Roman traditions with other ancient Near Eastern and European societies.

287. Graduate Colloquium in Classical Literature. (Formerly numbered M267.) A survey of the basic methods of and approaches to classical scholarship, including textual criticism, literary interpretation and theory, hermeneutics, interdisciplinary studies, and computer applications to classics. Emphasis varies from year to year, depending on instructor(s). May be repeated for credit with topic change. S/U grading.

290. Teaching Apprentice Practicum. (1 to 4 units). Prerequisite: apprentice personal employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the active guidance and supervision of a member of the regular faculty, responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading.

560. Directed Individual Study or Research (2 to 8 units).

579. Research for Ph.D. Qualifying Exams (2 to 8 units).

595. Research for Ph.D. Dissertation (2 to 8 units).
Graduate Courses

The 200-series courses which are designated A and B (e.g., 201A-201B) are double courses. Course A is presemester and is normally prerequisite to course B, a seminar.

200A-200B. History of Greek Literature. Prerequisite: consent of instructor. Lectures on the history of Greek literature, supplemented on the part of the student by independent reading of Greek texts in the original. Ms. Bergren, Mr. Haslam, Ms. King
201A-201B. Homer: Iliad. Ms. Bergren, Mr. Haslam, Ms. King
202A-202B. Homer: Odyssey and the Epic Cycle. Ms. Bergren, Mr. Haslam, Ms. King
203. Hesiod. Ms. Bergren, Mr. Frischer
204. Homeric Hymns. Ms. Bergren
205. Seminar in Aeschylus. Ms. Bergren, Mr. Blank, Mr. Haslam
206A-206B. Sophocles. Mr. Haslam, Mr. Lattimore
207A-207B. Euripides. Mr. Frischer, Mr. Haslam, Ms. King
208A-208B. Aristophanes. Ms. Bergren
209. Seminar in Hellenistic Poetry. Mr. Frischer, Mr. Haslam
210. Advanced Greek Prose Composition. Prerequisite: course 110 or equivalent. Mr. Haslam
211A-211B. Herodotus. Ms. Bergren, Mr. Blank
212A-212B. Thucydides. Mr. Haslam, Mr. Lattimore
213. Seminar in Greek Historiography. Ms. Bergren
214. Demosthenes. Mr. Dyck
216. Menander. Prerequisite: reading knowledge of classical Greek. Mr. Frischer, Mr. Goldberg
217A. Greek Lyric Poetry: Archaic Lyric. Prerequisite: consent of instructor. A study of lyric poetry of the archaic period, both choral and monodic, with emphasis on the development of the ability to read early selections of classical prose. Mr. Frischer, Mr. Goldberg
217B. Greek Lyric Poetry: Pindar and Bacchylides. Prerequisite: consent of instructor. A study of the choral odes of Pindar and Bacchylides, with special attention to the conventions of the epinician. Ms. Bergren, Mr. Haslam
221. Seminar in the Pre-Socratic Philosophers. Ms. Bergren, Mr. Blank
222A-222B. Plato. Ms. Bergren, Mr. Blank
223A-223B. Aristotle. Mr. Blank, Mr. Dyck
224. Seminar in Post-Aristotelian Philosophy. Mr. Blank, Mr. Frischer
225A-225B-225C. Seminar in Later Greek and Byzantine Literature. Prerequisite: consent of instructor. Studies in various aspects of Byzantine Greek language and literature. Topics vary from year to year. Each course may be taken independently and may be repeated for credit with topic change. Mr. Blank, Mr. Dyck
233. Byzantine Poetry. A study of the main representatives of both religious and secular poetry. Mr. Dyck
240A-240B. History of the Greek Language. Prerequisite: consent of instructor. 240A. The linguistic history of classical Greek. 240B. Postclassical, medi eval, and modern Greek. Mr. Dyck
241. Greek Epigraphy. A survey of Greek historical inscriptions, chiefly Attic. Mr. Dyck

Latin

Lower Division Courses

1. Elementary Latin. Lecture, five hours. (F)
1G. Elementary Latin for Graduate Students (No credit). Concurrently scheduled with course 14.
2. Elementary Latin. Lecture, five hours. Prerequisite: course 1.
3. Elementary Latin. Lecture, five hours. Prerequisite: course 2. (Sp)
4. Latin Syllabary. Lecture, five hours. Prerequisite: course 3. Mr. Dyck
10. Readings in Latin Prose and Poetry. Lecture, three hours. Prerequisite: course 3 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. Mr. Blank, Mr. Levine
101. Plautus. Mr. Goldberg, Mr. Lofstedt
102. Terence. Mr. Goldberg, Mr. Lofstedt
103. Lucretius. Mr. Blank, Mr. Frischer, Mr. Levine
104. Ovid. Mr. Blank, Mr. Frischer, Ms. Bergren
105. Vergil: Selections from Aeneid I-VI. (Formerly numbered 165A) Ms. Bergren
106. Catullus. Mr. Haslam, Mr. Levine
107. Horace. Mr. Frischer, Mr. Levine
108. Roman Epic. Selections from Catullus, Tibullus, and Propertius. Mr. Frischer, Mr. Levine
109. Roman Satire. Selections from the Epistles of Horace, the Satires of Juvenal, and the Epigrams of Martial. Mr. Levine

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 3 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. Mr. Blank, Mr. Levine
101. Plautus. Mr. Goldberg, Mr. Lofstedt
102. Terence. Mr. Goldberg, Mr. Lofstedt
103. Lucretius. Mr. Blank, Mr. Frischer, Mr. Levine
104. Ovid. Mr. Blank, Mr. Frischer, Ms. Bergren
105. Vergil: Selections from Aeneid I-VI. (Formerly numbered 165A) Ms. Bergren
106. Catullus. Mr. Haslam, Mr. Levine
107. Horace. Mr. Frischer, Mr. Levine
108. Roman Epic. Selections from Catullus, Tibullus, and Propertius. Mr. Frischer, Mr. Levine
109. Roman Satire. Selections from the Epistles of Horace, the Satires of Juvenal, and the Epigrams of Martial. Mr. Levine
110. The Study of Latin Prose. Work in sight reading and grammatical analysis of classical prose texts; writing of classical prose. Mr. Blank, Mr. Levine
111. Livy. Mr. Frischer, Mr. Lofstedt
112. Tacitus. Mr. Frischer, Mr. Lofstedt
113. Cicero: The Orations. Mr. Dyck, Mr. Frischer
114. Roman Epistemology: Cicero and Pliny. Mr. Blank, Mr. Dyck, Mr. Frischer
115. Caeser. Mr. Dyck
116. Petronius. Mr. Frischer, Mr. Lofstedt
117. Sallust. Mr. Frischer, Mr. Lofstedt
118. Seneca. A selection of Seneca's works is read in Latin. Mr. Blank, Mr. Lofstedt
120. The Vulgate. Lecture, three hours. Prerequisite: course 3 or consent of instructor. Reading of selected course 3 or consent of instructor. Reading of easy Latin. Mr. Dyck
121. The Early Latin. Methodology and analysis of Latin. Mr. Blank, Mr. Lofstedt
130. Introduction to Medieval Latin. Prerequisite: course 3 or consent of instructor. Reading of easy prose texts, with emphasis on basic language training. Mr. Lofstedt
131. Medieval Latin Prose. Prerequisite: course 130 or consent of instructor. Extensive reading of selected texts in prose, with emphasis on the idioms and syntax of medieval Latin. Mr. Lofstedt
133. Medieval Latin Poetry. Prerequisite: one upper division language course in Latin or consent of instructor. Mr. Lofstedt
199. 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 A is a preseminar and is normally prerequisite to course B, a seminar.

200A-200B-200C. History of Latin Literature. Prerequisite: consent of instructor. Lectures on the history of Latin literature, supplemented on the part of the student by independent reading of Latin texts in the original. Mr. Frischer, Mr. Goldberg, Mr. Levine
201. The Roman Epic Tradition. Seminar, three hours. Close study of one epic poet other than Vergil (e.g., Ennius, Lucan, Valerius Flaccus, Statius, Silius Italicus), with attention to the literary tradition of epic. May be repeated for credit with topic change. Mr. Frischer, Mr. Goldberg
202. Seminar in Catullus. A detailed consideration of the entire Catullan corpus. Mr. Levine
203A. Elexic Poetry. Mr. Frischer, Mr. Levine
203B. Propertius. Mr. Frischer, Mr. Levine
204A-204B. Vergil's Aeneid. Mr. Haslam, Ms. King
205. Seminar in Vergil's Bucolics. Mr. Frischer, Ms. King
206. Horace. Mr. Frischer
207. Roman Comedy. Prerequisite: consent of instructor. Survey of the history of Roman comedy. Reading of one comedy by Plautus or Terence, with emphasis on language and meter. Mr. Goldberg, Mr. Lofstedt
208. Ovid. Prerequisite: reading knowledge of classical Latin. A detailed study of the poetic works of Ovid. Readings in the original with discussion of the secondary literature and scholarship. May be repeated for credit with topic change. Ms. Bergren
209. Seminar in Roman Satire. A detailed study of an individual satirist, with attention to his position in the development of the satirical genre in Roman literature. Choice of author varies from year to year. Close study of the text, of the characteristics of the writer as a social critic and artist, and of the contemporary literary and social environment. Ms. Bergren

210. Advanced Latin Prose Composition. Prerequisite: course 110 or equivalent. Mr. Levine
211A-211B-211C. Seminar in the Roman Historians: A study of considerable portions of the writings of the three major historians. Mr. Levine
211A. Sallust. Mr. Dyck
211B. Livy. Mr. Frischer
211C. Tacitus. Mr. Frischer
215. Seminar in the Roman Novel. Works such as Petronius' Satyricon and Apuleius' Metamorphoses: a study of the literary problems. May be repeated for credit with topic change. Mr. Blank, Mr. Lofstedt
216. Roman Rhetoric. Seminar, three hours. Close study of one rhetorical text (e.g., Rhetorica ad Herennium, Cicero's De Oratore, Seneca's Controversiae or Suasoriae, Quintilian's Institutionum), with attention to its place in the rhetorical tradition. May be repeated for credit with topic change. Mr. Dyck, Mr. Frischer
220. Cicero's Orations. (Formerly numbered 220B.) Seminar, three hours. Mr. Dyck, Mr. Frischer
221A. Cicero's Philosophical Works. Mr. Dyck, Mr. Frischer, Mr. Levine
221B. Cicero: De Natura Deorum. Mr. Dyck, Mr. Frischer, Mr. Levine
222. Seminar in Roman Stoicism. Prerequisite: reading knowledge of Greek and Latin. Mr. Blank, Mr. Dyck, Mr. Frischer
223. Lucretius. Mr. Blank, Mr. Frischer
224. Seneca. Seminar, three hours. Detailed study of one work of prose or poetry by the younger Seneca. Emphasis on literary and philosophical problems, with some attention to philosophical and historical matters as well. May be repeated with topic change. Mr. Goldberg
231A-231B. Seminar in Medieval Latin. Prerequisite: at least one upper division course in Latin 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. Mr. Lofstedt
232. Vulgar Latin. Prerequisite: consent of instructor. History and characteristics of popular Latin, its development into the early forms of the Romance languages. Mr. Lofstedt
240. History of the Latin Language. Prerequisite: consent of instructor. The development of Latin from the earliest monuments until its emergence in the Romance languages. Mr. Goldberg
242. Italic Dialects and Latin Historical Grammar. Prerequisite: consent of instructor. The linguistic situation in early Italy. Readings in Oscan, Umbrian, and early Latin texts. Latin grammar in the context of Italic and Indo-European linguistics. Mr. Puhev
243. Seminar in Latin Palaeography. Studies in the development of the book hand in Latin manuscripts earlier than the invention of printing. Mr. Levine
237. The Teaching of Latin. Prerequisite: graduate standing or consent of instructor. Techniques for teaching; organization of courses, review of the content of the curriculum offered in junior and senior high schools. Mr. Goldberg
495. College Teaching of Latin (2 units). Prerequisites: appointment as a teaching assistant, consent of instructor. Methodology of instruction in conjunction with classroom practice. May be repeated for credit. S/U grading. 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). Mr. Goldberg
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

Communication Studies

(Interdepartmental)

232 Royce Hall, (213) 825-3303

Professors

Patricia M. Greenfield, Ph.D. (Psychology)
Steven H. Shifrin, J.D. (Law)
Donald E. Hargis, Ph.D., Emeritus

Associate Professors

Patrice French, Ph.D.
Neil M. Matamuth, Ph.D., Chair
Paul I. Rosenthal, Ph.D.

Assistant Professor

Donald O. Case, Ph.D. (Library and Information Science)

Lecturers

Jeffrey I. Cole, Ph.D.
L. Geoffrey Cowan, LL.B.
Diana M. Meehan, Ph.D.
Janet Weathers, Ph.D.

Art History (Art, Design, and Art History) 103A. Greek Art
103B. Hellenistic Art
103C. Roman Art
223. Classical Art

History 115A-115B-115C. History of the Ancient Mediterranean World
116A-116B. History of Ancient Greece
117A-117B. History of Rome
121A-121B. Medieval Europe
123A-123B. Byzantine History
215A-215B. Seminar in Ancient History
216A-216B. Seminar in Byzantine History
222A-222B. Seminar in Medieval Intellectual History and History of Science

Indo-European Studies 132. European Archaeology: The Bronze Age
M150. Introduction to Indo-European Linguistics
210. Indo-European Linguistics: Advanced Course
280A-280B. Seminar in Indo-European Linguistics
Philosophy 101A. Plato — Earlier Dialogues
101B. Plato — Later Dialogues
102. Aristotle

Courses on Other Campuses

Exchange and resource-sharing programs make it possible for UCLA students to take classics and classics-related courses at other schools in the Southern California area (i.e., University of Southern California and the Irvine, Riverside, and Santa Barbara campuses of the University of California). The graduate and undergraduate advisers should be consulted for specific details.
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. Emphasizing 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 macroscopic 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 16 upper division courses as set forth below. Enrollment in the major is limited. Admission to the major will be by application to the committee in charge. Applications are available in the program office.

Preparation for the Major

Required: Communication Studies 10, Linguistics 1, Psychology 1, Sociology 1. Linguistics 2 is required for students who specialize in interpersonal communication.

The Major

Required Core Courses: Communication Studies 100 and 101 and one course from Anthropology M140, Communication Studies 102, or Linguistics 100.

Specializations

Mass Communication: (1) Theory and method — Communication Studies 140, 152, and either Communication Studies 147 or Sociology 122, and one course from Political Science 141, Psychology 137B, or Sociology 150; (2) modes of mass communication — two courses from Communication Studies 160, 165, 170; (3) media and media history — two courses from Communication Studies 187, Motion Picture/Television 106A, 108, 110A, and either Motion Picture/Television 116 or Communication Studies 175; (4) electives (five courses) — two courses from Communication Studies 147 or Sociology 122, Communication Studies 140, 152, 160, 165, 170; three courses from one of the following groups: (a) language theory — Communication Studies 142, 150, Linguistics 100, 170, Philosophy 172, Psychology 123; (b) media and media history (communication Studies 187, Motion Picture/Television 106A, 108, 110A, and either Communication Studies 175 or Motion Picture/Television 116; (c) social systematics — Anthropology 133P, 133R, 135A, 135B, 142A, 142B, Sociology C144A, C144B, and either Anthropology 134 or Sociology 151.

Lower Division Course

10. Introduction to Communication Studies. An introduction to the fields of mass communication and interpersonal communication. Study of modes, media, and effects of mass communication, interpersonal processes, and communication theory.

Upper Division Courses

100. Communication Theory. Prerequisite: course 10, Linguistics 1, Psychology 10, or consent of instructor. An analytical approach to the study of theories of human communication; its physical, linguistic, psychological, and sociological bases. Study of theoretical models explicating the process and constituents of the communicative act.

101. Freedom of Communication. Analysis of legal, political, and philosophical issues entailed in the rights of free speech, access to an audience, and access to information. Study of court decisions governing freedom of communication in the United States.

102. The Code of Human Communication. Prerequisite: course 10, Sociology 1, Psychology 10, Linguistics 1, or consent of instructor. The structural analysis and description of human communication codes; the development of language; characteristics of the source, channels, and destination in human communication.

115. Dyadic Communication and Interpersonal Relationships. Prerequisite: course 100. The developmental approach to the study of communication in dyadic relationships. Analysis of differences in the stages of relationships in terms of communication rules and verbal and nonverbal messages.

120. Principles and Types of Group Communication. Prerequisite: course 100 or consent of instructor. Analysis of the purposes, principles, and types of small group communication. Particular emphasis on the organization of and participation in problem-solving discussion.

130. Cultural Factors in Interpersonal Communication. Prerequisite: course 100 or consent of instructor. A study of the cultural factors as they affect the quality and processes of interpersonal communication; exercises in the participation, analysis, and criticism of interethnic and interracial communications in this country.

140. Theory of Persuasive Communication. Prerequisite: course 100 or consent of instructor. The dynamics of communication designed to influence human conduct; analysis of the structure of persuasive discourse; examination of theoretical materials drawn from relevant disciplines of the humanities and social sciences.

142. Rhetorical Theory. Prerequisite: course 100 or consent of instructor. Survey of the major classical and neoclassical treatises on rhetoric. Analysis of the theories of Plato, Aristotle, Cicero, Quintilian, St. Augustine, Blair, Whately, Campbell, and other leading authorities.

150. Analysis of Communication Content. Prerequisite: course 100 or consent of instructor. Study of methodologies for the qualitative and quantitative analysis of the content of communications.

152. Analysis of Communication Effects. Prerequisite: course 100 or consent of instructor. Survey of experimental and field research on the effects of communications. Study of source, message, and environmental factors affecting audience response.

153. The Media and Aggression Against Women. Lecture, two hours; discussion, two hours. Prerequisite: course 152 or consent of instructor. Study of the growing body of literature on the relationship between the mass media and aggression against women. Consideration of both the role of the media as reflecting cultural values and scripts and its potentially powerful role as a socializing agent of the culture. Analysis of research on the role of individual differences among members of a culture as mediators of the impact of the media.

155. Communication Technology and Public Policy. Prerequisite: course 10. An introduction to modern communication technology and policy, with special attention to current policy issues, the institutions which make policy decisions, and the social, economic, and technological trends which create policy problems. Modern communication technologies surveyed include cable television, teletext, videodisc, and satellite, microwave cellular, and subcarrier communication.

160. Political Communication. Prerequisites: courses 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; state papers; deliberative discourses; electoral campaigns.

165. Agitational Communication. Prerequisites: courses 100 and 101, or consent of instructor. Theory of agitation; agitation as a force for change in existing institutions and policies in a democratic society. Intensive study of selected agitational movements and the techniques and content of their communications.

170. Legal Communication. Prerequisites: courses 100 and 101, or consent of instructor. Study of the trial and appellate processes as systems of communication. Analysis of the elements of the judicial process as they affect the quality of communication content. Study of the rules of evidence, jury behavior, and the structure of legal discourse.

Ms. French, Ms. Weathers
171. Seminar in the Theories of Freedom of Speech and Press. Prerequisites: course 101, consent of instructor. An exploration of the relationship between the freedoms of speech and press and values of liberty, self-realization, self-government, truth, dignity, respect, justice, equality, association, and community. Study of the significance of these values examined in connection with issues such as obscenity, defamation, access to the media, and the control of commercial, corporate, and government speech.

Mr. Shiff

175. Criticism and the Public Arts. Prerequisite: course 10 or consent of instructor. An introduction to methods and problems of criticism in the public arts. Study of several types of critical methods: formalistic, analogue, pragmatic, and aesthetic criticism. Topics include the definition of art and criticism, the aesthetic media, genre and resources of film, television, theater, and public discourse, the varieties of critical method, the problems of critical judgment.

185. Field Studies in Communication (2 to 4 units). (Formerly numbered 199F.) Discussion, two hours; fieldwork, seven to 14 hours (depending on unit value). Prerequisites: senior standing in communication studies, consent of instructor. Fieldwork in communication. Students participate in two-hour seminar sessions and spend seven to eight hours in approved community settings each week for each two units of credit. May be taken for a maximum of six units. P/NP grading. Ms. Gregory

187. Ethical and Policy Issues in the Institutions of Mass Communication. Prerequisites: courses 10, 101. An intensive examination of the ethical and policy issues arising from the interaction of media institutions (print, film, broadcasting, and the new technologies) and societal institutions (Congress, federal agencies, courts, the Presidency, schools, churches, political action groups, advertisers, and audiences).

Mr. Cole

197. Undergraduate Honors Proseminar. Prerequisites: senior standing, 3.5 GPA in communication studies major, 3.3 GPA overall. Limited enrollment. Variable topics course involving specialized study of selected aspects of the field of human communication.

199. Special Studies (2 to 8 units). To be arranged with faculty member who will direct the study. Prerequisites: senior standing, consent of instructor. Independent study for seniors who desire an intensive or specialized investigation of selected research topics.

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 study for honors undergraduates who desire an intensive or specialized investigation of selected research topics. Henry A. Kelly, Ph.D. (English)
Richard D. Lehan, Ph.D. (English)
Maximilian E. Novak, D.P.Hil., Ph.D. (English)
Joseph N. Riddel, Ph.D. (English)
Ross P. Shideler, Ph.D. (Scandinavian and Comparative Literature), Chair
Stephen J. Yenser, Ph.D. (English)
Pier-Maria Pasinetti, Ph.D., Emeritus (Italian and Comparative Literature)

Associate Professors
Frederick L. Burwick, Ph.D. (English)
Edward I. Condon, Ph.D. (English)
Michael Heim, Ph.D. (Czech and Russian Literature)
Albert D. Hutter, Ph.D. (English)
Shuhsi Kao, Ph.D. (French)
Katherine C. King, Ph.D. (Classics and Comparative Literature)
Kathleen L. Komar, Ph.D. (German and Comparative Literature)
Robert M. Maniquis, Ph.D. (English)

Assistant Professor
Lucia Re, Ph.D. (Italian and Comparative Literature)

Visiting Professor
Hans Robert Jauss, Ph.D.

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 of 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 Examination (GRE), and submit three letters of recommendation to the Comparative Literature Program (334D Royce Hall, UCLA, Los Angeles, CA 90024). Applicants should have literary proficiency in one foreign language and at least an 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 historically defined period (e.g., medieval, Renaissance, and baroque, neoclassicism and 18th century, Romanticism to modern), but a 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 Educational Testing Service (ETS) foreign language examination with a score of 600 or better. Translation examinations may be administered by departmental members in languages for which no ETS examination 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 201, 202, 203, or 204; the comparative study of one genre (e.g., the novel, the epic, the lyric, the drama); the comparative study of one period or movement (e.g., baroque, Romanticism).

(2) Five courses (three must be graduate, two may be upper division) in your major literature.

(3) Three courses, either graduate or upper division, 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.

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 and the works of at least 10 authors in the minor literature. 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 the 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.

Foreign Language Requirement

You must have literary proficiency in at least two foreign languages before taking the qualifying examination. A 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. The language requirements for the Ph.D. are to be fulfilled in the same way as those for the M.A. degree.

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 will have to take three of the required six courses in comparative literature and one from each of the major and minor literatures. 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, two of the required graduate courses should be comparative literature courses and one of the two should have a theoretical orientation (such as Comparative Literature 202, 203, 204). Three courses in the second minor are normally recommended.

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 quarters. The written examinations are based on reading lists for the major and two minor literatures.

For the major literature, you may select one of the following examination formats:

(1) A written examination divided into two parts, each based on a reading list of at least 25 to 30 items and three to four hours in length. The first part evaluates your broad historical knowledge of the major field; the second part tests specific knowledge of your particular period or critical problem.

(2) A written examination and a prospectus (25 to 30 pages) to be discussed during the University Oral Qualifying Examination. The written examination evaluates your broad historical knowledge of the major field and is based on a reading list of 25 to 30 items. The prospectus must be submitted at least two weeks before the oral qualifying examination and should identify the proposed dissertation topic, give an example of the problem and method of the dissertation, outline the dissertation as a whole, and present a bibliography of relevant material.

If you select the second format, you must pass three courses given by your major department in your period or area of specialization before you can take the oral qualifying examination. Coursework taken for the M.A. degree may not be applied.

A three- to four-hour written examination is taken in each of the minor literatures. These examinations are based on approved reading lists of 25 to 30 items.

The University Oral Qualifying Examination must be taken within 60 days after you pass the last written examination and covers three areas:

(1) Competence as determined by the reading lists and the written examinations.

(2) Both a familiarity with major critical texts pertaining to the reading lists and competence in general literary theory.

(3) The proposed dissertation topic. If you select the first format for your major literature written examination, this section of the oral examination is a minor part and focuses on a brief dissertation prospectus of six to 10 pages. If you select the second format, this section of the oral examination is a major part and focuses on the dissertation prospectus (25 to 30 pages) prepared as part of the written examination.

The program allows a maximum of two attempts to pass the Ph.D. examinations.
C209. The Crisis of Consciousness in Modern Literature. Prerequisite: reading knowledge of one appropriate foreign language. Study of modern European and American works in the light of the subject matter and artistic methods with the growing self-consciousness of human beings and their sociability, focusing on works of Kafka, Rilke, Woolf, Sartre, and Stevens. May be concurrently scheduled with Humanities C109. Graduate students are required to prepare papers based on texts read in the original languages and to meet as a group one additional hour each week.

C211. The Classical Tradition: Tragedy. Seminar, three hours. Prerequisite: knowledge of one appropriate foreign language. Survey and analysis of the function and appearance of such archetypal heroes as Orpheus, Luther, Jesus, and Christ in Orpheus in literature from antiquity to the modern period. Concurrently scheduled with Humanities C129. Graduate students are required to prepare papers based on texts read in the original languages and to meet as a group one additional hour each week.

C229. Archetypal Heroes in Literature. Lecture, three hours. Prerequisite: reading knowledge of one appropriate foreign language. A study of the methodology of comparative literature, contemporary psychoanalytic critics of literature, and the self-consciousness of human beings and their sociability. Emphasis on the role of the actor and the idea of modernity in its modern contexts. Excerpts from Plato, Aristotle, Augustine, Locke, Vico, and Hegel lead to an understanding of the "scientia" envisioned by Saussure (semiology) and contemporary psychoanalytic criticism. The major premises of reception theory and literary hermeneutics presented and analyzed in a seminar paper and short oral reports. May be concurrently scheduled with Humanities C111. Graduate students are required to prepare papers based on texts read in the original languages and may meet as a group one additional hour each week.

C235. Renaissance Drama. Prerequisite: reading knowledge of one appropriate foreign language. A broad introduction to the subject matter and types of plays by dramatists of both the humanistic and the modern period. May be concurrently scheduled with Humanities C145. Graduate students are required to prepare papers based on texts read in the original languages and to meet as a group one additional hour each week.

C245. Renaissance Drama. Prerequisite: reading knowledge of one appropriate foreign language. A broad introduction to the subject matter and types of plays by dramatists of both the humanistic and the modern period. May be concurrently scheduled with Humanities C145. Graduate students are required to prepare papers based on texts read in the original languages and to meet as a group one additional hour each week.

C255. The French Revolution and European Literature. Seminar, three hours. Prerequisite: reading knowledge of one appropriate foreign language. Part of the UCLA French Revolution Bicentennial Program. A course in cultural criticism using plays, poetry, popular tracts, etc., to explore the context and connections of the French Revolution to European culture. Authors range from Voltaire and Rousseau to Tom Paine, Coleridge, Wordsworth, Goethe, and Kant. Concurrently scheduled with Humanities C165. Graduate students are required to prepare papers based on texts read in the original languages and may meet as a group one additional hour each week.

C265. Romantic Autobiography. Discussion, three hours. The evolution of the autobiography from spiritual (Augustine) and secular (Céline) sources to the transition in the 18th century which blended features of both. The modern romantic autobiography. A study of Wordsworth's Prelude, and to meet as a group one additional hour each week.

C270. The Dream in English and German Romantic Literature. Lecture, three hours; discussion, one hour. Prerequisite: reading knowledge of one appropriate foreign language. A study of the use of the dream as a standard narratological technique in English and German romantic literature. May be concurrently scheduled with Humanities C170. Graduate students are required to prepare papers based on texts read in the original languages and to meet as a group one additional hour each week.

C271. Dramatic Theory and Criticism in German and English Romanticism. (Formerly numbered C21). Seminar, three hours; discussion, one hour. Prerequisite: reading knowledge of one appropriate foreign language. A study of German and American works which are concerned both in relation to their contemporary societies and to the literary traditions. Emphasis on how poets build on the work of their predecessors. May be concurrently scheduled with Humanities C171. Graduate students are required to prepare papers based on texts read in the original languages and may meet as a group one additional hour each week.

C272. The Grotesque in Romantic Literature and Art. Prerequisite: reading knowledge of one appropriate foreign language. A study of the grotesque in the visual and verbal arts of the Romantic period; the aesthetics of tragic-comic interaction, the demonic vision, and the satirical sketches of man's abnormality in general. May be concurrently scheduled with Humanities C172. Graduate students are required to prepare papers based on texts read in the original languages and to meet as a group one additional hour each week.

C273. Theory and Texts of the Fantastic. Seminar, three hours. Prerequisite: reading knowledge of one appropriate foreign language. An attempt to define the fantastic as a theoretical genre separate from the wider genre of fantasy. Critical texts by Todorov and Brooke- Rose. Primary texts by Hoffman, Nerval, James, Poe, Borges, Casares, Cortazar, Landolfi, and Calvino. May be concurrently scheduled with Humanities C173. Graduate students are required to prepare papers based on texts read in the original languages and may meet as a group one additional hour each week.

C280. The Methodology of Comparative Literature. Seminar, four hours. Prerequisite: consent of instructor. A study of the methodology of comparative literature and the theory of literature. A study of the development of modern comparative literature, contemporary psychoanalytic critics of literature, and the self-consciousness of human beings and their sociability. Emphasis on the role of the actor and the idea of modernity in its modern contexts. Excerpts from Plato, Aristotle, Augustine, Locke, Vico, and Hegel lead to an understanding of the "scientia" envisioned by Saussure (semiology) and contemporary psychoanalytic criticism. The major premises of reception theory and literary hermeneutics presented and analyzed in a seminar paper and short oral reports. May be concurrently scheduled with Humanities C107. Graduate students are required to prepare papers based on texts read in the original languages and may meet as a group one additional hour each week.

C300. The Romance of the Latin and Germanic literatures from the fall of Rome to the beginning of the 12th century. May be concurrently scheduled with Humanities C139. Graduate students are required to prepare papers based on texts read in the original languages and to meet as a group one additional hour each week.

C320. Translation Workshop. Prerequisites: solid reading knowledge of at least one foreign language, conversation proficiency in six to ten foreign languages, and authors at the discretion of the participant. May be concurrently scheduled with Humanities C140. Graduate students are required to prepare papers based on texts read in the original languages and may meet as a group one additional hour each week.

C340. Medieval Epics. Prerequisite: reading knowledge of one appropriate foreign language. Survey of five medieval epics (Beowulf, El Cid, Chanson de Roland, Nibelungenlied, and Njalssaga), with two objectives: first, a critical understanding of each work, and second, an understanding of the nature of epic literature. Assignments consist of an extended seminar paper and short oral reports. May be concurrently scheduled with Humanities C140. Graduate students are required to prepare papers based on texts read in the original languages.

C345. Renaissance Drama. Prerequisite: reading knowledge of one appropriate foreign language. A broad introduction to the subject matter and types of plays by dramatists of both the humanistic and the modern period. May be concurrently scheduled with Humanities C145. Graduate students are required to prepare papers based on texts read in the original languages and may meet as a group one additional hour each week.

You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.
C275. The 19th-Century Novel. Seminar, three hours. Prerequisite: reading knowledge of French or German. A comparative study of the 19th-century novels in England and/or the Continent. Novels are selected so as to allow the seminar to concentrate on a particular tradition or critical problem. May be concurrently scheduled with Humanities C175.

Mr. Lehan

C276. Fiction and History. Seminar, three hours. Prerequisites: upper division standing and literature major, or consent of instructor. Analysis of the use of historical events, situations, and characters in literary works of the Renaissance and/or the modern period. Texts and individual assignments range from Renaissance historical narratives (the Italian humanists, Machiavelli) to 19th- and 20th-century novels by authors such as Stendhal, Verga, Tomas iampedusa, Carpentier, and Kundera. Use of fiction as a historical source. Emphasis on how aesthetic, ideological, and political factors influence the authors' choice and use of historical material. May be concurrently scheduled with Humanities C176. Graduate students are required to prepare papers based on texts read in the original languages and to meet as a group one additional hour each week. Mr. Pasinetti, Ms. Re

C278. Darwinism and Literature. Seminar, three hours. Prerequisites: graduate standing or consent of instructor, reading knowledge of one appropriate foreign language. The impact of Darwin's theories on European and American literature. While texts include major works in the development of naturalism, such as novels by Zola, Hardy, Crane, or Dreiser and plays by Strindberg and Ibsen, the course moves forward into the continuing influence of other "determinist" and behaviorally oriented theories in works by authors such as Mann, Sarre, Camus, Stevens, and Skinner. May be concurrently scheduled with Humanities C176. Graduate students are required to prepare papers based on texts read in the original languages and may meet as a group one additional hour each week. Mr. Shideler

C280. The Symbolist Tradition in Poetry. Prerequisite: reading knowledge of either French or English. A study of the symbolist tradition in 19th- and 20th-century English, French, and German poetry. May be concurrently scheduled with Humanities C180. Graduate students are required to prepare papers based on texts read in the original languages and may meet as a group one additional hour each week. Mr. Shideler

C281. Poetry and Poetics of the Post-Symbolist Period. Prerequisite: reading knowledge of French or German. A study of some of the dominant poetic trends and figures in American and European poetry in the first half of the 20th century, including such surrealists as Apollinaire and Breton, imagists, and major individual poets such as Pound, Eliot, Valery, Rilke, George, and Stevens. May be concurrently scheduled with Humanities C181. Graduate students are required to prepare papers based on texts read in the original languages and may meet as a group one additional hour each week. Ms. Komar, Mr. Shideler

C283. Novel, Crime, Ritual. Discussion, three hours. Prerequisite: reading knowledge of one appropriate foreign language. An investigation of a range of novels dealing with ritual and crime and their relation to the novel form. Readings include such texts as de Ayla's Belarmino and Apollonio, Singer's The Magician of Lublin, selected stories from Babel's Red Cavalry, a Dickens' novel, and Lacos's Lamentations. Concurrently scheduled with Humanities C183. Graduate students are required to prepare papers based on texts read in the original language.

Mr. Baumgarlen
other premajor courses. Together, all prepara-
tion for the major courses, including math-
ematics, must be completed with at least a 3.0
GPA. Transfer students must meet the same
academic requirements, based on all courses
transferred from another institution which sat-
isfy premajor requirements.

Preparation for the Major
Required: A minimum of 72 units (18 full
courses), including Chemistry 11A, 11B/11BL,
11C/11CL, 21, 23; Biology 5, 7; Mathematics
31A, 31B, 32A, 32B, 33A, 33B; Physics 6A,
6B, and 6C, or 8A, 8B, and 8C; Psychology 10;
Program in Computing 10A. Additional recom-
manded course lists are available in the pro-
gram office and/or the College Counseling
Service in the College of Letters and Science.

The Major
Admission to the major is by petition only and
is based on successful completion of all prep-
paration for the major courses and require-
ments (2.7 GPA in mathematics, 3.0 GPA over-
all, and a minimum grade of C in all courses).

The major consists of a methodology core (five
courses), a specialization area (seven courses),
and a cybernetics breadth re-

Methodology Core: Four subject areas as fol-
lows:
(1) One overview course: Computer Science
196A.
(2) Two courses in probability and statistics
from one of the following groups: (a) Math-
ematics 152A and 152B, or (b) Mathematics
150A or Electrical Engineering 131A and either
Mathematics 150B or 152B, or (c) Public
Health 101A and 101B.
(3) Two courses in signals and control sys-
tems (one from each group): (a) Computer
Science 170 or 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 M186B.

Applications-Specialization Areas: A mini-
mum of seven courses in either life sciences,
behavioral sciences, or engineering and ap-
plied mathematics. 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, chem-
istry, and biochemistry, as well as in depart-
ments of the School of Medicine. Courses in
the behavioral sciences area are in psycholo-
ogy, linguistics, and economics. 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/special-
ization areas selected from the current ap-
proved 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
Computer Science 141 are required, in addi-
tion to six courses selected from an approved
list. You will graduate with a bachelor's degree
in cybernetics and a specialization in comput-
ing.

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 pro-
gram, in which honors-designated sections of
selected courses are required. Students pur-
suing highest honors must, in addition, com-
plete a senior thesis based on an approved
research topic. Those who successfully com-
plete 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 discre-
tion of the faculty advisor and the Interdepart-
mental Committee, students demonstrating
exceptional ability on the senior research the-
sis are awarded highest honors.

Upper Division Course
195H. Honors Thesis. Limited to cy-
bernetics honors majors. Honors thesis prepa-
ration and submission, under the direction of a
faculty sponsor on the Cyber-
netics Interdepartmental Committee. P/NP
grading.

Diversified Liberal Arts
(Interdepartmental)

A316 Murphy Hall, (213) 825-1965

Undergraduate Certificate
Program
The Diversified Liberal Arts Program (DLAP) is
not a major, but a special certificate program
to which you may receive credit toward a creden-
tial to teach in California elementary
schools. To earn the credential, you must com-
plete the Teacher Credential Program in the
Graduate School of Education. In addition, you
must either earn a satisfactory score on the
Commons Section of the National Teachers
Examination or complete the DLAP in the Col-
lege of Letters and Science.

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) English,
(2) mathematics and the physical and/or life
sciences, (3) social sciences, (4) humanities,
fine arts, and foreign language.

Requirements for one of these areas will nor-
mally be satisfied by courses taken for your
major; in addition, you must complete seven
courses (28 units) in each of two other areas
and eight courses (32 units) in a fourth area. A
grade of C or better must be earned in all
courses specifically required for the program
(i.e., English 120A, Mathematics 38A, 38B,
104, History 7A, 7B). A C or a Passed grade
is not acceptable in these courses. A minimum
C (2.0) grade-point average is required in each
of the four areas.

Courses in divisions outside the major, which
are required as preparation for or as part of
the major, may be applied toward the area course
requirements. However, no course may be ap-
plied toward more than one area. You are ex-
pected to satisfy the general education re-
quirements of the College of Letters and Sci-
ence; courses used to satisfy these require-
ments may also be applied toward the Diversi-
fied Liberal Arts Program.

If you plan to pursue the program, you should
begin to take courses in your freshman year
that will fulfill these requirements. 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 will certify completion of the program.

If you do not complete the program prior to
graduation, you must petition out of the pro-
gram to be eligible to graduate.

For further information about the program,
contact a counselor in the College of Letters
and Science Counseling Service, A316 Mur-
phy Hall (825-3382). For information regarding
the Teacher Credential Program in the Gradu-
ate School of Education, see a counselor in
201 Moore Hall (825-8326).

Area 1. English
Composition and Grammar (Required): Two
courses: English 120A plus one course in sat-
isfaction of the English Composition require-
ment. If you wish to complete the Area 1 re-
quirements with additional composition and
grammar, the courses must be selected from
English 130, Linguistics 1, 100.

Literature (Required): One course from En-
glish 10A, 10B, 10C, 70, 75, 80, 85, 90, 112,
113, Humanities 1A, 1B, 1C, or any other up-
per division courses in English literature for
which you have satisfied the prerequisites. You
may complete more than one course from this
list to satisfy the Area 1 course requirement.
Area 1. Area Sciences

Area 2. Mathematics and the Physical or Life Sciences

Mathematics (Required): Mathematics 38A, 38B, 104. Substitutions of other courses in mathematics may be made with the written consent of the College of Letters and Science.

Area 3. Social Sciences

Area 4. Humanities, Fine Arts, and Foreign Language

Although there are no specific course requirements, courses applied toward this area may be selected from those courses listed as fulfilling the humanities general education requirements. The following may also be applied toward Area 4: any courses in foreign language; Dance 1A, 1B, 2C; English 4, 30; Music 1A, 1B, 113A, 113B; Theater 118A, 118B, 119A.

Earth and Space Sciences

The Major: Earth and Space Sciences 103A, 103B, 111, 112, 121A-121B, 135, M139; Civil Engineering 108, 184A, 185A, 185B, 185L, one course from Earth and Space Sciences 136C, 137, 141, 150, Geography 100, Civil Engineering 184B, 184D.

Geology Specialty

Preparation for the Major: Earth and Space Science 1 or 1H, 51A, 51B, 51C, 61; Biology 2; Chemistry 11A, 11B/11BL, 11C/11CL, 21; Mathematics 31A, 31B, 32A, 33A (32B, 33B recommended); Physics 8A, 8B/8BL, 8C/8CL (8D recommended); 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: Earth and Space Sciences 103A, 103B, 111, 112, 130, 131; Chemistry 110A, 110B, 114; Geology 23 and 25 or 184 or Earth and Space Sciences 135; three courses from Chemistry 23, Earth and Space Sciences 112, 119, 121A-121B, 128A, 128B; two earth and space sciences or chemistry courses with consent of advisor.

Nonrenewable Natural Resources Specialty

Preparation for the Major: Earth and Space Science 1 or 1H, 2, 51A, 51B, 51C, 61; Biology 2; Chemistry 11A, 11B/11BL, 11C; Mathematics 31A, 31B, 32A; Physics 8A, 8B/8BL, and 8C/8CL or 6B; Program in Computing 3 (recommended) or 10A or more advanced placement by examination. All courses must be passed with a minimum grade of C—.


Bachelor of Science in Geophysics

Applied Geophysics Specialty
Preparation for the Major: Earth and Space Sciences 1 or 1H, 51A, 51B, 51C, 61; Chemistry 11A; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 8A, 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-.


Geophysics and Space Physics Specialty
Preparation for the Major: Earth and Space Sciences 1 or 1H, 9; Chemistry 11A, 11B/11BL, 11C; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 8A, 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: Earth and Space Sciences 122, M140, M154; Physics 105A, 105B, 110A, 110B, 112; Physics 131 or Mathematics 145; three courses from Earth and Space Sciences 101, 119, 131, 136A, 136B, 150, 205, 233, Atmospheric Sciences 200B, one of Mathematics 140A, 140B, or 140C; three science electives with consent of adviser.

Students planning to do graduate work in specialized careers in earth science 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 250.

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 Program 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 quarters (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 quarter. 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. 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 biogeochemistry, crystal chemistry, experimental petrology, isotopic studies of stable and radioactive elements, marine geochemistry, meteorite research, planetology, and lunar geochemistry. The program in geology offers study in geomorphology, glaciology, micropaleontology, mineral deposits, mineralogy, nonrenewable natural resources, organic geochemistry, palaeobiology, 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), planeto-lology (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) Advanced 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 of Earth and Space Sciences 51A, 51B, 51C, 130, 131, 234A or 234B, and Chemistry 110A, as well as more advanced courses in particular fields, and some familiarity with the methods of field geology. You must take course 235A, 235B, or 235C each quarter.

Sixteen units of 500-series courses (596, 597, 598) may be applied toward the total course requirement; 12 units may be applied toward the minimum graduate course requirement.

Thesis Plan
The thesis must be approved by the research director (usually the chair of your advising committee), as well as by the other members of the advising committee. No examination is required of students who write a thesis.

Comprehensive Examination Plan
If you elect this plan, the advising committee will prepare and administer the final examination (normally oral). In most cases, a failed final examination can be repeated once.

Master of Science in Geology

Admission
A bachelor's degree in geology, biology, chemistry, physics, or other science is required. Applicants must have outstanding records in the relevant basic sciences and mathematics.

Course Requirements
Each course of study is worked out individually between you and the advising committee. It may include appropriate courses offered by other departments. Unless you have already...
passed Earth and Space Sciences 61 and 111, you are required to take either 195G or 61 and 111 during your first year in residence. Depending on performance in course 195G, you may subsequently be required to take either 111 or 61 and 111.

Courses applied toward the 36-unit minimum requirement must be from the 100, 200, or 500 series in the physical or life sciences. At least 24 units must be graduate-level courses, of which at least four units must be a geology seminar (courses 251 through 250). Except 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.

Specialization in Nonrenewable Natural Resources

The objective of this program is to prepare students for professional careers in the geology of metallic, nonmetallic, and fossil energy resources. Individual courses of study are arranged in consultation with the committee for graduate study in nonrenewable natural resources. Relevant subjects include mineral deposits, mining and exploration geology, geophysical exploration, petroleum and coal geology, depositional systems, and basin analysis. Particularly relevant courses include Earth and Space Sciences 128A, 128B, 130, 131, 132, 136A, 136B, 136C, 137, 138, 144, 150, 227, 241, 254, 256, and 268, as well as selected courses in chemistry, engineering, the social sciences, law, and management.

Thesis Plan

This plan is normally required for students not 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 research or both, leading to a revised thesis. Revision and resubmission is not normally permitted more than once.

Comprehensive Examination Plan

This plan is recommended for those continuing to the Ph.D. The examination consists of a six-hour written part covering your major field of study and a subsequent oral part which may be more general in scope. If the examination is failed, the advising committee may recommend either termination of graduate study or further coursework followed by another examination. Reexamination is not normally permitted more than 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, dynamics, electromagnetism, and thermodynamics. Graduate Record Examination (GRE) Advanced Test scores are preferable in physics, although mathematics or geology scores are also acceptable.

Qualified students may proceed directly toward the Ph.D. degree, although most 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 from the 500 series and courses graded on an S/U basis may not be applied toward the minimum requirement; 500-series courses also may not be applied toward any other degree requirements.

Thesis Plan

This plan is an optional alternative to the comprehensive examination plan. At least two members of the thesis committee must be from the department.

Comprehensive Examination Plan

The examination is the comprehensive part of the written qualifying examination taken by doctoral students, but the passing level for the master's degree is less rigorous. The examination is on the level of the introductory courses (200A, 200B, 200C). It lasts six hours and is given every June and December. It must be first attempted by the end of the fourth quarter of enrollment. If failed, it must be retaken the next time it is given. Permission to take it a third time may be granted by the graduate adviser in extenuating circumstances.

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 in petroleum exploration. Undergraduate preparation for admission is equivalent to a B.S. in Geophysics (applied geophysics specialty), including a common
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 Geology

Admission
Admission requirements are the same as those for the M.S. in Geology.

Course Requirements
Each course of study is worked out individually in consultation with your advising committee. It may include appropriate courses offered by other departments. Unless you have already passed Earth and Space Sciences 61 and 111, you are required to take either 195G or 61 and 111 during your first year in residence. Depending on performance in course 195G, you may subsequently be required to take either 111 or 61 and 111. You also are expected to complete at least the minimum number of courses which are required for the M.S. in Geology and must take a geology seminar each year.

Qualifying Examinations
The departmental written qualifying examination must be taken before the end of the first year of the doctoral program if you have a master's degree; otherwise, it must be taken before the end of the second year of enrollment. It is given in either a question-answer format or in a proposal-proposition 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 as soon as possible after passing the field 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 discretion of the doctoral committee.

If you do not pass this examination within five 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. Elements of earth science; study of earth materials; the nature and interpretation of geologic evidence; study of geologic processes; historical aspects of geology.
   Mr. Martino, Mr. Farmer, Mr. Nelson (F,W,Sp)

1H. Fundamentals of Earth Science. Lecture, three hours; laboratory, two hours; two field days. Not open to students with credit for or currently enrolled in course 1 or 100. Particularly recommended for future physical science majors with strong high school or some lower division preparation. Introduction to earth materials, physical geology, and tectonics, with examples of geophysical and chemical methods.
   Mr. Ingersoll, Mr. Nelson (W)

2. Earth History. Lecture, three hours; laboratory, three hours; fieldwork. Prerequisite: course 1 or 1H. Methods of historical science; consideration of special problems relating to the physical and biological evolution of the earth from earliest time to the present.
   Mr. Carlisle (W)

5. Earth Science and Society: Geological Ecological Interactions. Lecture, three hours; discussion, two hours; field trips. Geologic aspects of major environmental problems, with emphasis on lithosphere-biosphere interactions. Problems of exploration and exploitation of fossil fuel resources. Comparison of society-produced materials and natural cycles.
   Mr. Reed (Sp)

8. Earthquakes. Lecture, three hours. The causes and effects of earthquakes, with special emphasis on the problems of living with earthquakes in Southern California. Topics include the relationship between earthquakes and local and regional geology, types of earthquakes, past and future earthquakes in California, earthquake engineering, disaster preparedness, and prospects for predicting or controlling earthquakes.
   Mr. Coleman (Sp)

   Mr. Russell (W)

10. Geology of California. Lecture, two hours; laboratory, two hours (alternate weekends); 10 field days. Prerequisites: course 1 or 1H. General survey of major geologic features and geologic history of California; its relationship to large-scale crustal motions of Western North America and the Eastern Pacific. Environmental geology; study of geologic hazards such as earthquakes, landslides, and aspects of urban geology.
   Mr. Carlisle

15. Introduction to Oceanography. Lecture, three hours; discussion, one hour. Not open for credit to students with credit for Biology 25. Processes responsible for the chemical composition of the ocean; ocean circulation patterns. Seafloor spreading and morphology of the ocean floor. Biological productivity, marine ecology, and minerals forming in the ocean. Marine geology; study of the marine environment, physical and biological processes of the ocean. 51C.
   Mr. Dolfin (W)

51A. Mineralogy-Petrology. Lecture, three hours; laboratory, six hours. Prerequisite: course 1 or 1H and consent of instructor. Recommended: completion of chemistry requirement. Mineralogic crystal chemistry; relations of physical properties to structure. Chemistry of minerals; arrangements of atoms. 51B.
   Mr. Dorn (F)

51B. Mineralogy-Petrology. Lecture, three hours; laboratory, six hours. Prerequisites: course 51A and an introductory course in high school or college physics, or consent of instructor. Principles of optical crystallography. Utilization of optical properties to identify monomineralic minerals in immersion media and thin sections. Presentation of sufficient theory to understand the operations performed in the laboratory.
   Mr. Dorn (W)

51C. Mineralogy-Petrology. Lecture, three hours; laboratory, six hours. Prerequisite: course 51B. Compositional, occurrence, and origin of igneous, sedimentary, and metamorphic rocks; megascopic and microscopic study of rocks.
   Mr. Barton (Sp)

61. Elements of Field Geology. Formerly numbered 111A. Lecture, two hours; laboratory, two hours; fieldwork, one day per week. Prerequisites: courses 1 or 1H, and 2 or consent of instructor. Majors must have completed or be concurrently enrolled in course 111A. Techniques of geologic mapping; preparation of geologic reports; methods of mapping faults and folds, sedimentary, igneous, and metamorphic terrains, and Quaternary deposits; introduction to environmental geology, petroleum geology, and mining geology and mineral exploration; interpretation of geologic maps; field exercises in pace-and-compass topographic and geologic mapping.
   Mr. Bird, Mr. Shreve (F,Sp)

Upper Division Courses

100. Principles of Earth Science. Lecture, three hours. Designed for nonmajors. Not open to students with credit for courses 1, 51A, 51B, or 51C. Introduction to Earth science; survey of geologic evolution and physiographic regions of the earth; major problems of geology, such as continental drift and development of large-scale features of the earth; physical and biological evolution.
   Mr. Carlisle (W)
101. Introduction to Geophysics and Space Physics. Lecture, three hours. Prerequisites: Physics 8A, 8B, 8C, Mathematics 31A, 31B, 32A. Designed primarily for students majoring in a physical science or mathematics. A survey of geophysics, the physics of the planets, their atmospheres, and the interplanetary medium, with emphasis on topics of current research interest. Mr. Schubert (Sp)

103A. Igneous Petrology. Lecture, two to three hours; laboratory, six hours; field trips. Prerequisites: courses 51A, 51B, 51C, Chemistry 11B, Mathematics 31B, 31A, 31B, 32A. Recommended: course 61. Study of igneous rocks, their origin, formation, and their movement, eruption, crystallization, and chemical evolution. Petrologic structure of the crust and mantle and its relation to seismology. Overview of the petrologic and chemical evolution of the earth, moon, and other planets from their origin to the present. Mr. Ernst (F)

103B. Sedimentary Petrology. Lecture, two to three hours; laboratory, six hours; field trips. Prerequisite: course 103A. Recommended: course 61. Study of the origin, formation, and classification of sedimentary rocks and the dynamics of depositional processes. Lectures focus on development of depositional facies models, and laboratories emphasize recognition of sedimentary deposits for each major depositional facies. Mr. Reed (W)

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 the application of physical and chemical principles. Mr. Rosenfeld (Sp)

105. Nonrenewable Resources and Society. Lecture, three hours; discussion, two hours. Prerequisite: course 1 or 1 H or consent of instructor. Geologic principles and importance of nonrenewable resources to society, including their role in mineral law, land-use conflicts, taxation, and environmental concerns. Mr. Carlisle (F)

111. Stratigraphic and Field Geology (6 units). (Formerly numbered 111B.) 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, Mr. Reed (W)

111G. Field Geology (2 to 4 units). (Formerly numbered 111AG–111BG.) Prerequisite: graduate standing or consent of instructor. Geologic mapping, principles of stratigraphy, structural geology, and map interpretation.

112. Structural Geology. Lecture, three hours; laboratory, six hours. Prerequisite: course 1 or consent of instructor. Recommended: course 51C. Planar and linear structures at different scales in sedimentary, metamorphic, and igneous rocks. Faults and folds, their description, classification, and kinematic and dynamic analysis. Deformation, strength, fracture, and rheological properties of rocks. Mr. Christie (F)

114. Introduction to Stress and Deformation. Lecture, three hours; discussion, three hours. Prerequisite: course 112 or consent of instructor. An introduction to the quantitative treatment of strain in geologic bodies and stresses that cause strain. An introduction to the rheological behavior. Stress and strain fields in folds, in faults, and in and near intruding magma bodies. Mr. Crettel

115. Principles of Paleontology. Lecture, three hours; laboratory, three hours; field trips. Principles governing the evolution and distribution of fossils; the geologic history of plants, invertebrates, and vertebrates. Mr. Farmer (Sp)

M118. Paleobotany. (Same as Biology M118.) Lecture, three hours. Prerequisites: course 61 or consent of instructor. One course in biological sciences or consent of instructor. Recommended: course 2 or equivalent. Survey of morphology, paleobotany, and evolution of vascular and nonvascular plants during geologic time, with particular emphasis on major evolutionary events. Mr. Schopf

119. Continental Drift and Plate Tectonics. Lecture, three hours. Prerequisites: upper division standing and an introductory course in geology (course 1, 1H, 100, or equivalent), or consent of instructor. An introduction to the principles of the major evolutionary theories of plate tectonics. Theories of the origin and development of oceans, continental drift, seafloor spreading, subduction, and reconciliation of the major tectonic plate types. Mr. Christie (W)

120. Ruby Colloquium: Major Advances in Earth Science. (Formerly numbered 120A, 120B.) Lecture, three hours. Prerequisite: upper division standing. Lectures on major advances in earth science offered by distinguished authorities (including regular faculty). Three short courses on current research topics culminating in a final written summary geologic report of selected areas. Mr. Ernst, Mr. Nelson (Sum)

121A-121B. Advanced Field Geology (6 units each). Prerequisites: completion of important mineral deposits, with emphasis on siderophile and lithophile elements and their incorporation into the meteorite. Magnetic stratigraphy. Seafloor spreading. The plate tectonic model and its driving mechanisms. Tectonic, igneous, and metamorphic processes at plate boundaries. Mr. Christie (W)

135. Introduction to Applied Geophysics. Lecture, three hours; laboratory, one hour. Prerequisites: Physics 8A, 8B, 8C or 6B, Mathematics 31A, 31B, 32A, and Program in Computing 3 or 10A, or consent of instructor. Not open for credit to students with credit for course 136A. Principles and techniques of graviometric, seismic, magnetic, and other geophysical methods of exploration for ores, petroleum, and other economic minerals. Mr. McPherron (F)

136A. Applied Geophysics. Lecture, three hours; laboratory, field trips, three hours. Prerequisite: Physics 8A, 8B, 8C, Mathematics 33A, 33B, 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, vibroseismic methods, subsurface geology; problems of petroleum geology. Mr. Davis (F)

136B. Applied Geophysics. Lecture, three hours; laboratory/field trips, six hours. Prerequisites: course 135 or 136A, consent of instructor. Principles and techniques of exploration for mineral deposits using natural and artificial electric and magnetic fields. Methods include self potential, resistivity, induced polarization, magnetotellurics, magnetotellurics, magnetics. Mr. Jackson (W)

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 trip). Mr. Jackson

136D. Advanced Field Geophysics (6 units). Lecture, six hours; laboratory, six hours; fieldwork, 12 hours. Prerequisites: courses 135 or 136A, consent of instructor. Application of seismic reflection, seismic refraction, 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. Prerequisites: courses 61 and 111, or consent of instructor. Geology applied to exploration for and production of natural gas and petroleum, study of surface and subsurface geology; problems of petroleum geology. Mr. Bonham (F)

138. Exploration and Mining Geology. Lecture, three hours; discussion, two hours; laboratory, four hours; field trip. Prerequisites: courses 135 or 136A, consent of instructor. Principles applied to the exploration for and evaluation of mineral deposits; geological techniques at operating mines; mine economics; exploration geology and mineral resource economics. Mr. Carlisle (F)
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M139. Engineering and Environmental Geology. (Same as Architecture and Urban Planning M135.) Lecture, two and one-half hours; discussion, one hour to 1.00. Recommended: course 111A. Principles and practice of soil mechanics and foundation engineering in light of geologic conditions, recognition, prediction, and control of landslides, earthquakes, and other geologic aspects of urban planning and subsurface disposal of liquids and solid wastes. Mr. Menfeld (W)

M140. Introduction to Fluid Dynamics. (Formerly numbered M149.) (Same as Atmospheric Sciences M140.) Lecture, three hours; discussion, one hour. Prerequisites: Mathematics 115A, 115B, and consent of instructor. Corequisite: Physics 131. Equations of fluid motion. Circulation theorems. Irrotational flow. Vortex motion. Surface and internal gravity waves. Rotating frame. Viscous flow. Mr. Schubert; Mr. Wurtzke (F)

141. Basin Analysis. Lecture, three hours; laboratory, six hours. Prerequisites: courses 103B, 111. Interpretation of sedimentary rock records in terms of tectonic and basin evolution. Sedimentary patterns in modern plate settings serve to focus interpretations of deformed rocks in complex structural regions. Mr. Ingersoll (F)

144. Marine Geology. Lecture, three hours; field trips. Prerequisite: senior standing. Recent marine sedimentary processes and geochemistry; oceanography; structure and geologic history of the ocean basins.

150. Remote Sensing for Earth Sciences. Lecture, three hours. Open to upper division and graduate students. Remote sensing related to the development of natural resources. Characteristics of the electromagnetic spectrum and review of remote sensing devices. Applicability to land-use classification, soil survey, urban studies, vegetation classification; emphasis on geologic interpretation of images. Mr. Venkateshwaran (W)

M154. Solar Terrestrial Physics. (Same as Atmospheric Sciences M154.) Lecture, three hours; discussion, one hour. Prerequisite or corequisite: Physics 110B. Particulate and electromagnetic emissions from the sun under quiet and disturbed conditions. The solar wind. The magnetospheres and the ionospheres of the earth and other planets. Geomagnetic phenomena. Aurora and geomagnetic storms. Mr. Sabins (W)

M180. Nonlinear Waves. (Same as Atmospheric Sciences M180.) Lecture, three hours; discussion, one hour. Prerequisite: course M140 or consent of instructor. Introduction to nonlinear wave behavior: limit cycles, attractors, bifurcations, relaxation, subharmonics, solitons, periodic versus chaotic behavior, Lorenz masks and Rossler bands. Mr. Farmer (W)

190. Earth and Space Sciences Colloquium (1 unit). Lecture, 90 minutes. Prerequisite: consent of instructor. Current topics of research in the department. May be repeated for credit. P/NP grading.


199. Special Studies in Earth and Space Sciences (2 to 8 units). May be repeated for credit.

199H. Honors Research in Earth and Space Sciences. Prerequisites: senior standing, consent of departmental honors committee. Individual research designed to broaden and deepen the student's knowledge of some phase of earth and space sciences.

Graduate Courses

200A. Introduction to Geophysics and Space Physics I: The Solid Earth and Planets. Lecture, three hours. Prerequisites: Physics 105A, 110A, 112, and 131, consent of instructor. Geophysics; solid earth mechanics; geochemistry; cosmochemistry; and petrology; geoelectronics; gravity field; seismology; heat transfer, thermal and mechanical evolution of the mantle; the core and magmatism; lunar and planetary interiors. Mr. Davis (F)

200B. Introduction to Geophysics and Space Physics II: Oceans and Atmospheres. Lecture, three hours. Prerequisites: Physics 105A, 110A, 112, and 131, or consent of instructor. Evolution, chemistry, and heat balance of oceans and atmospheres; molecular spectra, radiative transfer, and planetary observations; dynamics of oceans and atmospheres. Mr. Schubert (W)

200C. Introduction to Geophysics and Space Physics III: Plasmas — Aeronomy and the Interplanetary Medium. Lecture, three hours. Prerequisites: Physics 105A, 110B, 112, and 131, or consent of instructor. Expansion of corona, solar wind, and magnetic fields; interaction of the solar wind with the earth; magnetospheric phenomena. Mr. McPherron (Sp)

201. Classical Mechanics. Lecture, three hours. Kinematics, variational principles and Lagrange's equations, rotational dynamics. Hamilton equations of motion, linear and nonlinear perturbation theory, applications to the solar system. Mr. Newman (Sp, alternate years)


203. Electrodynamics. Prerequisite: upper division electromagnetic theory course or consent of instructor. Maxwell's equations and boundary conditions; momentum, angular momentum, and energy of electromagnetic fields; plane electromagnetic and magnetohydrodynamic waves; wave guides, simple radiating systems, and diffraction. Mr. Coleman (W)

204. Time-Series Analysis and Spectral Estimation. Lecture, three hours. Prerequisites: intermediate courses in calculus (including linear algebra and complex variables) and computer programming (including FORTRAN). Basic methods in time-series analysis, including spectral estimation, prediction, and signal detection, in application to problems in geophysics, atmospheric physics, and space physics. Topics include Fourier transforms (continuous, discrete, FFT), time series (2-transforms, deconvolution), maximum entropy spectral analysis, autoregressive and moving average methods (AR, MA, ARMA), and multichannel prediction and spectral analysis. Mr. Newman (W)

205. Inverse Theory and Data Interpretation. Lecture, three hours. Prerequisites: Mathematics 115A, 115B, 150A, and 150B-150C, or consent of instructor. The inverse modeling problem — determination of model parameters consistent with experimental data, consequences of the effects of nonuniqueness and nonlinearity. Emphasis on linear and quasi-linear problems; nonlinear problems also discussed. Tools used include matrix theory, quadratic forms, orthogonal rotations, statistics, the principal axis transformation for rectangular matrices, Backus-Gilbert resolution kernels, and Lagrange multipliers. Examples taken from a broad range of physical sciences. Mr. Jackson (F)

208. Geothermics. Lecture, two and one-half hours; discussion, three minutes. Prerequisites: courses 101A and 33A or consent of instructor. Basic concepts of heat transfer applied to the solutions of geologic and geophysical problems, including continental heat flow, regional seismic Buck-Kallick's solution of magmas, thermal and subsidence history of sedimentary basins, fractional heating on fault zones, mantle geotherm, temperature in descending slabs, thermal convection in geothermal regions. Mr. Schubert (F)

210. Advanced Paleontology. Lecture, two hours; laboratory, six hours; field trips. Prerequisite: course 115 or advanced standing in biological science. Lectures emphasize evolutionary, ecological, stratigraphic, and taxonomic aspects of vertebrates. Fieldwork and laboratory are devoted to a research project and written report. Content varies from year to year. May be repeated for credit.

M211. Hydrodynamic Instabilities and Turbulence. (Same as Mathematics M263.) Lecture, three hours. An introduction to the theories of hydrodynamic instability and the nonstatistical description of turbulence; stability bounds by the energy method; linear theory of instability; finite amplitude theories of post-instability flows; bounds on properties of turbulent flows by variational techniques. (Alternate years)

212. Paleoecology. Lecture, two hours; laboratory, six hours; field trips. Prerequisite: course 115 or advanced standing in biological science. How and where animals and plants lived in the past; study of habits and habitats of animals, changes in habits and habitats, and the distribution of animals through time and space. Content varies from year to year. May be repeated for credit.

M213. Archaeological and Paleontological Applications of Stable Isotopes (6 units). (Same as Archaeology M213.) Lecture, three hours. Application of natural variations in stable isotope ratios in fossilized biological and biogeochemical materials to a variety of archaeological and paleontological problems. Topics include the basis for isotope distributions in archaeological and paleontological materials; analytical approaches for stable isotope analysis; archaeological reconstruction; paleodiet analysis; determination of provenance of archaeological materials; analysis of aspects of the biochemistry and physiology of fossil animals. Mr. DeNiro (F)

214. Geophysical Fluid Dynamics. Lecture, three hours. Prerequisite: consent of instructor. Dynamics of stationary and transient motions in rotating systems; Ekman boundary layer theory; inertial oscillations; B-plane approximation; Rossby waves; theory of slowly driven induced motions; applications to flow phenomena in planetary atmospheres, in the oceans, and in the earth's core. (Sp, alternate years)

215. Paleobiology of Plant Microorganisms. Lecture, two hours; laboratory, six hours. Prerequisite: course 115 or advanced standing in biological science. Survey of morphology, evolution, and diversification, environmental interations, and stratigraphic value of bacteria, algae, and fungi, with emphasis on dinoflagellates and acritarchs, chrysomonads, silicoflagellates, ebridians and diatoms, discosasters, and coccolithophorids. (Alternate yearly with course 216.)

216. Micropaleontology. Lecture, two hours; laboratory, six hours. Prerequisite: course 115 or advanced standing in biological science. Survey of microfossils of the animal kingdom; their systematics, morphology, ecology, evolutionary history, and stratigraphic use; emphasis on foraminiferans, radiolarians, chitinozoans, tintinnids, ostracods, saccoglossans, and conodonts. (Alternate yearly with course 215.)

219. Planetary and Orbital Dynamics. Solar system dynamical evolution; figure and gravitational field of a planet; satellite orbits; earth-moon system evolution; rotational dynamics, including effects of nonrigidity and energy dissipation. Mr. Kaula (F)

220. Principles of Paleobiology. Lecture/discussion, three hours. Prerequisite: graduate standing in 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 computer science. Content varies from year to year. May be repeated for credit. Mr. Schopf (W)

222. Introduction to Seismology. Lecture, three hours. Types of seismic waves; travel-time seismology; epicenter location; amplitude variations; seismographic analysis. An introduction to the theories of hydrodynamic instability and the nonstatistical description of turbulence; stability bounds by the energy method; linear theory of instability; finite amplitude theories of post-instability flows; bounds on properties of turbulent flows by variational techniques. Mr. Davis (Sp)
224A. Elastic Wave Propagation I. (Same as Mechanical, Aerospace, and Nuclear Engineering M257A.) Prerequisite: Mechanical, Aerospace, and Nuclear Engineering 158A or 166A or consent of instructor. Review of elasticity theory; elastic waves in unbounded media; reflection and refraction of plane elastic waves; surface waves and guided waves in multilayered media; waves generated by concentrated loads; radiation from dislocations; attenuation; representative applications in engineering and seismology.

Mr. Mal (F)

224B. Elastic Wave Propagation II. (Same as Mechanical, Aerospace, and Nuclear Engineering M257B.) Prerequisite: course 224A. Diffraction and scattering of elastic waves by isolated cracks and inclusions; normal mode theories for the vibration of finite elastic bodies; dynamic theories of fracture; representative applications in engineering and seismology.

Mr. Knoopp (W)

225A. Physics and Chemistry of Planetary Interiors. Characteristics of planets and the solar system; nuclear physics of the atomic nucleus; quantum mechanics; applications to planetary formation. Examination of fundamental concepts and objectives of modern geomorphology, illuminated by selected past and present theories of river profiles, slope processes, and channel networks. Reading and discussion of original sources. Preparation of term paper.

Mr. Shreve (Sp, approximately every third year)

227. Resource Evaluation Field Methods. Lecture, one hour; laboratory, three hours; field trips. Prerequisites: courses 111B and 126A or 126B or 138, or consent of instructor. Techniques of mapping, sampling, appropriate laboratory studies, economic or socioeconomic evaluation of a variety of nonrenewable natural sources; preparation of reports.

Mr. Carlisle

228. Planetary Atmospheres. Lecture, three hours. Prerequisites: Mathematics 33A and one course in elementary probability theory, or consent of instructor. Analysis of planetary atmospheres, problems, and objectives of modern geomorphology, illuminated by selected past and present theories of river profiles, slope processes, and channel networks. Reading and discussion of original sources. Preparation of term paper.

Mr. Knoopp (W)

229. Planetary Magnetism. Lecture, three hours. Prerequisite: course 224A or consent of instructor. Classical theories and analytic methods to stress determinations; flow laws; rock mechanics; and flow of rocks; solutions of structural problems at various scales; regional tectonic problems.

Mr. Oertel

230. X-Ray Crystallography. Lecture, three hours; laboratory, six hours. Prerequisites: courses 103A, 103B, or consent of instructor. Classical thermodynamics applied to mineral solutions, silicate melts, and low- and high-temperature aqueous solutions and gases. Chemical kinetics and its application to geological problems.

Mr. Brown (F)

231. Mineral Physics and Equation of State. Lecture, three hours. Prerequisite: consent of instructor. Interrelationship of the physical properties of rock-forming minerals: optical reflectivity, refractive index, sound velocity, elastic constants, specific heat, and thermal expansion. Determination of pressure, volume, and temperature relationships and planet-forming compounds. Variation of elastic constants with temperature and pressure. Application of shock-wave experiments to equations of state.

Mr. Anderson

232A. Thermodynamic and Geometric Principles of Phase Equilibria. Prerequisites: course 51C and Chemistry 110B, or consent of instructor. Thermodynamic bases of phase transformations and of phase rule. Geometric representation of multiphase systems using pressure, temperature, chemical potential, molal volume, and the fugacity of oxygen, water, and other volatile components as variable parameters.

Mr. Anderson

232B. Petrologic Phase Equilibria. Lecture, three hours; discussion, three hours. Prerequisites: course 51C and Chemistry 110B, or consent of instructor. Principles governing homogeneous and heterogeneous nucleation, ordering, shape, and stability relations in igneous and metamorphic rocks (fractional crystallization, partial melting, hydrothermal solutions, element partitioning in coexisting phases). Mr. Kirr.

232A-232B. Current Research in Geochemistry (1 unit each). Prerequisite: graduate standing in earth and space sciences. Seminars presented by staff, outside speakers, and graduate students stressing current research in earth and planetary chemistry, mineralogy, and petrology. Review of theories and models relevant to mineral growth patterns, mineral and rock chemistry, and the formation of Earth and other rocky planets.

Mr. DePoo (W)


Mr. Brown (F)

234. Metamorphic Petrology. Lecture, three hours; laboratory, six hours. Prerequisite: an introductory course in petrology and petrography, knowledge of differential equations. Understanding of the processes of igneous rocks and the Earth's crust. Geochemical, tectonic, and physical evidence and principles.

Mr. DePoo (W)

235. Geology of the Lithosphere. Lecture, three hours. Prerequisite: course 202 or 245A or Civil Engineering 108 or consent of instructor. Overcoring, hydrofracture, fault plane solutions, seismic stress drops; effects of erosion, cooling, earth ellipcity, topography, and density anomalies. State of stress in plate boundaries and interiors. Application of finite element and analytic methods to stress determination.

Mr. Bird (Sp)

236. Glociology. Lecture, three hours. Prerequisite: course 245A or equivalent or consent of instructor. Occurrence and classification of glaciers; accumulation and ablation; glacier budget; mechanical properties of ice; glacier flow; crevasses; textural and structural features; thermal relationships; bed slip; climatic response; catastrophic advances.

Mr. Shreve (Sp, every third year)

237. Advanced Structural Geology. Lecture, three hours; discussion, two hours. Prerequisites: courses 111A, 111B. Principles governing fracture, folding, and flow of rocks; solutions of structural problems at various scales; regional tectonic problems.

Mr. Christie, Mr. Oertel

238. Structural Analysis of Deformed Rocks. Discussion, three hours; laboratory, three hours. Prerequisites: courses 111A, 111B, and 112, or consent of instructor. Recommended: course 248. Geometrical analysis of the complex structures in terrains with complex or multiple deformations. Analysis of strain from deformed primary features. Interpretation of structural history in metamorphic terrains. (Alternate years with course 239.) Mr. Christie

239. Structural Analysis of Deformed Rocks. Discussion, three hours; laboratory, three hours. Prerequisites: courses 111A, 111B, and 112, or consent of instructor. Recommended: course 248. Geometrical analysis of the complex structures in terrains with complex or multiple deformations. Analysis of strain from deformed primary features. Interpretation of structural history in metamorphic terrains. (Alternate years with course 239.) Mr. Christie

240. Space Plasma Physics. Lecture, three hours. Prerequisite course 203 or Physics 210A. The physics of plasmas in space, including treatments based on magnetohydrodynamics and kinetic theory. Applications to solar or planetary winds; steady-state magnetospheres; magnetohydro convection; substorm processes; space plasma; magnetic merging; field-aligned currents and magnetosphere-ionsphere coupling; ring current dynamics, and wave particle instabilities.

Mr. Russell (F)

241. Sedimentary Petrology. Lecture, two hours; laboratory, six hours. Prerequisites: courses 51C, 103B. Texture, composition, structure, and modes of origin of the sedimentary rocks. Content varies from year to year.

Mr. Reed (F)

242. Sandstone Petrology. Lecture, two hours; laboratory, four hours. Prerequisites: or course 141. Petrographic study of sandstones, with emphasis on provenance, petrofacies, and paleoaeolian reconstitutions.

Mr. Ingersoll (Sp)


Mr. Ingersoll (W)

245A-245B. Stress and Deformation. Lecture, three hours. Prerequisites: Physics 8A, 8B, Mathematics 32A, and 32B, or consent of instructor. Recommended: Mathematics 33A. Scalars, vectors, tensors; subscript notation; rotation and inversion of axes. Transformation matrix; stress; finite homogeneous strain, rotation; infinitesimal strain, stress rate; Mohr's circle construction and other graphical methods; flow laws.

246. Stress in the Lithosphere. Lecture, three hours. Prerequisite: course 202 or 245A or Civil Engineering 108 or consent of instructor. Overcoring, hydrofracture, fault plane solutions, seismic stress drops; effects of erosion, cooling, earth ellipcity, topography, and density anomalies. State of stress in plate boundaries and interiors. Application of finite element and analytic methods to stress determination.

Mr. Bird (Sp)

247. Glociology. Lecture, three hours. Prerequisite: course 245A or equivalent or consent of instructor. Occurrence and classification of glaciers; accumulation and ablation; glacier budget; mechanical properties of ice; glacier flow; crevasses; textural and structural features; thermal relationships; bed slip; climatic response; catastrophic advances.

Mr. Shreve (Sp, every third year)

249. Structural Analysis of Deformed Rocks. Discussion, three hours; laboratory, three hours. Prerequisites: courses 111A, 111B, and 112, or consent of instructor. Recommended: course 248. Geometrical analysis of the complex structures in terrains with complex or multiple deformations. Analysis of strain from deformed primary features. Interpretation of structural history in metamorphic terrains. (Alternate years with course 239.) Mr. Christie

250. Dynamics of the Solar Wind. Parker's hydrodynamic solution and spiral magnetic field model; effects of magnetic field and solar rotation; shock waves, discontinuities, small amplitude wave propagation, large-scale structure; interaction with the moon's cislunar, interstellar, stellar winds and stellar spindle.

Mr. Coleman

251. Seminar in Mineralogy. Lecture, three hours. Study of groups of rock-forming minerals (e.g., feldspars), integrating such aspects as crystal structure, crystal chemistry, phase equilibria, and petrogenesis. Mr. Doolase (Sp)

252. Seminar in Geochemistry. Lecture, two hours; discussion, two hours. Phase equilibria under crustal conditions, chemistry of ocean waters, recent and ancient sediments, structure and chemistry of the upper mantle, geochemistry, cosmochemistry, and cosmochemistry. Mr. Kaplan, Mr. Wason (F,W)
253. Seminar in Petrology. Lecture, three hours. Problems of igneous or metamorphic petrology: methods and evaluative conditions of petrographic, geochemical, and geophysical studies. Mr. Reed

254. Seminar in Sedimentology. Lecture, three hours. Processes of sediment transport and deposition; deep sea sediments; deltaic and estuarine; petrology of carbonates, sandstones, and lutites; stratigraphy; paleoenvironmental studies. Mr. Rosenfeld

255. Seminar in Structural Geology and Tectonics. Lecture, three hours. Flow and fracture in the earth's crust from microscopic to continental scale and in experiments. Examples may include metamorphic terranes, glaciers, platoons, volcanoes, and consolidated or unconsolidated sediments. Modern concepts of the oceanic basins; processes leading to segregation of continental-type rocks. Mr. Oertel (Sp)

256. Seminar in Glaciology and Geomorphology. Lecture, three hours. Glacier physics, theoretical geomorphology, river mechanics, statistical models. Mr. Shreve (W)

257. Seminar in Paleontology. Lecture, three hours. Current biogeologic knowledge and research on evolution of selected groups of animals and plants, numerical taxonomy, organism-environmental relationships, and development of life, biostatigraphy, paleoecology, biogeography, and biostatistics.

258. Seminar in Mineral Deposits. Lecture, three hours. Problems of distribution, composition, and formation of mineral deposits; mineral economics; investigations of opaque minerals by microscopic or other techniques. Mr. Barton, Mr. Carlisle (F) and Mr. Shreve (W)

259. Seminar in Paleoecotronics. (Not the same as course 259 prior to Fall Quarter 1986.) Lecture, two hours; discussion, two hours. Prerequisite: course 244 or consent of instructor. Basin evolution and paleogeography, with emphasis on the Phanerzoic of the Western United States. Mr. Ingersoll (Sp)

260. Seminar in Advanced Topics in Geology (2 to 4 units). (Formerly numbered 259.) Topics vary. May be repeated for credit.

261. Topics in Magnetospheric Plasma Physics. Lectures, discussions, and exercise on specific advanced topics in magnetospheric plasma physics. Previous courses examined magnetic storms, magnetospheric substorms, ultraviolet frequency waves, and adiabatic particle motion in the earth's radiation belts.

265. Instrumentation, Data Processing, and Data Analysis in Space Physics. Lecture, three hours. Principles, testing, and operations of magnetometers and other instruments. Data processing, display, and archiving. Time-series analysis techniques, including filtering. Fourier series, eigenanalysis, and power spectra. Mr. McPherron

268. Seminar in Resource Analysis. Lecture, three hours. Prerequisite: consent of instructor. Geophysical, geochronological, and geotechnical studies in studies of optimum use of mineral and energy resources. Emphasis on the use of mineral and energy resources from time to time. Mr. Carlisle (Sp)

M270A-M270B-M270C. Seminar in Climate Dynamics (2 to 4 units). (Same as Atmospheric Sciences M270A-M270B-M270C and Geography M270A-M270B-M270C.) Lecture, two hours. Prerequisite: consent of instructor. The archaeological, geochemical, and biogeochemical literature, and stratigraphic evidence for climate change throughout the geologic past. Rhythmology and dynamics of climatic subsystems: atmosphere and oceans, ice sheets and marine ice, lithosphere and mantle. The climate of other planets. The modeling, simulation, and prediction of modern climate on the monthly, seasonal, and interannual time scales. May be repeated for credit. S/U or letter grading. Mr. Berger, Mr. Gill, Mr. Schubert

282. Seminar in Geophysics. Lecture, two hours; discussion, two hours. Prerequisite: consent of instructor. Seismology, seismology, geophysical prospecting, and geomagnetic prospecting. Selected topics in earth physics. Content varies from year to year. May be repeated for credit.

284. Seminar in Mineral Physics and Rock Physics (2 to 4 units). Prerequisite: course 233 or 234A. Seminar for students interested in rock physics, mineral physics, and aspects of seismology and petrology. Students present seminars in their research topics. Topics include equations of state, acoustic properties of minerals under pressure, diellectric properties of minerals, properties of the earth's deep mantle and core, compression of porous aggregates, fracture dynamics, lattice dynamics of low symmetry crystals, laboratory analogs of earthquakes. Mr. Anderson

M285. Origin and Evolution of the Solar System. (Same as Astronomy M285.) Dynamical problems of the solar system; chemical evidences from geochemistry, meteorites, and the solar atmosphere; nucleosynthesis; solar origin, evolution, and termination; solar nebula, hydromagnetic processes, formation of the planets and satellite systems. Content varies from year to year. May be repeated for credit. S/U grading.

286A-286B-286C. Seminar in Planetology (2 units each). Problems of current interest concerning the moon, planets, and meteorites. May be repeated for credit. S/U grading.


295. Earth and Space Sciences Colloquium (1 to 2 units). Reading and discussion in the frontiers of earth and space sciences.


375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the 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.

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. Course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596. Directed Individual Study and/or Research (2 to 12 units). May be repeated. S/U or letter grading.

597. Preparation for M.S. Comprehensive Examination or Ph.D. Qualifying Examinations (2 to 8 units). S/U grading.


Bachelor of Arts in Chinese

Preparation for the Major

Required: East Asian Languages and Cultures 1A-1B-1C, 11A-11B-11C, 40A, History 9B-9C. Anthropology 22, East Asian Languages and Cultures 113A, and English 4 are recommended.

The Major

Required: A total of 111/2 courses, of which seven must be upper division language courses, including at least two vernacular language courses from East Asian Languages and Cultures 121A, 121B, 121C, 124A, 124B, 124C, 151A, 151B, and at least four classical language courses from 113A, 113B, 113C, 152A, 152B, 163A, 163B, 163C.

The remaining four and one-half required courses must include East Asian Languages and Cultures 140A or 140B or 140C; one course from 170A, 170B, 173, or 183; 199 (at least two units in the senior year); Art History 114B; and either History 182A, 182B, 182C, or 183.

English 100A, 100B, 100C, and additional courses in Chinese history are recommended. Students planning to undertake graduate study are urged to include in their undergraduate program additional courses in classical Chinese and beginning courses in Japanese. Those planning to undertake advanced graduate study are urged to gain a reading knowledge of French or German.

Bachelor of Arts in Japanese

Preparation for the Major

Required: East Asian Languages and Cultures 9A-9B-9C, 19A-19B-19C, 40B, History 9B-9C. Anthropology 22 and English 4 are recommended.

The Major

Required: A total of 111/2 courses, of which seven must be upper division language courses selected from East Asian Languages and Cultures 119A, 119B, 129, 134A, 134B, 137, 139, 145, C166, CM176, C178, 179A, 179B, C181, C182. The seven courses must include 119B, 129, and 134A or 134B or C166 or C178.

The remaining four and one-half required courses must include East Asian Languages and Cultures 141A or 141B; one course from 174 or 184; 199 (at least two units in the senior year); Art History 114C; and either History 187A, 187B, or 187C.

English 100A, 100B, 100C, and additional courses in Japanese history are recommended. Students planning to undertake graduate study are urged to include in their undergraduate program three courses in classical Japanese and beginning courses in Chinese. Those planning to undertake advanced graduate study are urged to gain a reading knowledge of French or German.

Comprehensive Examination Plan

All students take comprehensive examinations in the literature and cultural history of either China or Japan. In addition, you are required to present two seminar research papers. The results of the examinations and the quality of the papers determine whether you will be admitted to the Ph.D. program.

Master of Arts Degree

Admission

To qualify for admission you are expected to (1) meet general University requirements, (2) have taken a minimum of three quarter courses or the equivalent in classical Chinese or Japanese, and (3) present a B.A. degree from a Department of East Asian Languages and Cultures similar to UCLA’s. Applicants with the B.A. in another field or from departments whose requirements are less rigorous will be admitted to the Department of East Asian Languages and Cultures (290 Royce Hall, UCLA, Los Angeles, CA 90024) only if they can meet the requisite standards within one year. Selection is based on (1) prior scholastic performance, (2) recommendations by professors, (3) score on the Graduate Record Examination (GRE) Aptitude Test, and (4) strength and suitability of purpose.

International students are also required to take the Test of English as a Foreign Language administered by the Educational Testing Service (ETS), unless this test is not offered in their country of residence. International students must also take a test in translation from Chinese or Japanese into English, either with the comprehensive examinations or earlier.

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 the four criteria listed under admission to the M.A. degree, plus a recent research paper by the applicant. Students with an M.A. in the department are judged on their M.A. record, plus three letters of recommendation. Those with an M.A. from other institutions must also take a translation examination.

International students must meet the same requirements specified for such students in the M.A. program, including a translation examination at the time of the qualifying examinations or earlier.

Major Fields or Subdisciplines

The department emphasizes three 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) Buddhism with the subdisciplines of Chinese and Japanese Buddhism. In addition, a program in ancient Chinese civilization or Japanese linguistics may be arranged by petition. Departmental faculty will also participate in the design of individual Ph.D. programs.

Foreign Language Requirement

You must demonstrate a reading knowledge of French or German by passing the Graduate School Foreign Language Test administered by the Educational Testing Service (minimum score of 500) or by passing a level five course with a grade of B or better. With the consent of the department, Russian may be substituted.

Course Requirements

Nine courses are required for the degree, of which five must be graduate courses. East Asian Languages and Cultures 295 is required for the Chinese major, and course 296 is required for the Japanese major. In unusual cases and with departmental consent, courses taken outside the department that are appropriate to your program may be applied toward the nine courses but not toward the five graduate courses. Courses in the 500 series and those taken to meet admission standards and language requirements may not be applied toward the total course requirement.

Major Fields or Subdisciplines

M.A. students may specialize in either Chinese language and culture or Japanese language and culture.

Language Requirements

Students majoring in Chinese must have completed at least one year of modern Japanese with a grade of B or better; those majoring in Japanese must have completed one year of classical or modern Chinese with a grade of B or better. This requirement may be fulfilled before admission to the M.A. program.

International students may also be required to take English (ESL) 33A, 33B, 33C, 34, 36, or other ESL courses.

Course Requirements

Nine courses are required for the degree, of which five must be graduate courses. East Asian Languages and Cultures 295 is required for the Chinese major, and course 296 is required for the Japanese major. In unusual cases and with departmental consent, courses taken outside the department that are appropriate to your program may be applied toward the nine courses but not toward the five graduate courses. Courses in the 500 series and those taken to meet admission standards and language requirements may not be applied toward the total course requirement.

Comprehensive Examination Plan

All students take comprehensive examinations in the literature and cultural history of either China or Japan. In addition, you are required to present two seminar research papers. The results of the examinations and the quality of the papers determine whether you will be admitted to the Ph.D. program.
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 may be required to take the written qualifying examinations again.

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 at the discretion of the doctoral committee.

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.

1A-1B-1C. Elementary Modern Chinese. Lecture, five hours. Not open to students who have learned, from whatever source, enough Chinese to qualify for more advanced courses. Students who lack knowledge of Chinese disqualify them for these courses should take courses 2A-2B-2C or more advanced courses. An introduction to standard spoken Chinese and Chinese characters, with emphasis on conversation. Ms. Ahnert; Mr. Chu

2A-2B-2C. Elementary Mandarin for Speakers of Chinese Dialects. Lecture, five hours. Beginning courses specially designed for students who speak, or have some familiarity with, a non-Mandarin dialect of Chinese. All aspects of Mandarin, with emphasis on Mandarin pronunciation and usage. Mr. Chu

7A-7B-7C. Elementary Modern Korean. Lecture, three hours; discussion, two hours. Not open to students who, from whatever source, already know the language. An introduction to standard spoken Korean and Korean writing, with emphasis on conversation. Ms. Akatsu

11A-11B-1C. Intermediate Modern Chinese. Lecture, three hours; laboratory, one hour. Students with credit for courses 2A-2B-2C, or whose background and experience are equivalent to course 2C, should take courses 12A-12B-12C rather than these courses. A continuation of courses 1A-1B-1C, with balanced instruction in reading, writing, and conversation. Ms. Ahnert

12A-12B-12C. Intermediate Mandarin for Speakers of Chinese Dialects. Lecture, three hours; laboratory, one hour. A continuation of courses 2A-2B-2C, covering all aspects of Mandarin but emphasizing those that differ from other dialects of Chinese. Mr. Epp

15A-15B-15C. Intermediate Spoken Japanese (2 units each). Lecture, three hours. Prerequisites: course 12A, consent of department. Limited to students with credit for courses 9A-9B-9C. May be taken concurrently with courses 19A-19B-19C. Ms. Nishide

19A-19B-19C. Intermedia Modern Japanese. Lecture, three hours; laboratory, two hours. Prerequisite: course 9C or equivalent. A continuation of courses 9A-9B-9C. Readings in modern Japanese, with emphasis on comprehension and structural analysis. Mr. Epp

40A. Chinese Civilization. Knowledge of Chinese is not required. A survey of the development of the outstanding aspects of Chinese culture from prehistoric to modern times. Mr. Chou


Upper Division Courses
113A-113B-113C. Introduction to Classical Chinese. Formerly numbered 13A-13B-13C and 113A-113B. Lecture, three hours. Prerequisite: course 11C or consent of instructor. Grammar and readings in selected texts. Ms. Wong


212A-212B-212C. Advanced Modern Chinese. Prerequisite: course 11C. Readings in modern prose and newspaper style. Mr. Chu

212A-212B. Readings in Modern Chinese Literature. Lecture, three hours. Prerequisite: course 121B or consent of instructor. Readings and discussion of works of modern Chinese literature. 121A. Poetry and Prose; 122B. Drama and Fiction. Mr. Link

214A-214B-214C. Readings in Modern Expository Chinese. Lecture, three hours. Prerequisite: course 121B or consent of instructor. Readings in the social sciences, including works by Communist materialists. 124A. Nationalist Chinese Materials (including the May 4th Movement); 124B. Political and Military Materials of Communist China; 124C. Economic and Educational Materials of Communist China. Mr. Chu

126. Post-1949 Chinese Literature. Prerequisite: course 121B or consent of instructor. Reading and discussion of selected works in contemporary poetry, drama, and fiction, with emphasis on the People's Republic of China. Mr. Link

128. Readings in Modern Korean Literature. Prerequisite: reading knowledge of modern Korean. Reading and discussion of selected works in modern Korean literature. P/NP or letter grading.

129. Introduction to Classical Japanese. Lecture, three hours. Prerequisite: course 11B or consent of instructor. Introduction to literary Japanese, with readings and discussions in the prose and poetry of the Heian period. Mr. Belu

134A. Introduction to Kawabata Yasunari. Lecture, three hours. Prerequisite: course 19C. Reading and analysis of the Nobel Laureate's short stories, with particular emphasis on their emotional structure. Mr. Epp

134B. Introduction to Mushakoji Sanetarō. Lecture, three hours. Prerequisite: course 19C. Reading and discussion of Mushakoji's prose, fiction, and poetry. Mr. Epp

135. Buddhist Themes in Asian Literature. Knowledge of Asian languages is not required. A survey of selected works of Buddhist literature of India, China, and Japan. Includes canonical works such as the Lotus Sutra and noncanonical works of poetry, prose, and drama containing Buddhist themes. Mr. LaFleur

137. Introduction to Kambon and Other Literary Styles. Lecture, three hours. Prerequisite: course 119B or consent of instructor. Introduction to Kambon, the Japanese literary rendering of classical Chinese, and Sorobon, the epistolary style. Mr. Belu, Mr. Plutschow
140A-140B-140C. Chinese Literature in Translation. Knowledge of Chinese is not required. Open to freshmen and sophomores, as well as all other students. Lectures and collateral reading of representative works in English translation. 140A. Poetry from the Early Dynasties to the 19th Century; Drama and Fiction from the 13th Century to the End of the Ch'ing Period; 140C. 20th-Century Poetry, Drama, Fiction.

Mr. Link, Mr. Strassberg, Ms. Wong

141A-141B. Japanese Literature in Translation. Knowledge of Japanese is not required. Open to freshmen and sophomores, as well as all other students. A survey of Japanese literature from the beginning to modern times, emphasizing Chinese, Buddhist, and Western influences. 141A. Beginning to 1600; 141B. 1600 to Modern Times.

Mr. Plutschow

145. Readings in Modern Expository Japanese. Prerequisite: course 119A. Readings in contemporary affairs, including three lectures. Prerequisite: social issues, taken from current Japanese newspapers and journals.

Mr. Plutschow

151A-151B. Readings in Traditional Chinese Fiction. Prerequisite: course 11C or equivalent or consent of instructor. Reading and discussion of major Chinese novels. Designed primarily as a language course; emphasis on translation and obtaining a command of the various literary styles, as well as on critical interpretation of the texts.

Mr. Strassberg

152A-152B. Readings in Classical Chinese Poetry. Lecture, three hours. Prerequisite: course 113C or consent of instructor. Discussion and collateral reading of representative works selected on the basis of such critical concerns as thematic patterns, image clusters, genres, and the characteristics of major poets.

Ms. Wong

154A-154B. Mongolian. Lecture, three hours; laboratory, one hour. To be offered when requested by a sufficient number of students.

160. Elementary Sanskrit. Introduction to script and grammar, with reading exercises and attention to the significance of Sanskrit for the understanding of other Indo-European languages.

Mr. Scharfe

161. Intermediate Sanskrit. Prerequisite: course 160 or equivalent. Advanced aspects of grammar and the reading of literary sections of Sanskrit.

162. Advanced Sanskrit. Prerequisite: course 161 or equivalent. Reading of the entire Bhagavadgita or a comparable amount of other Sanskrit literature.

Mr. Scharfe

163A-163B-163C. Readings in Classical Chinese Texts. Lecture, three hours. Prerequisite: course 113C.

165. Readings in Sanskrit. Prerequisite: course 162 or equivalent. Extensive reading in such texts as best serve the students' needs.

Mr. Scharfe

166. Kawabata's Contemporaries. (Formerly numbered 153A.) Lecture, three hours. Prerequisite: course 119A or 134A or 134B. Readings in the fiction and poetry of such writers as Ibuse Masujirō, Maryama Kiaro, Ozaki Kakuju, Tsutsumi Sakae, and Yokomitsu Richi. Concurrently scheduled with course C266.

Mr. Epp (W, odd years)

167. Introduction to Indic Philosophy. A survey of the main trends in Indian philosophy from ancient to modern times.

Mr. Scharfe

170A-170B. Archaeology in Early and Modern China. Survey of major aspects of Chinese culture, carried out under the intensive archaeological programs of the PRC, and the interpretation of the archaeological findings.

Mr. Chou

172. Introduction to Buddhism. Knowledge of Asian languages is not required. Life of the Buddha and fundamental doctrines of Buddhism; Buddhist writing and translating. The rise and development of Mahayana Buddhism; writings and doctrines. The Tantric doctrines and the end of Indian Buddhism. Mr. Buswell

173. Chinese Buddhism. Knowledge of Asian languages is not required. The introduction and development of Buddhism in China, interaction between Buddhism and Chinese culture, rise of the Chinese schools of Buddhism such as Pure Land and Zen, contributions to Chinese culture.

Mr. Buswell


Mr. LaFleur


Mr. Akatsuka

177. Kyoto through Classical Japanese Literature. Lecture, three hours. Recommended prerequisite: course 40B. Knowledge of Japanese is not required. An investigation of the history and life of the city as seen through Japanese literature. PNP or letter grades may be assigned.

C178. Introduction to Shiga Naoya. (Formerly numbered 153B.) Lecture, three hours. Prerequisite: course 119A or 134A or 134B. Reading and discussion of Shiga's short stories, with special emphasis on his novel titled Unto 1918. Concurrently scheduled with course C276.

Mr. Epp (W, even years)

179A. Readings in Medieval Japanese Literature. Lecture, three hours. Prerequisite: course 129 or consent of instructor. Reading and discussion of the prose, poetry, and drama to 1600.

Mr. Plutschow

179B. Readings in Edo Literature. Lecture, three hours. Prerequisite: course 129. Readings and discussion of the prose, poetry, and drama from 1600 to 1868.

Mr. Scharfe

181. Readings in the Japanese Family System. (Formerly numbered 142A.) Lecture, three hours. Prerequisite: course 119B or equivalent. Analysis and discussion of post-World War II articles criticizing the family system and the way it has functioned in the past. Concurrently scheduled with course C281.

Mr. Epp (Sp)

182. Human Problems in the Modernization of Japan. (Formerly numbered 142B.) Lecture, three hours. Prerequisite: course 119B. Analysis and discussion of post-World War II articles criticizing the family system and the role of the intellectual. Concurrently scheduled with course C292.

Mr. Elgin (Sp)

183. Introduction to Chinese Thought. Lecture, three hours. Knowledge of Asian languages is not required. A general survey of indigenous Chinese thought from the Chou period to circa 1800, covering Confucian, Taoist, and Mo-Tzu, the legalists, the influence of Buddhism, the development of neo-Taoism and neo-Confucianism.

Mr. Chou

184. Introduction to Japanese Thought. Lecture, three hours. Knowledge of Asian languages is not required. A general survey of Japanese thought from early to modern times, including analyses of Shinto mythology, forms of Confucianism, the ethic of bushido, the National Learning School, and modern Japanese philosophers such as Nishida Kitaro and Watsuji Tetsuro. Attention also to representative types of contemporary thinking about Japanese thought, especially the question of what might qualify as recognizably "Japanese" in aesthetics, ethics, and philosophy.

Mr. LaFleur

185. Introduction to Korean Thought. Lecture, three hours. A general survey of Korean thought from the earliest records to the 20th century, including shamanism, Taoism, Buddhism, Christianity, and neo-Confucianism. Korean traditions and those found in India, China, Japan, and the West.

Ms. Kim

188. Chinese Etymology and Calligraphy. Prerequisite: one year of classical Chinese or consent of instructor. Covers (1) the development of the Chinese writing system from the Pottery Inscriptions 6,000 years ago to the modern Simplified Forms and the studies of the Six Scripts principles which were used to form Chinese characters and (2) the aesthetic training of calligraphic art and its appreciation, with focus on the ways of recognizing and interpreting the "Cursive Style," a common form of handwriting.

Mr. Chou

189. Chinese Brush Painting. Lecture, two hours; studio, two hours. A combination studio-lecture course surveying the aesthetics and techniques of Chinese literati painting. Emphasis on realizing the philosophical ideals of critical treatments through mastery of the traditional materials and elements of landscape.

Mr. Strassberg

199. Special Studies in East Asian Languages and Cultures (2 to 4 units). Prerequisites: minor status in any department, consent of instructor. Reading knowledge of Chinese or Japanese, consent of instructor. Required of senior majors. Special individual study. May be repeated once with consent of instructor.

Graduate Courses

203A-203B. Chinese Philosophical Texts. May be repeated for credit with consent of instructor.

Mr. Strassberg

213. Chinese Buddhist Texts. May be repeated for credit with consent of instructor.

214A-214B. Pali and Prakrits. Prerequisites: knowledge of Sanskrit equivalent to course 161, consent of instructor. Grammatical studies and reading of texts.

Mr. Scharte

221A-221B. Introduction to Paninian Grammar. Prerequisite: course 162 or equivalent. Reading of selected passages of the text, with an introduction to Paninian's technique.

Mr. Scharte

222A-222B. Vedic. (Same as Iranian M222A-M222B.) Prerequisites: knowledge of Sanskrit equivalent to course 161, consent of instructor. Characteristic of the Vedic dialect and readings in the Rig-Vedic hymns. Only course M222B may be repeated for credit.

Mr. Schmidt

223. Seminar: Linguistic Analysis of Japanese Narratives. Prerequisite: course CM176 or consent of instructor. Analysis of selected modern and classical Japanese narratives. Emphasis on exploration of how grammatical features such as tense, aspect, voice, and point of view are utilized to achieve desired literary effects. May be repeated for credit with consent of instructor.

Ms. Akatsuka

229A-229B. Japanese Buddhist Texts. May be repeated for credit with consent of instructor.

Mr. LaFleur

240. Advanced Chinese Classics. Reading and discussion of selected works in classical Chinese, including various types of literary prose and historical narratives, with attention to stylistic features and historical development. May be repeated for credit with consent of instructor.

Ms. Wong

242A-242B. Japanese Classics. Prerequisite: course 160 or equivalent. May be repeated for credit with consent of instructor.

Mr. Belu
243. Seminar in No and Kyogen. Lecture, three to four hours. Prerequisite: knowledge of classical Japanese. Readings of selected No and Kyogen texts from the Muromachi and Edo periods, as well as readings of critical writings and discussion of theories. May be repeated for credit with consent of instructor. S/U or letter grading. Mr. LaFleur

244. Seminar in Traditional Chinese Fiction and Drama. Prerequisite: reading knowledge of colloquial and literary Chinese. Seminar topics alternate yearly between traditional fiction and drama, with emphasis on genre, hermeneutical, and historical approaches. Topics in the Chou from 400-256 B.C. to contemporary genres from the Chou through the Ch'ing periods, Topics in drama selected from tsa-chü and ch'üan-ch'i. May be repeated for credit with consent of instructor. Mr. Strassberg

245. Seminar in Modern Japanese Fiction. Lecture, three hours. May be repeated for credit with consent of instructor. Ms. Suzuki (F)

246. Modern Japanese Poetry. Lecture, three hours. Studies of individual poets who became established between World War I and World War II and who consequently illustrate the transitional artists trying to modernize their tradition. May be repeated for credit. S/U or letter grading. Mr. Epp

247. Selected Readings in Sanskrit Texts. May be repeated for credit with consent of instructor. Mr. Scharfe

250. Seminar in Medieval Japanese Literature. Prerequisite: one year of classical Japanese. Selected readings in travel poetry, travel diaries, and other genres of Japanese travel literature of the Heian, Kamakura, Nambokucho, and Muromachi periods. May be repeated for credit with consent of instructor. Mr. Plutchok

251. Seminar: Selected Topics in Modern Chinese Literature. Prerequisite: consent of instructor. Selected readings in 20th-century Chinese literature, emphasizing fiction. Discussion of individual research projects. May be repeated for credit. Mr. Link

252. Seminar: Selected Topics in Japanese Literature. May be repeated for credit. Mr. Befu

253. Seminar: Selected Topics in Japanese Buddhism. May be repeated for credit. Mr. LaFleur

255. Seminar: Selected Topics in Chinese or Indian Buddhism. May be repeated for credit. Ms. Suzuki

261A-261B. Seminar in Classical Chinese Poetry. Prerequisites: courses 152A and/or 152B, or consent of instructor. 261A. Chinese poetry from the Shih-chi, phase to the 6th century, with emphasis on the evolution of the lyric (classical) Chinese dynasties (ca. 400-600). 261B. The development of shih and tz'u from the T'ang period (ca. 600-900) and on-traditional and modern critical approaches to classical Chinese poetry. Ms. Young

266. Kawabata's Contemporaries. Lecture, three hours. Prerequisite: course 119A or 134A or 134B. Not open for credit to students with credit for course C166 or former course 153A. Readings in the fiction and poetry of such writers as Itoku Masaji, Maruyama Koito, Otsuki Kazuo, Tsabai Sakei, and Yokomitsu Richi. Concurrently scheduled with course C166. Graduate students write a research paper and present written or oral reports on outside readings. Mr. Epp (W, odd years)

270. Seminar: Selected Topics in Chinese Archaeology. Prerequisite: course 170A or 170B or consent of instructor. Discussion and research on major problems about Chinese archaeology and the different interpretations to the most important archeological finds, with emphasis on the studies of the Xia and Shang cultures and the Xia and Shang dynasties. May be repeated for credit. Mr. Chou

275. Seminar: Selected Topics in Chinese Cultural History. Prerequisite: consent of instructor. Discussion and research on major problems related to Chinese culture, such as beginnings of the Chinese civilization and the Chinese dynastic history. Other topics include the cultural developments of ancient and medieval China. May be repeated for credit. Mr. Chou


C278. Introduction to Shiga Naoya. Lecture, three hours. Prerequisite: course 119A or 134A or 134B. Not open for credit to students with credit for course C178 or former course 153B. Reading and discussion of Shiga's short stories, with special emphasis on his novel technique until 1918. Concurrently scheduled with course C178. Graduate students write a research paper and present written or oral reports on outside readings. Ms. Akatsuka

C281. Readings in the Japanese Family System. Lecture, three hours. Prerequisite: course 119B or equivalent. Not open for credit to students with credit for course C181 or former course 142A. Analysis and discussion of post-World War II articles criticizing the family system and the way it has functioned in the past. Concurrently scheduled with course C181. Graduate students write a research paper and present written or oral reports on outside readings. Mr. Epp (Sp)

C285. Selected Topics in Buddhist Culture. May be repeated for credit with consent of instructor. Mr. LaFleur

C289. Bibliography and Methods of Research in Japanese. Required of all graduate students in Japanese. Lectures and discussion on the research methodology dealing with traditional Chinese materials, with emphasis on bibliography training (including the most up-to-date indexes in Chinese studies), punctuation practice, knowledge of textual criticism, and rare book editions. Mr. Chou

C299. Bibliography and Methods of Research in Japanese. Required of all graduate students in Japanese. Mr. Befu

299. Independent Study. Prerequisite: graduate standing. Guided research and writing of a research paper. May be repeated, but only four units may be applied toward the M.A. degree. May not be applied toward the Ph.D. degree. (F,W,Sp)

301. Teaching an Oriental Language as a Foreign Language. Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the 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.

You may repeat the courses below with consent of instructor; however, none may be applied toward the minimum course requirement for the M.A.

501. Cooperative Program (2 to 8 units). Prerequisite: graduate advising in graduate dean, and host campus instructor, department chair, and graduate dean. Course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.


Related Courses in Other Departments

Anthropology 166. Comparative Minority Relations 175S. Japan

261. Comparative Minority Relations

Art History, Art Design, and Art History 114A. The Early Art of India

114B. Chinese Art

114C. Japanese Art

C115A. Advanced Indian Art

C115B. Advanced Chinese Art

C115C. Advanced Japanese Art

260. Asian Art

Education 253C. Seminar: Asian Education

English 100A. Introduction to Poetry

140A. Criticism: History and Theory

140B. Criticism: Special Topics

201. The History of Literary Criticism

Geography 186. Contemporary China

286. Eastern Asia

History 182A-182B-182C. History of China

183. Modern China, 1840-1920

184. The Chinese Revolution

186. Diplomatic History of the Far East


188A. Early History of India

200L. Advanced Historiography: China

200M. Advanced Historiography: Japan

200P. Advanced Historiography: History of Religions

201L. Topics in History: China

201M. Topics in History: Japan

201P. Topics in History: History of Religions

282A-282B-282C. Seminar in Chinese History

285A-285B. Seminar in Modern Japanese History

293A-293B. Seminar in the History of Religions

Law 278. Comparative Law: Chinese Law

Linguistics 103. Introduction to General Phonetics

120A. Linguistic Analysis: Phonology

120B. Linguistic Analysis: Grammar

220. Linguistic Areas

225H. Linguistic Structures: Japanese

225P. Linguistic Structures: Chinese

Music 18D. Music and Dance of China

81G. Music and Dance of Japan

81J. Music of Korea

141. Survey of Music in Japan

145. History of Chinese Opera

146A-146B-146C. Studies in Chinese Instrumental Music

147A-147B. Music of China

Political Science 135. International Relations of China

136. International Relations of Japan

159. Chinese Government and Politics

160. Japanese Government and Politics

C250C. Seminars in Regional and Area Political Studies: Chinese and East Asian Studies

C250D. Seminars in Regional and Area Political Studies: Japanese and Western Pacific Studies

Sociology 134. Comparative Social Institutions of East Asia

276. Selected Topics in the Sociology of East Asia
East Asian Studies
(Interdepartmental)

290 Royce Hall, (213) 206-8235

Professors
Hans H. Baenwald, Ph.D. (Political Science)
Richard D. Baum, Ph.D. (Political Science)
Phillip C. Huang, Ph.D. (History)

Associate Professors
Herbert E. Plutschow, Ph.D. (East Asian Languages and Cultures), Chair
Richard E. Strassberg, Ph.D. (East Asian Languages and Cultures)

Scope and Objectives
This undergraduate major is designed for those who wish to study the Chinese- and Japanese-speaking areas of East Asia and/or engage in business there. It offers a social science approach, combined with language study and work in the humanities.

Bachelor of Arts Degree

Preparation for the Major
Required: History 9B-9C; East Asian Languages and Cultures 1A-1B-1C or 9A-9B-9C or a parallel Cantonese sequence; East Asian Languages and Cultures 11A-1B-11C or 19A-19B-19C. Students planning to pursue classical Chinese in the major will need East Asian Languages and Cultures 113A-113B-113C in addition to the above courses.

The Major
This consists of three parts:


*Courses so marked have prerequisites which are not included among the courses mentioned here.

Economics

2263 Bunche Hall, (213) 825-1011

Professors
William R. Allen, Ph.D.
Robert W. Clower, D.Litt.
Michael R. Darby, Ph.D.
Harold Demsetz, Ph.D.
Bryan C. Ellickson, Ph.D.
Arnold C. Harberger, Ph.D.
George W. Hilton, Ph.D.
Werner Z. Hirsch, Ph.D.
Jack Hirshleifer, Ph.D.
Michael D. Intriligator, Ph.D.
Benjamin Klein, Ph.D.
Edward E. Learner, Ph.D.
Ariel Leshnoifhut, Ph.D.
John J. McCaill, Ph.D.
Joseph M. Ostrov, Ph.D.
John G. Riley, Ph.D.
Lloyd S. Snapley, Ph.D.
Harold M. Somers, Ph.D., LL.B.
Earl A. Thompson, Ph.D.
Fims R. Welch, Ph.D.
Armen A. Alchian, Ph.D., Emeritus
John F. Barron, Ph.D., Emeritus
Paul A. Dodd, Ph.D., LL.D., Emeritus
Earl J. Miller, Ph.D., LL.D., Emeritus
Dudley F. Pegrum, Ph.D., Emeritus

Associate Professors
Sebastian Edwards, Ph.D.
George G. S. Murphy, Ph.D.
Robert Topel, Ph.D.

Assistant Professors
Sean R. Beckett, Ph.D.
Trudy Cameron, Ph.D.
David Dollar, Ph.D.
John C. Haltiwanger, Ph.D.
David K. Levine, Ph.D.
Sule Ozler, Ph.D.
Mark W. Plant, Ph.D.
Marc S. Robinson, Ph.D.
Sunil Sharma, Ph.D.
Carol Simon, Ph.D.
Kenneth Sokoloff, Ph.D.
Michael Waldman, Ph.D.

Scope and Objectives
UCLA's Economics Department is ranked among the 10 best in the nation according to a recent survey conducted by the Conference Board of the Associated Research Councils. Its undergraduate program is designed for students who wish to gain a thorough understanding of economic analysis. Emphasis is on economic principles applied to resolving interpersonal conflicts of interest and coordinating productive activity in a world of scarce resources. Because students must gain a thorough theoretical and technical competence before extensive study of the applied specializations in the discipline, the analytic core of the major in economics is closely structured. Some courses are appropriate for nonmajors, but the curriculum is most suitable for students who wish to make the study of economics the primary focus in their undergraduate education.

The undergraduate major provides analytical training in reference to socioeconomic phenomena and provides an excellent theoretical background for those pursuing graduate education in law, management, public administration, journalism, social welfare, architecture and urban planning, and education, as well as economics.

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 the 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

Pre-Economics Major
While you are completing the lower division preparation courses for the major, you may be classified as a pre-economics major. When you have completed the preparation courses for the major and before you reach 100 quarter units (but no later than 135 quarter units), you must petition to enter the major at the undergraduate counselor's office in 2253 Bunche Hall.

Preparation for the Major
Required: English 4 or 30 or two 100W courses; Economics 1, 2, 40 (or Mathematics 50 as a substitute for course 40); two courses in calculus (i.e., Mathematics 3A and 3B, or 3A and 3E, or 31A and 31B. Mathematics 3E is specifically designed for economics). All courses must be completed for a letter grade.
A 2.0 (C) grade is required in each premajor course, with a combined 2.5 GPA required in the economics and mathematics courses. You must petition for major standing by the time you attain 135 quarter units.

Repetition of more than one preparation course or of any preparation course more than once will result 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:** Ten upper division courses in economics which must include Economics 101A, 101B, 102, and at least one course in three different fields in economics selected from the list below (all courses must be completed for a letter grade). Economics 100, 110, and 190 may not be included among the 10 upper division courses. One or two of the 10 courses may include Management 120 and/or 130 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 101A, 101B, and 102. In addition, you must have a 2.0 grade-point average (computed separately) for both upper division economics and management courses (i.e., a grade-point deficiency in economics courses cannot be offset by grade points earned in management courses and vice versa). 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 101A, 101B, 102, 103A-103Z, 104, 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); economic institutions (courses 180, 181A, 181B, 182, 183); international economics (courses 191, 192).

**Bachelor of Arts in Economics/Business**

This program offers students a business orientation in their undergraduate studies. Designed to prepare students for careers in business and for professional business education at the graduate level, the program requires students to include specific courses offered by the department and the Graduate School of Management (see "The Major").

**Admission**

Resources for the program are limited, and only 250 students per year are admitted. Applications for admission are handled exclusively by the Department of Economics and are available only once or twice a year. To apply you must have completed at least 72 quarter units (but no more than 135 quarter units), one 12-unit quarter of residence in regular session at UCLA, and all courses listed under "Preparation for the Major." In addition, you must be enrolled in UCLA regular session at the time of application and have an overall UCLA grade-point average of 3.0 (B), an average of 3.0 in the economics courses, and a 3.0 average in all preparation courses except English.

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.

**Preparation for the Major**

**Required:** Economics 1, 2, 40 (or Mathematics 50); English 4 or 30 or two 100W courses; Management 1A, 1B; Mathematics 3A and 3B, or 3A and 3E, or 31A and 31B (Mathematics 3E is specifically designed for economics). All courses must be completed for a letter grade.

Repetition of more than one preparation course or of any preparation course more than once will result 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.

**Major Fields**

Economic theory (courses 101A, 101B, 102, 103A-103Z, 104, 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); economic institutions (courses 180, 181A, 181B, 182, 183); international economics (courses 191, 192).

**Bachelor of Arts in Economics/International Area Studies**

This program is for students who wish to attain a specialized knowledge of a particular geographical area in addition to the economics analysis provided by the major. It should be useful to those who plan careers in international business or government service. The department encourages participation in the University of California Education Abroad Program or other recognized international study programs. Experience in foreign firms or institutions would be an advantage but yields no academic unit credit toward the major.

**Admission**

Qualified students must 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 quarter of residence in regular session at UCLA, and all courses listed under "Preparation for the Major." 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. Language course preparation need not be completed at the time of admission but must be completed before preparing the research paper required in Economics 199. Your program as a whole must be approved by the Economics faculty advisor before you are admitted to the major; you must apply before you reach 135 quarter units.

**Preparation for the Major**

**Required:** Economics 1, 2, 40 (or Mathematics 50 as a substitute for course 40); two courses in calculus (i.e., Mathematics 3A and 3B, or 3A and 3E, or 31A and 31B. Mathematics 3E is specifically designed for economics). You also must complete the sixth quarter course (or equivalent) of any modern language (e.g., French 6, German 6, Russian 6, Spanish 25; these are most frequently offered in fulfillment of this requirement, but also see the offerings under Portuguese, Italian, Germanic Languages, Near Eastern Languages, African Languages, and East Asian Languages and Cultures).

Repetition of more than one preparation course or of any preparation course more than once will result 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: A total 15 upper division courses selected from economics and the list of "Approved Noneconomics Courses" below. Eleven must be from economics, including Economics 101A, 101B, 102 (with a grade of C or better in each), 191, 192, 199, and five courses from at least two different fields in economics (selected from the "Major Fields" listed under the regular economics major). Four of the remaining upper division courses must be chosen from the approved list below and must include selections from at least two different departments. Economics 199 must be completed in your last quarter before graduation and includes the preparation of a research paper on the economy of the country or region of your specialization, sponsored and supervised by an Economics faculty member. Sources in the language of the region or country must be utilized. The noneconomics courses, the research paper, and the language learned must show consistency of purpose.

One or two of the five upper division economics electives may include Management 120 and/or 130 and/or 133 (Learning Center courses or courses transferred from other institutions may not be applied toward this option). A 2.5 GPA (computed separately from economics and noneconomics courses or courses transferred from other institutions) is also required in the management courses applied to this option.

Transfer credit for any courses to be applied toward the upper division requirements is subject to department approval; consult the undergraduate counselor before enrolling in any course.

To remain in the major you must maintain a 2.5 GPA for both economics and noneconomics courses, computed separately (i.e., a grade-point deficiency in economics courses cannot be offset by grade points earned in noneconomics courses and vice versa).

Approved Noneconomics Courses

Specialization in Computing
Majors in economics, economics/business, and economics/international area studies may select a specialization in computing by (1) satisfying all the requirements for a bachelor's degree in the specified major; (2) completing Program in Computing 10A, 10B, 30, 60, and Mathematics 61, (3) completing at least two courses from Economics 104, 145, 146, 147A, 147B, 199 (course 199 must be approved as relevant to both the specialization in computing and economics by the vice chair for Undergraduate Affairs). A grade of C or better is required in each course.

Bachelor of Science in Economics/System Science
The degree is described following the Economics Department courses.

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 in the Graduate Record Examination (GRE) Aptitude and Advanced Economics Tests.

The Department of Economics (2263 Bunche Hall, UCLA, Los Angeles, CA 90024) admits students only for the Fall Quarter of each academic year. The deadline for submitting the admission/fellowship application is December 31.

Major Fields or Subdisciplines
Economic theory; economic development; urban and regional economics; public finance; mathematical economics; statistics and econometrics; labor economics; money and banking; industrial organization; economic institutions; international economics; uncertainty and information.

Master of Arts Degree
Course Requirements
Candidates for the Master of Arts degree in Economics should have completed the equivalent of an undergraduate major in economics. The department requires nine upper division and graduate-level courses in economics completed in graduate standing at UCLA. These courses must include Economics 101A, 101B, and 102 with a grade of B or better and 107 with a grade of C or better.

Graduate-level courses in economic theory and history of economic thought may be substituted for these undergraduate courses. At least five of the nine courses must be strictly graduate economics courses.

You must also have completed, if not previously taken, two courses in calculus and one in statistics. Economics 144 may be used as one of the calculus courses and Economics 40 as the statistics course.

With consent of the graduate chair, you may offer a maximum of two courses in other social sciences such as history, management, mathematics, psychology, education, or philosophy in partial satisfaction of the degree requirements; 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.

Comprehensive Examination Plan
The comprehensive examination requirement for the master's degree may be met in one of the following three ways:

1. A master's pass (M) or better in each of two full doctoral comprehensive examinations.
2. Two master's passes (M) or better in each of two doctoral examinations, with one of the examinations being either the micro or macro half of the theory comprehensive.
3. Three grades of master's pass (M) or better in the qualitative methods examination and in each half of the theory comprehensive. If you achieve a B+ average in Economics 246B and 246C, you automatically receive a pass (P) grade in the quantitative methods examination.

The macro and micro parts of the theory examination may be taken or repeated either separately or together, and the grades on each part will be recorded separately for meeting the requirements for the M.A. and Ph.D. degrees.

Ph.D. Degree
Foreign Language Requirement
Ph.D. candidates must offer one foreign language or a substitute program in mathematics prior to sitting for the University Oral Qualifying Examination. If the language option is selected, you are required to show a proficiency in one language — French, German, Russian, or Spanish — by passing the Educational Testing Service (ETS) examination with a grade of 500 or better. Students whose native language is not English may substitute English for the language requirement by petitioning the dean of the Graduate Division. If the mathematics substitute is selected, you must show proficiency in mathematics above that ordinarily required of Ph.D. candidates. Since elementary calculus is, as noted above, considered basic for all economists, the three required language-substitute courses must be at a level above first-year calculus. Specifically, Mathematics 32 and 110 or above fulfill the requirement.

Course Requirements
The specific course requirements which must be fulfilled prior to taking the University Oral Qualifying Examination are the following:
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 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. An introduction to the principles of economic analysis, economic institutions, and issues of economic policy. Emphasis on allocation of resources 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. An introduction to the principles of economic analysis, economic institutions, and issues of economic policy. Emphasis on allocation of resources and distribution of income through the price system.

3. History of Economic Theory: You must take one upper division undergraduate course in the history of economic theory with a grade of B or better. Economics 181A, 181B, or 183 may be taken to satisfy this requirement.

Qualifying Examinations
You are responsible for contacting the graduate advisor for additional regulations covering these examinations.

You are expected to take the theory comprehensive part of the Fall Quarter of your first year or in the beginning of the Fall Quarter of your second year. During the second and third years, you will have to pass further written examinations in three elective fields.

Written examinations are graded H (honors pass), P (pass at the Ph.D. level), M (pass at the M.A. level), and F (fail). You are considered to have completed your theory and elective field examinations when you have earned at least four P grades.

The macro and micro parts of the theory examination may be taken or repeated separately or together, and the grades on each part are recorded separately for meeting the requirements for the M.A. and Ph.D. degrees. For the Ph.D. degree, the overall theory grade will be the lower of the grades on each of the macro and micro parts.

In order to be advanced to candidacy, you are required to present a paper in a departmental workshop. It is recommended that this be done by the end of your third year.

The University Oral Qualifying Examination, administered by your doctoral committee, is scheduled after successful completion of all the written examinations, other course requirements, and the foreign language requirement, and after the submission of a written dissertation proposal. The examination focuses on, but is not limited to, the dissertation proposal.

102. Macroeconomic Theory. Lecture, three hours; discussion, one hour. Prerequisites: two courses in calculus or consent of instructor. Theory of income, employment, and the price level. Analysis of secular growth and business fluctuations; introduction to monetary and fiscal policy.

Mr. Clower, Mr. Darby, Mr. Thompson

103A-103Z. Upper Division Research Seminar: Applications of Economic Theory. Prerequisites: course 101A and others as set by instructor. Limited enrollment seminars in which students usually write a research paper on a topic selected in consultation with instructors.

M103A. Political and Economic Issues in the Proliferation of Nuclear Weapons. (Same as Political Science M139A.) An interdisciplinary approach to the problem of nuclear proliferation. Economic aspects of the acquisition of nuclear weapons and economic aspects of the use of nuclear energy. Mr. Robin


Mr. Riley

107. History of Economic Theory. Lecture, three hours. A survey of economic analysis from Greek antiquity to the early 20th century, concentrating on the 18th and 19th centuries; special attention to selected writers, including Aristotle, the Mercantilists, the Physiocrats, Hume, Smith, Malthus, Ricardo, Marx, Marginalists, and Marshall.

Mr. Allen, Mr. Hilton

110. Economic Problems of Underdeveloped Countries. Lecture, three hours. Limited to non-Economics Department majors. Not open for credit to students with credit for course 111 or 112. A survey of the 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 leadership. Possible roles of developed countries. May not be applied toward any Economics Department major.

Mr. Edwards

111. Theories of Economic Growth and Development. Lecture, three hours. Prerequisite: course 101A. Growth models, theory of production under constraints, relative factor prices and their impact on choice of technology, investment criteria, role of the market, economic planning in less developed areas.

Mr. Edwards


Mr. Edwards

120. Introduction to Urban and Regional Economics. Lecture, three hours. Prerequisite: course 101A or consent of instructor. A survey of the 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, location decisions of households and firms, transportation, urban labor markets, and the local public sector.

Mr. Elickson, Mr. Hirsch
121. Urban Economic Analysis. Lecture, three hours. Prerequisites: courses 101A, 101B, and 120, or consent of instructor. Urban economic analysis requires the development of analytical tools that are different in some respects from the standard methodology presented in course 101A or 101B. Construction and implementation of these tools, with applications to urban location decisions, housing, transportation, labor markets, and the local public sector. Mr. Ellickson, Mr. Hirsch

130. Public Finance. Lecture, three hours. Prerequisites: courses 101A and 101B, or consent of instructor. Contrast between organization of economic activity by government and the private sector. Analysis of alternative norms for governmental activity. Methods of assessing benefits and costs of public expenditure projects and barriers of alternative forms of taxation. The use of fiscal policy to achieve economic goals. Techniques of debt management and their interaction with monetary policy. Mr. Haltiwanger, Mr. Plant, Mr. Robinson

133. State and Local Finance. Lecture, three hours. Prerequisite: course 130. The division of functions and revenues between state and local governments; the revenues, expenditures, and indebtedness of these governments. Analyses of state and local tax systems. Mr. Hirsch

M135. Economic Models of Public Choice. (Formerly numbered M135A.) (Same as Political Science M105.) Prerequisites: course 101A, any lower division political science course other than Political Science 1, and junior/senior standing, or consent of instructor. Analysis of the methods and consequences of arriving at collective decisions through political processes. Topics include the free-rider problem, voting and majority choice, demand revelation, and political bargaining. Mr. Hirsheifer, Mr. Rogowski, Mr. Stein, Mr. Wallerstein

M136. Economic Models of Political Conflict and Confiliation. (Formerly numbered M135B.) (Same as Political Science M106.) Prerequisites: course 101A, any lower division political science course other than Political Science 1, and junior/senior standing, or consent of instructor. Analysis of the methods and consequences of arriving at collective decisions through political processes. Topics include the free-rider problem, voting and majority choice, demand revelation, and political bargaining. Mr. Hirsheifer, Mr. Rogowski, Mr. Stein, Mr. Wallerstein

141. Principles of Statistical Decision. Lecture, three hours. Prerequisite: course 40 or equivalent. Errors of the first and second kind; economic loss functions; prior probabilities and Bayes’ theorem. Analysis of statistical decision procedures. Emphasis on practical experience with application to inventory and production problems. The value of information and implications for sampling design. Mr. Ellickson, Mr. Hirsheifer, Mr. Stein

142. Probabilistic Microeconomics. Lecture, three hours. Prerequisites: courses 40 (or 41), 101A, 101B. Combination of the basic probability introduced in course 40 (or 41) with the microeconomics models presented in courses 101A and 101B to explain phenomena such as insurance, job search, and stock market behavior. Optimal production and consumption under uncertainty. A review of probability and an introduction to alternative measures of risk and risk aversion. Mr. Ellickson, Mr. Hirsheifer, Mr. McCull, Mr. Ostrog

143. Applied Regression Analysis. Lecture, three hours; discussion/computer tutorial, one hour. Prerequisite: course 40 or equivalent. Not open to students with credit for course 147A or 147B. Review of simple regression: the assumptions of the classical linear regression model; multiple regression, estimation, and inference; violations of the assumptions of the classical model (multicollinearity, heteroscedasticity, autocorrelation of the disturbance terms) and their solutions. Emphasis on practical experience with regression analysis and interpretation; matrix algebra not required. Ms. Cameron, Mr. Plant (F,W)

144. Introduction to Mathematical Methods in Economics. Lecture, three hours. Prerequisites: courses 101A, 101B, two courses in calculus. An introduction to the use of calculus 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. A variable list of topics includes theory of economic growth, competitive equilibrium analysis; examination of market failure and the role for market intervention. Mr. Ellickson, Mr. Ostrog

146. Linear Models in Economics. Lecture, three hours. Prerequisite: a course in regression. Not open for credit to students with credit for Mathematics 144, Electrical Engineering 136, or former Electrical Engineering 128A. Possible topics include the duality theory of linear programming, analysis of the simplex algorithm, input-output analysis, and two-person zero-sum games. Mr. McCall, Mr. Ostrog (Sp)

147A. Introduction to Econometrics. Lecture, three hours. Prerequisites: courses 40, 101A, and course 41 (or Mathematics 150A-150B or 152A-152B), or consent of instructor. An introduction to econometrics, including a review of matrix algebra and statistical theory; the linear regression model; model specification; data collection and hypothesis testing; and an introduction to simultaneous equations models. Original econometric paper required. Mr. Ellickson, Mr. Intriligator, Mr. Levine

147B. Applications of Econometrics. Lecture, three hours. Prerequisite: course 147A. Econometric models and data; forecasting, policy analysis, estimation of simultaneous equations models, applications to econometrics. Major original econometric paper required. Mr. Ellickson, Mr. Intriligator, Mr. Levine

150. Wage Theory. Lecture, three hours. Prerequisites: courses 101A and 101B, or consent of instructor. The supply and demand for labor. Analysis of government, union, and other constraints on the competitive system of wage determination. Wage level and structure. Wages and human capital theory. Mr. Haltiwanger, Mr. Plant, Mr. Waldman

151. Labor Economics. Lecture, three hours. Prerequisite: course 150. Market for labor, the labor market, labor supply, labor demand. Mr. Ellickson, Mr. Hirsheifer, Mr. Stein

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. Mr. Hilton

160. Money and Banking. Lecture, three hours. Prerequisites: courses 101A, 101B. An introduction to the theory and practice of money and banking. Development of the money supply process; interactions of the money supply process with the economy, including the regulation of prices, entry, working conditions, and unemployment. Mr. Demsetz, Mr. Klein

161. Monetary Theory. Lecture, three hours. Prerequisite: course 160. The 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. Darby

162. The Organization of the Firm. Lecture, three hours. Prerequisite: course 161. The organization of the firm, the role of the firm in traditional economic theory and modern developments in the theory of the firm. The functions of ownership and management in the face of risk and opportunism. The internal organization of the firm. The problem of separation of ownership from control in the modern corporation. Determinates of firm size, vertical integration, and degree of specialization of the activities of firms. Decision making within the firm in a democratic setting. Mr. Demsetz, Mr. Klein

171. Business and Government. Lecture, three hours. Prerequisites: courses 101A, 101B. A study of private enterprise and the role of government. The interaction between business and the political process. Mr. Murphy

181A. Development of Economic Institutions in Western Europe. (Formerly numbered C181.) Lecture, four hours. Mr. Hirsch, Mr. Intriligator, Mr. Riley

181B. Development of Economic Institutions in Western Europe. (Formerly numbered C181.) Lecture, four hours. Mr. Hirsch, Mr. Intriligator, Mr. Riley

192. Money and Banking. Lecture, three hours. Prerequisite: division 2, junior/senior standing. Evolution of money and banking in the United States; legal and institutional framework; money supply policy instruments; effects, and practice of monetary policy. Mr. Darby

193. The Rise of Factories. Lecture, three hours. Prerequisites: courses 101A, 101B, two courses in calculus. An introduction to the rise of factories, industrial firms, and the industrial revolution. The rise of factories, industrial firms, and the industrial revolution in Britain and its spread to the Continent. The rise of factories, industrial firms, and the industrial revolution in Britain and its spread to the Continent. Mr. Sorkin

194. Theories of the Industrial Revolution. Lecture, three hours. Prerequisites: courses 101A, 101B, two courses in calculus. An introduction to the theories of the industrial revolution. Theories of the industrial revolution. Mr. Sorkin

195. Capital Theory and Investment. Lecture, three hours. Prerequisites: course 101A. The role of the firm in facilitating risk-bearing and capital allocation. The interaction between business finance and organized capital markets. Mr. Demsetz, Mr. Klein

196. Business in Technology. Lecture, three hours. Prerequisites: courses 101A, 101B. The role of business in the technology of new industries. Mr. Murphy

197. The Rise of Factories. Lecture, three hours. Prerequisites: courses 101A, 101B. The rise of factories, industrial firms, and the industrial revolution. The rise of factories, industrial firms, and the industrial revolution in Britain and its spread to the Continent. The rise of factories, industrial firms, and the industrial revolution in Britain and its spread to the Continent. Mr. Sorkin
  Mr. Darby, Mr. Leijonhufvud

203A. Economics of Decision. (Same as Management M203A) Prerequisites: rudiments of mainstream economics, calculus, probability, and statistics. Norms and facts of decision making in the household, business, and government. Consistent behavior in terms of personal utilities and probabilities. Multiattribute value theory. Dependent, from current and past situations. Descriptive theories of behavior and resulting models.
  Mr. Erlenkotter, Mr. Sarin

203B. Economics of Information. (Same as Management M203B) Discussion; three hours. Prerequisites: rudiments of economic theory of the firm, calculus, probability, and statistics; course M203A or consent of instructor. Optimal decision and information rules. Risk aversion, stochastic dominance, and their impact on economic decisions in a stochastic environment.
  Mr. Lippman

203C. Economics of Organization. (Same as Management M203C) Prerequisites: courses M203A, M203B. Rational models of teams. Relation to the economic firm. Evolutionary models of the firm. Mechanism design.

204A-204H. Applications of Economic Theory. (Formerly numbered 204A-204H) Lecture, three hours.

205. Topics in Applied Game Theory. (Formerly numbered M205C) (Same as Political Science M205C) Lecture, three hours. Prerequisites: calculus or introductory probability, and graduate standing in economics or consent of instructor. Survey and application of the major solution concepts to models of bargaining, oligopoly, cost allocation, voting power, etc. Course paper consists of a substantial game-theoretic model on a topic in the student's particular field of interest.
  Mr. Shapley

207. History of Economic Theory.
  Mr. Allen

211. Economic Development.
  Mr. Welch

212. Applied Topics in Economic Development.
  Mr. Edwards

213A-213B. Selected Problems of Underdeveloped Areas. Seminars for graduate students.

221. Urban and Regional Economic Analysis I.
  Mr. Ellickson, Mr. Hirsch

222. Urban and Regional Economic Analysis II.
  Mr. Ellickson, Mr. Hirsch

231. Public Finance.
  Mr. Haberberger, Mr. Somers

232. Economics of Government Expenditures. Evaluation of various areas of government expenditure on basis of efficiency and other criteria. Selection of appropriate discount rate. Use of program budgeting techniques to control expenditure. Areas covered include education, judicial system, prison reform, reclamation, health insurance, child care, energy conservation, regulatory activity, defense.
  Mr. Somers

233. Topics in Public Finance.
  Lecture, three hours. Discussion of tax incidence and optimal taxation; analysis of various taxes: personal income, corporate income, property, consumption, sales, excises, windfall profits. The excess burden and the incidence of these tax policies, with emphasis on the different types of models economists have used to consider these questions. Other topics of current interest may be covered from year to year.

234. Economics of Federalism.
  Mr. Thompson

240. Control and Coordination in Economics.
  Mr. Dollar

241A-241B-241C. The Economics of Uncertainty and Information. Prerequisites: calculus, introductory probability. Examination of how individuals adapt to the fact of uncertainty, with special emphasis on topics such as private versus social risk, adverse selection and moral hazard, and asset pricing under uncertainty. The ways in which individuals overcome uncertainty by using information. Informational activities. Topics include speculation, innovation, market signaling, and rational expectations. Emphasis switch from event uncertainty to market uncertainty, with focus on price searching, queueing, Brownian motion, and auction design.
  Mr. Hirschleifer, Mr. McCall, Mr. Riley

242A-242B. Game Theory. (Formerly numbered M242A-242B) (Same as Political Science M242A-242B) Lecture, three hours. Prerequisites: course 245A or suitable mathematics courses. Elements of the theory of cooperative and noncooperative games, with applications to economic models. Strategic and coalitional games, minmax, Nash-Cournot equilibrium, bargaining theory, the core, value, and other solution concepts; applications to oligopoly, general economic equilibrium, and production decisions. Equilibrium of joint costs.
  Mr. Shapley

243A-243B-243C. Workshop in Mathematical Economics.
  Mr. Hirschleifer

244. Economic Modeling. Designed to help students learn to switch back and forth from the precise language of mathematics, as they analyze economic phenomena. Emphasis is placed on the topics of constrained optimization. Development of modeling skills by considering a sequence of economic issues (e.g., peak load pricing, regulation monopoly, capital asset pricing, Pareto efficiency).
  Mr. McCall, Mr. Riley

245B-245C. Advanced Theory and Mathematical Economics.
  Mr. McCall, Mr. Riley

Graduate Courses

201A. Theory of Consumption and Exchange.
  Preferences, demand, exchange, pricing, and markets in an exchange economy. Emphasis on derivation and interpretation of theorems, illustrated by applications.
  Mr. Hirschleifer

201B. International Finance.
  Mr. Dollar

  The organization of the economy, with particular attention to the demand for factors of production in the short and long run.
  Mr. Welch

203. Theory of Interest and Capital.
  Mr. Welch

204. Macroeconomics I (Macrostatics).
  Mr. Darby, Mr. Leijonhufvud

205A. Macroeconomics II (Macrodynamics).
  Mr. Darby, Mr. Leijonhufvud

206. Mathematical Economics.
  Mr. Hirschleifer

207. History of Economic Theory.
  Mr. Allen

211. Economic Development.
  Mr. Welch

212. Applied Topics in Economic Development.
  Mr. Edwards

213A-213B. Selected Problems of Underdeveloped Areas. Seminars for graduate students.

221. Urban and Regional Economic Analysis I.
  Development of theoretical and empirical analysis of the major urban markets, including land and housing, transportation, labor, and the local public sector. Particular emphasis on interdependencies within and between these markets.
  Mr. Ellickson, Mr. Hirsch

222. Urban and Regional Economic Analysis II.
  Mr. Ellickson, Mr. Hirsch

231. Public Finance.
  Mr. Haberberger, Mr. Somers

232. Economics of Government Expenditures. Evaluation of various areas of government expenditure on basis of efficiency and other criteria. Selection of appropriate discount rate. Use of program budgeting techniques to control expenditure. Areas covered include education, judicial system, prison reform, reclamation, health insurance, child care, energy conservation, regulatory activity, defense.
  Mr. Somers

233. Topics in Public Finance.
  Lecture, three hours. Discussion of tax incidence and optimal taxation; analysis of various taxes: personal income, corporate income, property, consumption, sales, windfall profits. The excess burden and the incidence of these tax policies, with emphasis on the different types of models economists have used to consider these questions. Other topics of current interest may be covered from year to year.

234. Economics of Federalism.
  Mr. Thompson

240. Control and Coordination in Economics.
  Mr. Dollar

241A-241B-241C. The Economics of Uncertainty and Information. Prerequisites: calculus, introductory probability. Examination of how individuals adapt to the fact of uncertainty, with special emphasis on topics such as private versus social risk, adverse selection and moral hazard, and asset pricing under uncertainty. The ways in which individuals overcome uncertainty by using information. Informational activities. Topics include speculation, innovation, market signaling, and rational expectations. Emphasis switch from event uncertainty to market uncertainty, with focus on price searching, queueing, Brownian motion, and auction design.
  Mr. Hirschleifer, Mr. McCall, Mr. Riley

242A-242B. Game Theory. (Formerly numbered M242A-242B) (Same as Political Science M242A-242B) Lecture, three hours. Prerequisites: course 245A or suitable mathematics courses. Elements of the theory of cooperative and noncooperative games, with applications to economic models. Strategic and coalitional games, minmax, Nash-Cournot equilibrium, bargaining theory, the core, value, and other solution concepts; applications to oligopoly, general economic equilibrium, and production decisions. Equilibrium of joint costs.
  Mr. Shapley

243A-243B-243C. Workshop in Mathematical Economics.
  Mr. Hirschleifer

244. Economic Modeling. Designed to help students learn to switch back and forth from the precise language of mathematics, as they analyze economic phenomena. Emphasis is placed on the topics of constrained optimization. Development of modeling skills by considering a sequence of economic issues (e.g., peak load pricing, regulation monopoly, capital asset pricing, Pareto efficiency).
  Mr. McCall, Mr. Riley
246A. Statistical Foundations of Econometrics. Lecture three hours. Provides the statistical tools necessary for an understanding of econometric techniques. Topics include random variables, distribution and density functions, sampling, estimators, estimation techniques, and statistical inference. Use of economic problems and examples.

246B. Introduction to Theory of Econometrics. Least-squares regres, generalized least squares, serial correlation, errors-in-variables, simultaneous equations, multicollinearity. Mr. Intriligator

246C. Applications of Econometrics. Selected econometric studies of consumption, investment, asset demand production functions, goods markets, factor markets, industrial organization, public finance, international trade. Instruction on use of computer. Students expected to write a research paper.

247. Single Equation Econometrics. Linear regression, specification error, autocorrelation, nonnormality, nonlinear estimation, outliers, qualitative dependent variables, aggregation structural change. Mr. Learner

248. Multiple Equation Econometrics. Multivariate regression, error-in-variables, simultaneous equations, proxy variables (latent variables). Mr. Intriligator, Mr. Learner

251. Labor Economics I. Analysis of wage determination in competitive labor markets. Extension of wage determination to schooling and occupational choice. Empirical literature of life cycle earnings profiles. Special topics include discrimination, minimum wage legislation, and unionism. Mr. Welch

252. Labor Economics II. Prerequisite: course 251. Models of life cycle learning and work behavior together with one-period models of labor supply. Special emphasis on the recent literature of family decisions concerning labor supply behavior of women. Mr. Welch

253. Labor Problems. Mr. Welch


271. Industrial Organization, Price Policies, and Regulation: Theory. Analysis of the institutional resolution of the problem of economic organization. Major economic aspects of the property right system underlying these institutions. The firm and the market compared from the perspective of alternative arrangements and uses of resources. Traditional problems of competition, monopoly, and industrial concentration. Brief analysis of those portions of anti-trust policy bearing on industrial structure. Mr. Demsetz

272. Industrial Organization, Price Policies, and Regulation: Policy. Prerequisite: course 271. 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. Klein

273. Public Utility Regulation. Theory, practice, and consequences of regulation in electric power, gas, water, telecommunications, broadcasting, and other regulated industries; experience of unregulated monopoly and public enterprises by way of contrast. Mr. Hilton

274. Mathematical Theory in Industrial Organization. Lecture, three hours. Prerequisite: courses 201A, 201B, 201C. Formal modeling of the theory of industrial organization: the principal-agent problem; entry deterrence; endogenous price discrimination; monopolistic competition; new approaches to rationality. Mr. Waldman

275. National Transport Policy. Regulation of surface and air carriers; pricing and investment in public transport facilities; policy toward the merchant marine. Mr. Hilton


596. Individual Study (2 to 8 units). Directed individual study or research. S/U grading.

597. Individual Study: Graduate Examinations (2 to 8 units). Directed individual study in preparation for Ph.D. comprehensive examination or Ph.D. qualifying examinations. S/U grading.


291. International Trade Theory. Theoretical and empirical analysis of the microeconomic relationships among countries. The determinants of commodity and factor flows, prices, and factor rewards. The effects of trade barrier. Mr. Allen, Mr. Learner

292. International Finance. Theory of evidence on the balance of payments, exchange rate determination, international transmission of inflation and business cycles, macroeconomic policy in open economies, alternative monetary systems. Mr. Allen, Mr. Edwards, Mr. Learner

293A-293B-293C. International Economics: Selected Topics. (Formerly numbered 293A-293B.) Discussion, three hours. Student presentation of dissertation research, lectures by visiting experts and resident faculty members, and student discussion of current published research, to expose students to critical analysis of their work and to suggest dissertation topics. S/U grading (based on oral and written performance).

299A-299B-299C. Workshop for Preparing a Dissertation Proposal. (Formerly numbered 299.) Lecture, three hours. Workshop for third-year graduate students who are preparing for their 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. Workshop open to research in all fields of economics. S/U grading.

375. Teaching Apprentice Practicum (1 to 4 units). Preparation for a teaching assistant, associate, or fellow. A teaching apprenticeship under the 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.

Economics/System Science

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
Written applications are accepted from April 1 to May 15 only. Ten to fifteen students are admitted based on space availability, completion of preparation for the major courses, and the GPA in those courses. Minimum qualifications for admission include the completion of all six preparatory courses (four of the mathematics courses with a minimum GPA of 3.0 exclusive-ly must be included) and an overall 2.75 GPA in the preparatory courses. Any transfer credit applied to the major will be used in GPA calculations; physics grades will not be calculated into the GPA.

Preparation for the Major
Required: Economics 1 and 2; Computer Science 10C or 10F or Program in Computing 3 or 10A; Mathematics 31A, 31B, 32A, 32B, 33A, 33B. Strongly recommended but not required: Physics 8A, 8B, 8C, 8D. 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 will result 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: Fifteen upper division courses as follows: six courses in economics selected from Economics 101A and above, including 101A, 101B, 102, and one course from 141, 142, 144, 145, 146, 147A, 147B; six courses in system science selected from Computer Science 170, Electrical Engineering 102, 103, 131A, 131B, 136, 141, 142, including 131A (or Mathematics 150A or 152A) and 131B (or Mathematics 151 or 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 Computer Science 170 and 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

The College of Letters and Science offers a program of courses through which you may receive credit toward a credential to teach in California elementary schools. For details, see "Diversified Liberal Arts" earlier in this chapter.

English

2225 Rolfe Hall, (213) 825-4173

Professors
Michael J. B. Allen, Ph.D.
Martha Dan, Ph.D.
Calvin Bernard Bedient, Ph.D.
Charles Ashton Berst, Ph.D.
A. R. Braunmuller, Ph.D., Vice Chair
Daniel G. Calder, Ph.D., Chair
Michael J. Colacurcio, Ph.D.
Vinton N. Deering, Ph.D.
Reginald A. Foakes, Ph.D.
Patrick K. Ford, Ph.D.
Robert A. Georges, Ph.D.
Gerald Jay Goldberg, Ph.D.
George Robert Guffey, Ph.D.
Charles Bennett Gullians, Ph.D.
Henry Angus Kelly, Ph.D., Vice Chair
Jascha Kestler, Ph.D.
Robert Starr Kinsman, Ph.D.
J.A. Kolve, Ph.D. (The UCLA Foundation Professor)
Richard Alan Larnham, Ph.D.
Richard D. Lehan, Ph.D.
Anne Kostelanetz Mellor, Ph.D.
Maximilian Erwin Novak, D.Phil., Ph.D.
Waldo Woodson Phelps, Ph.D. (Rhetoric)
Joseph N. Riddel, Ph.D.
Florence Ridley, Ph.D.
Alan Henry Roger, Ph.D.
George S. Rousseau, Ph.D.
William David Schaefer, Ph.D.
Paul Roland Sellin, Ph.D.
Paul Douglas Shepard, Ph.D.
George Bernhard Tennyson, Ph.D.
Peter Larsen Thorsley, Jr., Ph.D.
Alexander Welsh, Ph.D.
D. K. Wilgus, Ph.D.
Thomas Richard Wortham, Ph.D.
Ruth B. Yezell, Ph.D.
Stephen Irwin Yenser, Ph.D.

Emeritus Professors
Robert Martin Adams, Ph.D.
Robert William Dent, Ph.D.
John Jenkins Espey, B.Litt., M.A.
Robert Paul Fink, Ph.D.
Charles V. Hartung, Ph.D.
Paul Alfred Jorgensen, Ph.D.
Blake Reynolds Nevius, Ph.D.
Ada Anche Nisbet, Ph.D.

Associate Professors
Walter Eldon Anderson, Ph.D.
Charles Linwood Batten, Jr., Ph.D.
Frederick Lorrain Burwick, Ph.D.
Edward Ignatius Condren, Ph.D.
James Edward Goodwin, Ph.D.
Christopher Waldo Grose, Ph.D.
Albert David Hutter, Ph.D.
Gordon L. Kipling, Ph.D.
Jack Kolb, Ph.D.

Kenneth Robert Lincoln, Ph.D.
Robert M. Maniquis, Ph.D.
Joseph F. Nagy, Ph.D.
Barbara Lee Parker, Ph.D.
Raymond Arthur Paredes, Ph.D.
Jonathan F.S. Post, Ph.D.
Karen Elizabeth Rowe, Ph.D.
Richard Alan Yarbrough, Ph.D.

Assistant Professors
Susan Bristow, Ph.D.
King-Kok Cheung, Ph.D.
Donka Minkova, Ph.D.
Michael Andrew North, Ph.D.
Vincent P. Pecora, Ph.D.
Jeffrey Rubin-Dorsky, Ph.D.
J. Fisher Solomon, Ph.D.
Seth Joshua Weiner, Ph.D.

Senior Lecturers
David Stuart Rodes, Ph.D.
Jerome Cushman, A.B., B.S.L.S., Emeritus Everett L. Jones, M.A., Emeritus

Adjunct Professor
Brian Moore

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 six 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 B). 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) any combination of five courses in foreign language and foreign literature, including foreign language in translation (see course listings later in this section of the catalog). Italian 46 and former courses 46A–46B–46C may not be applied. For option 2, the department especially recommends Classics 144, Humanities C107, 116. These courses may be taken on a P/NP grading basis.

The Major
Required: English 141A or 141B, 142A, 142B, 143, at least one course from the 180 series, and a minimum of seven additional upper division English courses. At least five of the seven courses must be selected from 140A, 140B, 142C, or 150 through 190. At least one of the seven courses must be in literature before 1800 (the 150 series).

You are encouraged to choose additional electives from courses 140A through 199. 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 thought; the department especially recommends Classics 144, 161, Humanities C107, 116.

Special Programs
The department offers special programs in American studies and general literature. For both 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 planning to do graduate work in English should consult the departmental counselor before selecting either of these.

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 109 and 178; two courses from 142A, 142B, 143; three courses from 170, 171, 172, 173, 174; and one course pertaining to American studies selected from the 180 or 190 series, 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, art, 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 142A and 142B; 141A, 141B, or 143; at least one course from the 150 series; and four electives selected from courses 140A through 199 (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 Major
For this major, you must satisfy all requirements listed under “Preparation for the Major,” including the foreign language requirement. The major consists of English 142A and 142B and a minimum of 10 additional upper division English courses: three creative writing courses from the 133A through 135C series, taken in a single genre (poetry, short story, or drama), three literature courses paralleling the creative writing specialization, and four electives selected from courses 140A through M197. If you are planning to choose this major, you are encouraged to take course 20; for further details, contact the departmental counselor.

Major for International Students
The department offers a special major in English to bona fide international students whose native language is other than English. For this major, 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 major itself: English (ESL) 103J, 106J, 109J; two courses from English 100A through 199; 122; 142A, 142B; and four additional courses from those numbered 140A through 199. If you complete this major and wish to pursue graduate study, you should consult the departmental counselor about programs of study and requirements for admission.

Teaching Credential in English
If you wish to obtain a credential to teach English, you should declare your intention at the beginning of your junior year and seek the advice of the departmental counselor in planning a coherent program. The department requires English 120A or 120B or 120C, 130, and at least one American literature course selected from 170 through 174 as part of, or in addition to, the major. You must also complete English 300 before you can be certified to begin student teaching. You are encouraged to select additional courses in language, children’s literature, literature for adolescents, American literature, and literature for minorities as some of your electives. Note: Students who enter the Graduate School of Education seeking a credential to teach English must, before beginning their required practice teaching assignment, be certified by the Department of English as prepared to teach this subject; the department will not certify any student who has not completed the courses specified above. For additional information on courses leading to the teaching credential, consult the Graduate School of Education (201 Moore Hall) or the Department of English.

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, but these grade-point averages must be achieved before graduation in order to qualify for honors. You should apply by the second 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 the Fall Quarter of your senior year, you must take course 199HA. During the 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.

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 for those who wish to pursue the Ph.D. 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 most 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...
take courses 200 and 201 or their equivalents.

In your first year. If you enter the program with an

proficiency in a single language. The depart-

ment certifies that you are competent in the historical

and literary field and that the prospectus has been

approved. If you fail one or both parts of the ex-

amination, you may, at the discretion of the commit-

tee, repeat it once only.

Third Stage

Once you have passed the second qualifying ex-

amination, 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 usually

not required.

Lower Division Courses

A. Basic Review of English Usage (No credit). See

listing under "English Composition."

B. Fundamentals of Exposition (No credit). 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 Compo-

sition."

4. Critical Reading and Writing, Prerequisites: sat-

isfaction of Subject A requirement, course 3 or equiv-

alent. An 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 pa-

pers (three to five pages each).

4H. Critical Reading and Writing (Honors). Discus-

sion, three hours. Prerequisites: satisfaction of Sub-

ject A requirement, course 3 or equivalent. An intro-

duction to literary analysis, with close reading and care-

fully written exposition of selections from one or more

of the principal modes of literature: poetry, prose fic-

tion, and drama. Minimum of six papers (three to five

pages each).

10A. English Literature to 1660. Prerequisites: sat-

isfaction of Subject A requirement, courses 3, 4. A

study of selected works of the period, beginning with

selections from Old English poetry and including

writings by Chaucer, Spenser, Shakespeare, Donne,

and Milton. Minimum of three papers (three to five

pages each) or equivalent.

10B. English Literature, 1660-1832. Prerequisites:

satisfaction of Subject A requirement, courses 3, 4, 10A.

A 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.

10C. English Literature, 1832 to the Present. Pre-

erequisites: satisfaction of Subject A requirement,

courses 3, 10A, 10B. A 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. Berat, Mr. Kolb, Mr. Solomon

20. Introduction to Creative Writing. Prerequisites:

satisfaction of Subject A requirement, course 3 or

equivalent, submission of creative or expository writ-

ing samples to a screening committee. Designed to

introduce the fundamentals of creative writing.

Emphasis is placed on poetry, fiction, or drama, depend-

ing on the wishes of the instructor(s) during any given

quarter. Readings from assigned texts and weekly

writing assignments required.

30. Intermediate Exposition. See listing under "En-

glish Composition."
70. Major British Authors before 1800. Prerequisite: satisfaction of Subject A requirement. Not open for credit to English majors or students with credit for course 10A or 10B. A study of selected masterpieces of English literature before 1800, including the works of such writers as Chaucer, Shakespeare, Donne, Milton, Swift, Pope, Johnson, and Fielding.

Mr. Rousseau

75. Major British Authors, 1800 to the Present. Prerequisite: satisfaction of Subject A requirement. Not open for credit to English majors or students with credit for course 10B or 10C. A study of selected masterpieces of English literature from the 1800s to the present, including the works of such writers as Wordsworth, Coleridge, Keats, Tennyson, Dickens, Browning, Yeats, Joyce, and Eliot.

Mr. Berst, Mr. Hutter, Mr. Kolb

80. Major American Authors. Prerequisite: satisfaction of Subject A requirement. Not open for credit to English majors or students with credit for any courses in the 170 series. An introduction to the chief American authors, with emphasis on the poetry, nonfictional prose, and drama of the 19th century. A study of the principal literary monuments of the Old and New Testaments.

Mr. Berst, Mr. Hutter, Mr. Kolb

90. Major American Authors. Prerequisite: satisfaction of Subject A requirement. Not open for credit to English majors or students with credit for course 142A or 142B. A survey of Shakespeare's plays, including comedies, tragedies, and histories, selected to represent Shakespeare's breadth, artistic progress, and total dramatic achievement.

Mr. Guffey, Mr. Rodes, Ms. Rowe

Upper Division Courses

100A. Introduction to Poetry. Prerequisite: satisfaction of Subject A requirement. Recommended for teaching Credential candidates. A study of major poetical characteristics (metrics, diction, figurative language, symbolism, irony and ambiguity, form and structure) and aesthetic issues, including evaluative criteria, followed by the close critical examination of a selection representing representative poets. Mr. Gray, Mr. Hutter, Mr. Thorslev

100B. Introduction to Drama. Prerequisite: satisfaction of Subject A requirement. Examination of representative plays; readings may range from Greek to modern drama. Emphasis on critical approaches to the dramatic text; study of issues such as plot construction, characterization, special uses of language in drama, methods of evaluation.

Mr. Berst

100C. Introduction to Fiction. Prerequisite: satisfaction of Subject A requirement. An introduction to prose narratives, with study of short and long narratives and of critical issues such as plot, characterization, setting, narrative voice, realism and nonrealistic forms.

Mr. Anderson

100D. Introduction to Special Topics and Genres. Prerequisite: satisfaction of Subject A requirement. A study of a particular topic, genre, or subgenre in literature, such as satire, biography, parody, or a specialized classification of literature. May be repeated for credit.

Mr. Tennyson, Mr. Thorslev

100W. Intensive Writing (2 units). See listing under “English Composition.”

100WH. Intensive Writing (Honors) (2 units). See listing under “English Composition.”

102. The Short Story in England and America. Prerequisite: satisfaction of Subject A requirement. A historical survey of the short story as a genre, from the 19th century to the present.

Mr. Anderson

103. Jewish American Fiction. Prerequisite: satisfaction of Subject A requirement. The study of the fiction of Jewish writers in America, such as Bellow, Malamud, and Roth, focusing on the encounter of Jewish ethical ideals and social values with the contemporary environment.

Mr. Novak

M104A. Early Afro-American Literature. (Formerly numbered M104.) (Same as Afro-American Studies M104A.) Prerequisite: satisfaction of Subject A requirement. An introductory survey of the Afro-American literary tradition from the 18th century to World War I, including oral and written forms (folktales, spirituals, sermons, poetry, fiction). Emphasis on the Harlem Renaissance and black writing in the 1960s. Writers studied include Jean Toomer, Claude McKay, Langston Hughes, Stirling Brown, Richard Wright, Langston Hughes, Baldwin, Wright, Ellison, Toni Morrison, Amiri Baraka (LeRoi Jones), and Alice Walker.

Mr. Yarborough

M104B. Afro-American Literature since the 1920s. (Formerly numbered M104.) (Same as Afro-American Studies M104B.) Prerequisite: satisfaction of Subject A requirement. An introductory survey of the Afro-American literary tradition from the 1920s to the present, including oral and written forms (ballads, blues, haiku, poetry, fiction). Emphasis on the Harlem Renaissance and black writing in the 1960s. Writers studied include Jean Toomer, Claude McKay, Langston Hughes, Stirling Brown, Richard Wright, Langston Hughes, Baldwin, Wright, Ellison, Toni Morrison, Amiri Baraka (LeRoi Jones), and Alice Walker.

Mr. Yarborough

M105. The Chicano Experience in Literature. (Same as Chicano Studies M105.) Prerequisite: satisfaction of Subject A requirement. A study of Chicano literature in English by and about Chicanos. Survey of the depiction of the Chicano experience in American literature generally, with emphasis on the development of Chicano literature itself, its cultural backgrounds, and distinctive uses of language.

Mr. Paredes

106. Native American Literary Studies. Prerequisite: satisfaction of Subject A requirement. The study of Native American oral cultures through translated documents (song-poems, life-stories, myths, tales, dream visions, speeches) and/or the images in writing about Native Americans (poetry, fiction, history, anthropology, sociology).

Mr. Lincoln

107. Women in Literature. (Same as Women's Studies M107.) Prerequisite: satisfaction of Subject A requirement. A study of women in literature by and about women. The delineation of women in English and American literature, studies in historical and contemporary themes, and the evolution of forms and techniques of female writing.

Ms. Brienza, Ms. Melhor, Ms. Rowe, Ms. Yeazell


Mr. Dearing, Mr. Post

108C. The English Bible as Literature: Special Topics. Prerequisite: satisfaction of Subject A requirement. A study of the English Bible, with attention to particular literary themes, motifs, and genres. Possible discussion of the influence of the Bible on discrete periods or individual authors in English literature. May be repeated for credit.

Mr. Dearing, Mr. Kinsman

109. Interdisciplinary Approaches to Literature. Prerequisite: satisfaction of Subject A requirement. The study of British or American literature in relation to other disciplines such as history, politics, philosophy, psychology. May be repeated for credit.

Mr. Burwick, Mr. Minquiss

110. Studies in Individual Authors. Prerequisite: satisfaction of Subject A requirement. A specialized study of the work of a single poet, dramatist, prose writer, or novelist. May be repeated for credit.

Mr. Minquiss

M111A. The Literature of Myth and Oral Tradition. (Same as Folklore M111A.) Prerequisite: satisfaction of Subject A requirement. A study of myth, dramatic oral poetry, and folktales with emphasis on the encounter of Indo-European and Semitic examples.

Mr. Nagy

M111B. Anglo-American Folk Song. (Same as Folklore M111B.) Prerequisites: satisfaction of Subject A requirement, junior standing. A survey of Anglo-American balladry and folk song, with attention to historical development, ethnic background, and poetic and musical values.

Mr. Wilgus

M111C. British Folklore and Mythology. (Same as Folklore M111C.) Prerequisites: satisfaction of Subject A requirement, junior standing. A survey of the folklore of the peoples of Britain, with attention to their history, function, and regional differences.

Mr. Nagy, Mr. Porter

M111D. Celtic Mythology. (Same as Folklore M111D.) Prerequisite: Folklore 101 or consent of instructor. A survey of the early materials, chiefly literary, for the study of the mythic traditions of the Celtic peoples, ranging from ancient Gaul to medieval Ireland and Wales.

Mr. Ford

M111E. Survey of Medieval Celtic Literature. (Same as Folklore M111E.) Prerequisite: satisfaction of Subject A requirement. Knowledge of Irish or Welsh is not required. A general course dealing with Celtic literature from the earliest times to the 16th century.

Mr. Ford

M111F. Celtic Folklore. (Same as Folklore M111F.) Prerequisite: Folklore 101 or consent of instructor. The folkloric traditions of modern Ireland, Scotland, and other Celtic countries, with attention to current techniques of folkloristic research.

Mr. Nagy


112. Children's Literature. Prerequisite: satisfaction of Subject A requirement. A study of the historical backgrounds and development of types of children's literature, folklore and oral tradition, levels of interest, criticism and evaluation, illustration and bibliography.

113. Literature for Adolescents and Young Adults. Prerequisite: satisfaction of Subject A requirement. Analysis and evaluation of the 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 the interests and reading habits of young adults.

114. World Literatures in English. Prerequisites: satisfaction of Subject A requirement, consent of instructor. A survey of contemporary literature from English-speaking regions of the world, reviewing the major genres from several countries and making cross-comparisons with the literatures. Generalizations concerning the nature of the English used by such writers. May be repeated for credit.

Mr. Smalian, Mr. Povey

115A. American Popular Literature. (Formerly numbered 115A.) Prerequisite: satisfaction of Subject A requirement. A study of the main currents of 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 the British masses, from 16th-century broadside ballads to contemporary pulp fiction. An examination of the social functions of literature.

Mr. Nagy


Mr. Guffey

117. Detective Fiction. Prerequisite: satisfaction of Subject A requirement. A study of British and American detective fiction and the literature of detection.

Mr. Hutter
118. Film and Literature. Prerequisite: satisfaction of Subject A requirement. A study of the interdisciplinary relationships between film and literature, including theoretical and critical traditions that have focused on the narrative and adaptaions of literary works. Mr. Goodwin

120A. Language Study for Teachers: Elementary School. See listing under "English Composition." Mr. Batten

120B. Language Study for Teachers of English: Secondary and Postsecondary. See listing under "English Composition." Mr. Dearing, Mr. Solomon

120C. Language Study for Teachers of Subjects Other Than English: Secondary and Postsecondary. See listing under "English Composition." Mr. Dearing

121. The History of the English Language. Prerequisite: satisfaction of Subject A requirement. An introduction to the structure of English, focusing on major grammatical changes and the relationships between Middle English and Modern English. Mr. Kipling

122. Introduction to the Structure of Present-Day English. Prerequisite: satisfaction of Subject A requirement. An introduction to the techniques of linguistic description as applied to the phonology, grammar, and vocabulary of modern English. Ms. Minkova

130. Composition for Teachers. See listing under "English Composition." Mr. Dearing

131A-131H. Advanced Exposition. See listing under "English Composition." Mr. Dearing

132A-135B-135C. Creative Writing: Poetry. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, consent of instructor (following submission of writing samples). Weekly exercises in the writing of poetry, with practice in developing themes and metres and the study of techniques. Classroom discussion based on student use. Only one course in the sequence may be repeated for credit. Mr. Goldberg, Mr. Kesler, Mr. Yenser

134A-134B-134C. Creative Writing: Short Story. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, consent of instructor (following submission of writing samples). An exploration of the capacity of each student to write for the theater. Class discussion of individual works, analysis of the short story form and the hearsed readings, and laboratory productions. Only one course in the sequence may be repeated for credit. Mr. Kesler, Mr. Rodes

135A-135B-135C. Creative Writing: Drama. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C, and Program in Computing 1 and 10A or consent of instructor. Concurrent instruction in writing computer programs for literary study and in the kinds of literary research that can be aided by computers. BASIC is taught; students are shown how to operate a text editor. Principles of computer science neither assumed nor taught. Mr. Dearing

140A. Criticism: History and Theory. Prerequisite: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A survey of some of the major historical and theoretical writings in the history of literary criticism, including works by such writers as Plato, Aristotle, Horace, Sidney, Dryden, Johnson, Kant, Coleridge, Wordsworth, Shelley, Arnold, James, Croce, and T. S. Eliot, with emphasis on the major critical positions posed and developed by these writers, the basis of their theoretical positions, and the practical consequences of those positions. Possibility of discussion of recent trends in criticism. Mr. Kolb, Mr. Pecora, Mr. Solomon

140B. Criticism: Special Topics. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. Specialized issues and approaches in the history of literary criticism, including moral, biographical, sociological, psychological, formal, structural, and deconstructionist. Mr. Kolb

141A. Chaucer: The Canterbury Tales. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. Introductory study of Chaucer's language, versification, and historical and literary background, including presentations and discussion of the long major poem, The Canterbury Tales. Satisfies the department's Chaucer requirement. Mr. Condon, Mr. Kolbe, Ms. Riley

141B. Chaucer: Troilus and Criseyde and Selected Minor Works. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. An intensive study of Chaucer's language and verse in the context of the major works. Mr. Grose, Mr. Guffey, Ms. Rowe

142A. Shakespeare: The Poems and Early Plays. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C, 142A. An intensive study of representative problem plays, major tragedies, comedy, and romances. Mr. Braunnmulmer, Mr. Fokas, Mr. Kipling

142B. Shakespeare: The Later Plays. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C, 142A. An intensive study of some of Shakespeare's later works. Mr. Grose, Mr. Guffey, Ms. Rowe

150. Later Medieval Literature. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A historical survey of medieval literature, covering the medieval period from the fall of the Western Roman Empire to the Renaissance. Mr. Condon, Mr. Kinsman, Mr. Kipling

151. Elizabethan Literature. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A study of Elizabethan literature of the 16th century, with special emphasis on the development and interaction of genres and themes. Mr. Condon, Mr. Kipling

152. The Drama to 1642. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A study of the English drama, excluding Shakespeare, from its beginning to the closing of the theater, with emphasis on the form and function of plays in Elizabethan and Jacobean periods. Mr. Braunnmulmer, Mr. Kipling

153. Literature of the Early 17th Century, 1600-1660. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A survey of the major works and dramatic documents of the Restoration and early 17th-century thought. Mr. Grose, Mr. Guffey, Mr. Post

154. Literature of the Restoration and Earlier 18th Century. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A survey of the major works and dramatic documents of the Restoration and early 18th-century thought. Mr. Dearing, Mr. Roper, Mr. Rousseau

155. Literature of the Later 18th Century, 1730-1798. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A survey of the major works and dramatic documents of the late 18th-century thought. Mr. Dearing, Mr. Novak, Mr. Roper

156. The Drama, 1660-1842. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A study of the 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. A survey of the major 19th-century novel. Mr. Batten, Mr. Lehan, Mr. Rousseau

160. Earlier Romantic Poetry and Prose. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A study of the poetry and prose of the early Romantic age. Includes works by Blake, Wordsworth, and Coleridge, with biographical readings from such authors as Godwin, Burke, Paine, Burns, Southey, Lamb, DeQuincey, and Scott. Mr. Maniquis, Mr. Mellor, Mr. Rodes

161. Later Romantic Poetry and Prose. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. An intensive study of the poetry and prose of Keats, Shelley, and Byron, with critical readings from such authors as Hazlitt, Hunt, Landor, Clare, Moore, and others. Mr. Bunwick, Mr. Maniquis, Mr. Thorlief

162. Earlier Victorian Poetry and Prose. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A study of the poetry and prose of the earlier 19th-century age. Mr. Batten

163. The Novel, 1832-1900. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A survey of the major British novelists from Dickens through Hardy. Mr. Anderson, Mr. Hutter, Ms. Yeazel

165. 20th-Century British Poetry. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A survey of major British poets, including Yeats, Eliot, Auden, and Hughes, from 1900 to the present. Mr. Bedient, Mr. Kolb, Mr. North

166. 20th-Century British Fiction. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A survey of the major British short story writers, including Conrad, Joyce, Woolf, and Lawrence, from 1900 to the present. Mr. Brienza, Mr. Lincon, Mr. Pecora

167. The Drama, 1842-1945. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A study of the major authors of the 20th-century stage, with special emphasis on the plays of such writers as Shaw, Beckett, and Brecht. Mr. Berst, Mr. Braunnmulmer, Mr. Goodman

168. The Drama, 1945 to the Present. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A study of British and American drama, with its principal continental influences, since World War II. Mr. Berst, Mr. Braunnmulmer, Mr. Goodwin

170. American Literature to 1800. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A historical survey of American literature through the Colonial and early national periods. Mr. Colacurcio
171. American Literature, 1801-1865. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A historical survey of American literature, including fiction, from the beginning of the 19th century to the end of the Civil War. Ms. Packer, Mr. Rubin-Dorsky, Mr. Wortham

172. American Literature, 1866-1912. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. The development of American poetry from 1866 through World War II, including the works of Whitman, Eliot, Pound, Williams, and Stevens. Mr. Bedient, Mr. Riddle, Mr. Yenser

173. American Poetry, 1866-1912. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A historical survey of American poetry from 1866 through World War II, including the works of Hemingway, Fitzgerald, Faulkner, and Stein. Ms. Goodwin, Mr. Paredes

174. American Fiction, 1866-1912. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. An interdisciplinary study of American literature in its relationships to other disciplines, including art, architecture, film, history, music, politics, and various social sciences, with emphasis on the application of literary methodology to a historical survey of American culture. Mr. Goodwin, Mr. Pareses

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. For the author, period, genre, or subject to be studied, see the Schedule of Classes for any given quarter. For further details, see the departmental counselor. Courses may be repeated for credit.


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. The intensive study of some aspect of the relationship between literature and social, economic, or political history. May be repeated for credit. Mr. Goodwin

M197. Topics in Afro-American Literature. (Same as Afro-American Studies M197.) A variable specialized course in Afro-American literature. Topics include the Harlem Renaissance, Afro-American Literature in the Nadir, 1890-1914; Contemporary Afro-American Fiction. May be repeated for credit. Mr. Yarborough

197H. Honors Seminar for Freshmen and Sophomores. Seminar, three hours. Prerequisites: courses 3, 4. Limited to 15 students. Recommended for lower division students who anticipate entering the honors program in English during their junior year. Content varies; see departmental counselor for information. Mr. Batten

199. Special Studies in English (2 to 4 units). Prerequisite: consent of instructor. An intensive directed research project. To enroll or obtain information, see departmental counselor.

199HA. Honors Seminar. Prerequisite: course 140A. An introduction to research techniques and a study of various approaches and applications of critical methodology as it relates to the interpretation and evaluation of texts. Mr. Solomon (F)

199HB-199HC. Honors Tutorial. (Formerly numbered 199H.) Prerequisites: course 199HA, consent of instructor. A tutorial in which students write a thesis under the direction of a faculty member. In Progress grade only. Mr. Phelps

199I. Independent Study for Internships (2 to 4 units). Prerequisite: consent of instructor. An independent study course to be supervised jointly by the Field Studies Office and the faculty supervisor. Further supervision to be provided by the business for which the student is doing the internship. P/NP grading.

Rhetoric

170. Rhetoric of Winston Churchill. Prerequisites: English B, upper division standing. An intensive study of the speeches of Winston Churchill during the wilderness years, the 1930s, and the wartime years. The background and impact of these speeches. Mr. Phelps

171. Rhetoric of Franklin Roosevelt. Prerequisites: English B, upper division standing. An intensive study of major speeches andfireside chats during the Roosevelt presidency. The background and impact of these speeches. Mr. Phelps

172. Rhetoric of Harry S. Truman. Prerequisites: English B, upper division standing. An intensive study of the major speeches of President Harry S. Truman. The background and impact of these speeches examined in relation to the social and political context of the Truman years. Mr. Phelps

180. Contemporary Rhetorical Theory. Prerequisite: satisfaction of Subject A requirement, courses 170, 171, or 172. Consent of instructor. Intensive study of contemporary rhetorical theory, including Winans, Woolbert, Philips, Brinnance, Blankenship, and others. Reports and papers. Mr. Phelps

Graduate Courses

200. Approaches to Literary Research. The bibliographic tools of English and American literary scholarship; an introduction to descriptive bibliography and basic methods of research. Mr. Batten, Mr. Kipling

201. The History of Literary Criticism. The study of the major documents in Western literary theory from Plato to the present. Mr. Lehan, Mr. Pecora, Mr. Solomon

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. Mr. Dearing

203. Computers and Literary Research. Prior knowledge in this area is not required. Practice in writing and using computer programs for the analysis of literary style, content, and authorship. Mr. Dearing

204. History of Rhetoric. Reading of the basic texts in the history of rhetoric and selections from standard commentaries. Survey of the classical period and the medieval-to-modern period in alternate years. Mr. Lanham

M205. Perspectives in American Folklore Research. (Same as Folklore M205.) Prerequisites: Folklore 101, one other upper division folklore course. An examination of American folklore studies compared and contrasted with investigations in other countries, with emphasis on the principal conceptual schemes and research orientations employed in the study of folklore in American society. Mr. Georges, Mr. Jones, Mr. Stern

210. History of the English Language. A detailed study of the history, characteristics, and changing forms of the language from its origin until about 1900. Ms. Minkova

211. Old English. Study of Old English grammar, lexicology, phonology, and pronunciation to enable the student to read the literature silently and aloud. Reading of as much of the more interesting Old English prose and poetry as can be read in a quarter. Mr. Calder, Mr. Condron

212. Middle English. Prerequisite: course 211. Detailed study of the linguistic aspects of Middle English and of representative examples of the better prose and poetry. Mr. Condron, Ms. Minkova, Ms. Ridley

213. Early Modern English. (Not to be taken as course 213 prior to Fall Quarter 1985.) Detailed study of the phonology, morphology, syntax, and vocabulary of English between 1450 and 1750. Description and analysis of the changes in the language in relation to the intellectual, political, and social characteristics of the period. Ms. Minkova

214. Modern English. (Formerly numbered 213.) Description and analysis of modern English phonology, grammar, and vocabulary, using the theory and techniques of contemporary linguistics. A survey of the evolution of American English and an account of the characteristic phonological and grammatical features of the major regional varieties of English around the world. Mr. Georges, Ms. Minkova

216A-216B. Old Irish. Prerequisite: consent of instructor. Studies in grammar. Readings in the glosses and other texts. Comparative considerations. Mr. Ford, Mr. Nagy

217A-217B. Medieval Welsh. Prerequisite: consent of instructor. Studies in grammar. Readings in the Mabonog and other texts. Comparative considerations. Mr. Ford

218. Celtic Linguistics. Prerequisite: consent of instructor. A survey of salient features of the Celtic linguistic stock in its Gaelic and British branches, with reference to the position of Celtic within Indo-European languages. Mr. Ford

The following courses stress wide reading in major authors, works, and intellectual developments.

220. Readings in Medieval Literature. Mr. Kelly, Mr. Kolbe, Ms. Ridley

221. Readings in Renaissance Literature. Mr. Allen, Mr. Kinsman, Mr. Lanham

222. Readings in Earlier 17th-Century Literature. Mr. Guffey, Mr. Gullans, Mr. Sellin
223. Readings in Restoration and 18th-Century Literature. Mr. Novak, Mr. Roper, Mr. Rousseau
224. Readings in Romantic Literature. Mr. Burwick, Ms. Metzler, Mr. Thorslev
225. Readings in Victorian Literature. Mr. Tennyson, Mr. Welsh
226A. Readings in Earlier American Literature. Mr. Colacurcio, Mr. Rubin-Dorsky, Mr. Wortham
226B. Readings in 19th-Century American Literature. Ms. Packer, Mr. Wortham
227. Readings in 20th-Century American Literature. Mr. Lehan, Mr. Thorslev, Mr. Taylor
228. Readings in 20th-Century British Literature. Mr. Bedient, Mr. Kessler
229A. Readings in the Novel. Mr. Lehan, Mr. Novak
229B. Readings in the Drama. Mr. Berst, Mr. Braunmuller

Seminar courses (230 through 260) are open to all graduate students with adequate preparation and may be repeated for credit. Enrollment is with consent of instructor; continuing students must sign up for seminars before the end of the preceding quarter. A prospectus announcing topics for all seminars will be available in the department office in early summer for the ensuing academic year.

230. Workshop in Creative Writing. Prerequisite: consent of instructor; following submission of writing samples in the specified genre (poetry, fiction, or drama). May be repeated but may not satisfy more than one of the nine courses required for the first qualifying examination or any of the five courses required for the second qualifying examination. Mr. Kessler, Mr. Yenser

235. African Myth and Mythology. (Same as Folklore M235.) Prerequisite: graduate standing. The methods of analyzing and appreciating African myths and mythological systems.

240. Explication (2 units). Lecture, one hour; discussion, one hour. Recommended for first-stage Ph.D. candidates. Seminar to provide training in critical practice. May be repeated for credit. S/U grading. Mr. Yenser

240. Studies in the History of the English Language. Individual seminars dealing with any single historical period from the Old English period to the present or the development of a particular linguistic characteristic (phonology, syntax, semantics, dialectology) through various periods. Ms. Minkova

241. Studies in the Structure of the English Language. Prerequisite: consent of instructor. Topics in various aspects of the structure of modern English, especially syntax and semantics. Ms. Minkova

242. Language and Literature. The 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 the contributions of specific groups of linguists to literary analysis.

246. Renaissance Literature. Studies in the poetry and prose of Renaissance English literature, exclusive of Shakespeare; limits of investigation set by individual instructor. Mr. Allen, Mr. Kinsman, Mr. Kipling

247. Shakespeare. Mr. Allen, Mr. Braunmiller, Mr. Foakes


250. Restoration and 18th-Century Literature. Studies in English poetry and prose, 1660 to 1800; limits of investigation set by individual instructor. Mr. Novak, Mr. Roper, Mr. Rousseau

251. The Romantic Writers. Mr. Burwick, Mr. Sheats, Mr. Thorslev

252. Victorian Literature. Studies in English poetry and prose of the Victorian period; limits of investigation set by individual instructor.

253. Contemporary British Literature. Mr. Bedient, Mr. Kessler, Mr. Yenser


Mr. Banta, Mr. Colacurcio, Ms. Packer

255. Contemporary American Poetry. Studies in contemporary American poetry and prose; limits of investigation set by individual instructor. Mr. Berst, Mr. Braunmuller, Mr. Foakes

256. Studies in the Drama. Studies in the drama as a genre from its beginning to the present; limits of investigation set by individual instructor. Mr. Lehan, Mr. Riddel, Mr. Yenser

258. Studies in the Novel. Studies in the evolution of the genre from its beginning to the present; limits of investigation set by individual instructor.

Mr. Lehan, Mr. Novak, Mr. Welsh

259. Studies in Criticism. Mr. Guffey, Mr. Hutter, Mr. Riddel

260. Studies in Literature and its Relationship to the Arts and Sciences. Studies in the interrelationships of literature, the arts, and the sciences; limits of investigation set by individual instructor.

260A. Topics in Asian American Literature. (Same as American Studies M297A.) Lecture, three hours. A graduate seminar that examines and critically evaluates writings of Asian Americans.

261. Studies in African Literature in English. (Formerly numbered M261A. Same as English as a Second Language M265K.) Prerequisite: consent of instructor. Special problems and trends of African literature in English. Mr. Powey (W)

262. Studies in Afro-American Literature. (Formerly numbered M273A.) Same as Afro-American Studies M200E.) Prerequisite: consent of instructor. Intensive research and study of major themes, issues, and writers in Afro-American literature. Discussions and research on the aesthetic, cultural, and social backgrounds of Afro-American writing. May be repeated for credit.

263. Celtic Literature. Lecture, three hours. Prerequisite: knowledge of one of the ancient or modern Celtic languages. Studies in the poetry and prose of early and modern Welsh; limits of investigation set by individual instructor. Mr. Ford, Mr. Nagy

264. Studies in Rhetoric. Lecture, three hours. Special topics in classical and modern rhetoric, including substantial practice in the rhetorical analysis of literary texts. Mr. Lehan

265. Seminar in Literary Data Processing. Prerequisites: courses 200, 203. Subjects alternate between (1) a team writing of a large program to solve or help solve a research problem proposed by a faculty member (who usually acts in supervising the seminar) and (2) compilation and interpretation of literary statistics (with cooperation of a member of the Statistical/Biomathematical Consulting Clinic). Mr. Dearing

266. Cultural World Views of Native America. (Same as American Indian Studies M200B.) Seminar, three hours. Exploration of written literary texts drawn from oral cultures and other expressive cultural forms — poetry, art, song, religious and medicinal ritual — in selected Native American societies. Mr. Lanham

270A-270B. English for the Two-Year College. Prerequisite: course 120B or 275. Discussion and practice of two-year college composition in reading and composition. In Progress grading.

272. Current Issues in the Teaching of English. Prerequisite: course 120B or Linguistics 100. Focus on one of a variety of topics of special current interest.

Mr. Lanham

274. The Teaching of English for Minority Groups. (Formerly numbered 274.) (Same as English as a Second Language M224K.) Prerequisites: English (ESL) 370K and Linguistics 100, or consent of instructor. In-depth description of the dialects of English and of other languages (such as Spanish) used by groups of students in American schools. The origins, variations within, and current status of language varieties such as Black English and Chicanos Spanish, relevant research, and educational implications. Mr. Bowes, Mr. McGroarty


Ms. Brienza, Mr. Lanham

300. The Teaching of English. See listing under "English Composition."
Scope and Objectives

Students need writing proficiency at every stage of their university careers. Although UCLA does not have a composition major, the UCLA Writing Programs and the Composition Section of the English Department offer a series of courses introducing the varieties of university discourse and providing basic to highly skilled instruction. Besides courses which satisfy the University's Subject A and English Composition requirements, the program offers writing courses linked with courses in other departments, intermediate and advanced courses in exposition, language and composition courses for teachers, and a sequence of courses in professional writing and editing.

Subject A

Every student who does not satisfy the Subject A requirement by presenting transfer credit or acceptable test scores is required to take, in the quarter immediately following admission to the University, either English A or B. Placement in these courses is determined by performance on the Subject A Placement Test. For more information regarding Subject A, see "Undergraduate Degree Requirements" in Chapter 2.

Composition Requirement

Each of the University's colleges and schools sets its own composition requirement. Completing English 3 with a grade of C or better meets the requirement in all divisions. For further information about the composition requirement, see the introductory copy for your college or school.

Students who score 660 or better on the CEEB English Achievement Test are eligible to take the English Proficiency Examination. Outstanding performance on this examination fulfills the composition requirement. For further information, contact the Freshman Writing Program.

Lower Division Courses

A. Basic Review of English Usage (No credit). Lecture, five hours. Prerequisite: placement into English A determined by performance on the Subject A Placement Test. English A displaces four units on the student's Study List but yields no credit toward a degree. A preliminary course in academic writing; offering workshop exercises in reading, writing, and revision. Students learn grammar and mechanics primarily through practice and imitation. Completion of this course with a grade of C or better or demonstration of minimum competence on the Subject A Placement Test is prerequisite to English B.

B. Fundamentals of Exposition (No credit). (Formerly numbered 1A.) Prerequisite: English A or qualifying score on Subject A Placement Test. English B displaces four units on the student's Study List but yields no credit toward a degree. Designed to develop the proficiency in expository writing required for successful University work. Lectures, readings, class discussions, and assignments in writing and revision. Completion of this course with a grade of C or better meets the Subject A requirement.

3. English Composition, Rhetoric, and Language. Lecture, three hours. Prerequisite: satisfaction of Subject A requirement. Designed to teach analytic paper writing, with emphasis on revision techniques. Material for writing assignments comes from adjacent course, and assignments reflect and develop writing skills needed in that course. May be repeated for credit with consent of instructor.

100W. Intensive Writing (2 units). Prerequisite: course 3. Students must be concurrently enrolled in a course offered in conjunction with English 100W (refer to the Schedule of Classes for courses so designated). Designed to teach analytic paper writing, with emphasis on revision techniques. Material for writing assignments comes from adjacent course, and assignments reflect and develop writing skills needed in that course. May be repeated for credit with consent of instructor.

120A. Language Study for Teachers: Elementary School. Prerequisite: satisfaction of Subject A requirement. A survey of topics in English linguistics of special interest to elementary school teachers. Subsequent courses 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 the teaching of reading, writing, spelling, and literature.

120B. Language Study for Teachers of English: Secondary and Postsecondary. Prerequisite: satisfaction of Subject A requirement. A rapid review of English grammar and an introduction to basic concepts in sociolinguistics, dialectology, and stylistics applied to the analysis and evaluation of writing samples from students in junior and senior high school and college.

120C. Language Study for Teachers of Subjects Other Than English: Secondary and Postsecondary. Prerequisite: satisfaction of Subject A requirement. Designed to introduce teachers of subjects other than English to basic concepts in language acquisition, dialectology, sociolinguistics, and composition.

130. Composition for Teachers. Prerequisites: satisfaction of Subject A requirement, courses 3, 4. Preparation for future teachers of English composition in the writing and criticism of the kinds of prose discourse usually taught in primary and secondary schools and in junior college.
131A-131H. Advanced Exposition. (Formerly numbered 131.) Prerequisites: satisfaction of Subject A and English Composition requirements, upper division standing. A writing course designed to help students develop stylistic and argumentative virtuosity in various rhetorical contexts, including different sections that emphasize the principles of effective writing in major professions. May be taken P/NP by English majors, though English majors who wish to use the course to satisfy departmental prerequisites must take it for a letter grade. Each course may be taken independently for credit. 131A, General; 131B, Business; 131C, Prehealth Care; 131D, Journalism/Communication Studies; 131E, Prelaw; 131F, Fine Arts; 131G, Science and Technology; 131H, Honors. 131A-131B-131C. Practical Writing and Editing. Lecture, three hours. Prerequisites: satisfaction of Subject A requirement, course 3, one course from the 131 series, consent of instructor. A sequence in practical writing and editing ability specifically designed to prepare students for a career. Analysis of prose and literary styles necessary to the variety of writing in professional, nonacademic fields combined whenever possible with practical experience in a variety of writing internships and training in a wide range of editorial skills. In Progress grading for courses 136A-136B only.

Graduate Courses

300. The Teaching of English. Required of candidates for the single subject credential in English. Study of theories of rhetoric, composition, reading, and literature as they apply to the secondary school English curriculum. 495A-495B. Supervised Teacher Preparation. (2 units each). (Formerly numbered 495.) Discussion, one hour; laboratory, 30 minutes. 495A. Required of all applicants for a teaching assistantship in English. The practical concerns of designing a course, creating assignments, grading papers, and holding conferences for English 3 classes. 495B. Must be taken concurrently with the first teaching assignment. It examines the specialized problems which occur in teaching English 3 and introduces students to techniques for teaching English B and ESL. In Progress S/U grading. Ms. Pfiff, Mr. Rose.

English as a Second Language Section

3300 Rolfe Hall, (213) 825-4631

Professors

J. Donald Bowen, Ph.D.
Russell N. Campbell, Ph.D.
Marianne Celce-Murcia, Ph.D.
Evelyn R. Hatch, Ph.D.
John F. Povey, Ph.D.
John H. Schumann, Ed.D., Chair
Clifford H. Prator, Ph.D., Emeritus

Associate Professors

Roger W. Andersen, Ph.D.
Earl J. Rand, Ph.D.

Assistant Professor

Mary E. McGroarty, Ph.D.

Visiting Associate Professor

Grant Henning, Ph.D.

Visiting Assistant Professor

Barbara Kroll, Ph.D.

Adjunct and Visiting Lecturers

Donna Brinton, M.A., Adjunct
Melinda Erickson, M.A., Visiting
Diana Savas, M.A., Visiting

Scope and Objectives

The Teaching English as a Second Language (TESL) Program is 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 an opportunity 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, a 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 ESL Section and the Linguistics Department 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. (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 Director, ESL Service Courses, 3312 Rolfe Hall, UCLA, Los Angeles, CA 90024.

Master of Arts in Teaching English as a Second Language

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 at the beginning of 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 3.25 (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 30 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, English as a Second Language Section, 3300A Rolfe Hall, UCLA, Los Angeles, CA 90024. Since admission is limited to approximately 30 students per year, it is important that supporting papers be submitted by February 15.

The admissions committee screens all applications, using the following criteria: grade-point average (must be 3.0 or better), Graduate Record Examination (GRE) scores, (required only of applicants whose native language is English), letters of recommendation, statement of purpose, and relevant professional experience. 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.

Foreign Language Requirement

Students whose native language is English generally use their Fall and Winter Quarter electives to acquire or perfect a 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 four 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) one foreign language course in addition to English M274; (4) English 227K plus an unrestricted elective. Those particularly interested in working with Mexican-American, Asian American, or American Indian pupils will normally choose the third of these alternatives. When there is doubt as to which language will be 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 University's 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 previ-
ous foreign language study. For more infor-
mation, contact the graduate adviser.

First-Year Curriculum
The typical course of study for the first year of the M.A. program is as follows (descriptions of the English courses mentioned here may be found at the end of this section):

<table>
<thead>
<tr>
<th>Fall Quarter</th>
<th>Winter Quarter</th>
<th>Spring Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linguistics 100, English 370K, foreign language requirement or elective (course depends on language requirement plan)</td>
<td>English 122K, 241K, foreign language requirement or elective (course depends on language requirement plan)</td>
<td>English 106K or 107K or 109K, 380K, Linguistics 103 or English 103K</td>
</tr>
</tbody>
</table>

Exceptions to the above requirements will be made only after consultation with the graduate adviser.

Of the nine courses required the first year, at least seven must be in TESL, English, 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 Teaching Credential).

Teaching Experience
One quarter of supervised teaching 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 will be eligible for the California Adult Education Credential in ESL. 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 Linguistics 100, Linguistics 103 or English 103K, English 122K and 241K) and, in special cases, two of the electives (100 or 200 series only) are 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 graduate adviser during the second year.

Eight units of 500-series courses may be applied toward the M.A. degree. You must enroll in course 598K each quarter 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 the second year).

English 400K is a seminar in which TESL M.A. candidates present and defend the results of their thesis research. Enrollment is required in the Spring Quarter but does not count as one of the 14 courses required for the M.A.

The electives taken during the 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 approved program must be approved by both the committee chair and the M.A. adviser.

Thesis Plan
By the end of the fourth quarter, a 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. An outside member is required.

Undergraduate Courses
Courses 33A, 33B, 33C, 34, 35, 36, 103J, 106J, 107J. 109J are only for students whose native language is other than English. Placement in these courses is established on the basis of the English as a Second Language Placement Examination (ESLPE), which students whose native language is not English must take instead of the TESL Placement Test (see “Subject A” in Chapter 2). Depending on the results of this examination, entering students are (1) exempt from any special ESL requirement; (2) required to take course 33C; (3) required to take course 33B followed by course 33C; (4) required to take course 33A followed by courses 33B and 33C; or (5) required to spend a quarter studying elementary English exclusively, through UCLA Extension, followed by courses 33A, 33B, 33C. You must enroll in the course(s) during your first term in residence at UCLA and each subsequent term until you complete course 33C with a grade of C or better.

You may satisfy the English Composition requirement by completing English (ESL) 36 with a grade of C or better. Admission into course 36 is determined by a Composition Placement Test administered the first day of class each quarter. A low score on the test may require that you enroll in English (ESL) 35 prior to course 36.

Lower Division Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>33A</td>
<td>Low Intermediate English as a Second Language. Recitation, eight hours; laboratory, two hours. Prerequisite: grade of C or better in course 33A or proficiency demonstrated on the English as a Second Language Placement Examination. Intensive instruction in the structure of English, with focus on vocabulary, building, listening and speaking skills, and basic composition techniques.</td>
</tr>
<tr>
<td>33B</td>
<td>High Intermediate English as a Second Language. Recitation, five hours. Prerequisite: grade of C or better in course 33A or proficiency demonstrated on the English as a Second Language Placement Examination. Emphasis on reading comprehension, vocabulary development, and composition techniques, with additional work on structure and oral skills.</td>
</tr>
<tr>
<td>33C</td>
<td>Advanced English as a Second Language. Recitation, five hours. Prerequisite: grade of C or better in course 33B or proficiency demonstrated on the English as a Second Language Placement Examination. Emphasis on academic reading, research skills, and lecture comprehension.</td>
</tr>
</tbody>
</table>

34. Oral Communication Skills for ESL Students. Prerequisite: grade of C or better in course 33C or proficiency demonstrated on the English as a Second Language Placement Examination. Develops oral skills that prepare nonnative speakers of English to participate in class discussion, make oral presentations before an audience, respond to questions, and improve through self-evaluation of spoken English. P/NP (undergraduates), SU (graduates), or letter grading.

35. Developmental Composition for ESL Students. Prerequisite: grade of C or better in course 33C or proficiency demonstrated on the English as a Second Language Placement Examination. Developmental composition skills for ESL students, with focus on the mechanics of writing, grammatical structures, and recognition and practice with the major academic discourse modes.

36. Advanced Composition for ESL Students. Prerequisites: grade of C or better in course 33C or 35 or proficiency demonstrated on the English as a Second Language Placement Examination, and an appropriate Composition Placement Test score. Designed to improve English language writing skills for nonnative speakers of English. Special attention to grammatical structures, principles and methods of exposition, and writing for academic purposes.

Upper Division Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>103J</td>
<td>Phonetics for ESL Students. Prerequisite: grade of C or better in course 33C or proficiency demonstrated on the English as a Second Language Placement Examination. A detailed and systematic study of the sounds of American English and the way in which they are put together in connected speech, applied to the improvement of the student's own accent.</td>
</tr>
<tr>
<td>103K</td>
<td>Phonetics for Teachers of English as a Second Language. Prerequisite: consent of instructor. Analysis of the phonological structure of contemporary English, with attention to the differences between British and American speech. Drill directed toward individual needs.</td>
</tr>
<tr>
<td>106J</td>
<td>Advanced Composition for ESL Students. Prerequisites: grade of C or better in course 33C or proficiency demonstrated on the English as a Second Language Placement Examination, and an appropriate Composition Placement Test score. Exercises in writing based on readings, with the aim of developing idiomatic control of expression.</td>
</tr>
<tr>
<td>106K</td>
<td>Writing in the ESL Context. Provides opportunities for practice and improvement in writing skills and thus fulfills the composition requirement for the TESL M.A. degree. Survey of important theoretical and methodological issues related to the teaching of writing/composition to ESL students, and examination of appropriate classroom materials and authentic student compositions.</td>
</tr>
</tbody>
</table>

33A. Low Intermediate English as a Second Language. Recitation, eight hours; laboratory, two hours. Prerequisite: grade of C or better in course 33A or proficiency demonstrated on the English as a Second Language Placement Examination. Intensive instruction in the structure of English, with focus on vocabulary, building, listening and speaking skills, and basic composition techniques.
Graduate Courses

All graduate courses are open to qualified graduate students from other departments with consent of department.

209K. Current Issues in Experimental Design and Statistics for Applied Linguistics. (Formerly numbered 272K.) Specialized topics of interest to graduate students in TESL and applied linguistics. Emphasis varies according to current theoretical methods and trends in the field. Ms. Hatch, Mr. Rand (F,Sp)

220K. Materials Development for Language Teaching. (Formerly numbered 272K.) Prerequisites: course 370K, at least two years of ESL/EFL teaching experience, and English language proficiency. Examination of a set of language teaching materials geared to the needs of a specified group of learners. Revision of first drafts and evaluation of one's own work and that of one's peers. Ms. Celce-Murcia (Sp)

221K. Media for Language Teaching. (Formerly numbered 272K.) A rational and pedagogical application for using media equipment and materials in the language classroom. Training in standard classroom media equipment operation and basic materials production techniques, focusing on the application to ESL instruction. Ms. Brinton (W)

222K. Language Testing for Teachers of English as a Second Language. (Formerly numbered 272K.) A rational and pedagogical application for using media equipment and materials in the language classroom. Training in standard classroom media equipment operation and basic materials production techniques, focusing on the application to ESL instruction. Ms. Brinton (W)

223K. Role of English as a Second Language in Bilingual Education. (Formerly numbered 210K.) Prerequisites: course 370K, Linguistics 100. Theories and techniques for language assessment across the skill areas. Emphasis on classroom testing and the functions of testing within a language program. Basic statistical concepts and hands-on experience with the construction of language tests. Mr. Rand (W)

224K. Teaching of English for Minority Groups. (Formerly numbered 224K.) (Same as English 224K.) Prerequisites: course 370K and Linguistics 100, or consent of instructor. In-depth description of the dialects of English and of other languages (such as Spanish) used by groups of students in American schools. The origins, variations within, and current status of language varieties such as Black English and Chicano Spanish, relevant research, and educational implications. Mr. Bowden, Ms. McCordary

225K. Program Evaluation in Applied Linguistics. Evaluation of the effectiveness of current programs of instruction, including the assessment of teacher behavior. Prevalent evaluation theories, the writing of evaluation proposals, developing program monitoring procedures, selecting appropriate evaluation design plans, framing the decision context, and reporting evaluation results. Mr. Campbell

227K. Experiential Seminar in Second Language Learning. Discussion, two hours; laboratory, four hours. Prerequisite: graduate standing. Students reflect on a language learning experience (by keeping a daily journal and in weekly discussion meetings) and relate this experience to current issues in second and foreign language acquisition and/or second/foreign language learning teaching (drawing on the published literature). Students learn an uncommonly taught language with the use of authentic language materials (video and audio recordings and print materials). Discussion, two hours; laboratory, four hours. Prerequisite: consent of instructor. An exploration of those areas of psycholinguistics covering foreign language acquisition; types and theories of bilingualism; learning theories underlying the current methods of teaching foreign languages. Ms. Hatch, Mr. Schumann (F)

226K. Linguistics and Language Teaching. Prerequisites: course 261K, Consent of instructor. Examination of those areas of psycholinguistics covering foreign language acquisition; types and theories of bilingualism; learning theories underlying the current methods of teaching foreign languages. Ms. Hatch, Mr. Schumann (F)

227K. Cross-Linguistic Topics in Second Language Acquisition. Lecture, one hour; discussion, three hours. Prerequisites: course 261K, Linguistics 100. Advanced seminar on second language acquisition in which a particular linguistic topic (e.g., development of tense-aspect, reference, subordination, agreement) is pursued from cross-linguistic and cross-disciplinary perspectives. Ms. Cece-Murcia (W)

228K. Language Policy in Developing Countries. (Formerly numbered 270K.) Prerequisite: consent of instructor. Use and need for English in countries such as Nigeria and the Philippines; factors affecting language policy in their school systems; applicability of research techniques of sociolinguistics and psycholinguistics to problems of language policy.

229K. Language Policy in the United States. Prerequisite: consent of instructor. Use and need for the teaching of languages, both English and others, in the United States. Issues related to matters of language choice and language planning undertaken for various purposes; factors affecting language use, change, and standardization in the U.S.

232K. Intercultural Communication and the Teaching of English as a Second Language. (Formerly numbered 272K.) Prerequisite: consent of instructor. An introduction to the field of cross-cultural communication, with special attention to the cultural interactions of second language learners and the teaching of English as a second language to students in American schools. The linguistic, psychological, and sociological manifestations of bilingualism, with particular reference to aspects of learning, teaching, and testing language skills. Mr. Campbell, Ms. McGroarty (F)

235K. Advanced Seminar in Contextual Analysis of English Structure. Prerequisite: course 122K or consent of instructor. Examination of selected words and structures in oral and written English texts to determine when and why the word or structure occurs. Emphasis on factors such as meaning, discourse genre, social/pragmatic function, and relative frequency. However, the starting point in the analysis is syntax (i.e., what are the structural properties — form, distribution — of the word(s) or structure(s) under consideration?). Ms. Cece-Murcia (F)

236K. Psycholinguistics and Language Teaching. Prerequisite: consent of instructor. An exploration of those areas of psycholinguistics covering foreign language acquisition; types and theories of bilingualism; learning theories underlying the current methods of teaching foreign languages. Ms. Hatch, Mr. Schumann (F)

237K. Advanced Seminar in Cohesion Analysis of English Structure. Prerequisite: course 122K or consent of instructor. Examination of selected words and structures in oral and written English texts to determine when and why the word or structure occurs. Emphasis on factors such as meaning, discourse genre, social/pragmatic function, and relative frequency. However, the starting point in the analysis is syntax (i.e., what are the structural properties — form, distribution — of the word(s) or structure(s) under consideration?). Ms. Cece-Murcia (F)

238K. Psycholinguistics and Language Teaching. Prerequisite: consent of instructor. An exploration of those areas of psycholinguistics covering foreign language acquisition; types and theories of bilingualism; learning theories underlying the current methods of teaching foreign languages. Ms. Hatch, Mr. Schumann (F)

239K. Advanced Seminar in Experiential Analysis of English Structure. Prerequisite: course 122K or consent of instructor. Examination of selected words and structures in oral and written English texts to determine when and why the word or structure occurs. Emphasis on factors such as meaning, discourse genre, social/pragmatic function, and relative frequency. However, the starting point in the analysis is syntax (i.e., what are the structural properties — form, distribution — of the word(s) or structure(s) under consideration?). Ms. Cece-Murcia (F)
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 program, see Chapter 17 on the School of Public Health.

Ethnic Arts
(Interdepartmental)

This undergraduate major is now called “World Arts and Cultures.” See Chapter 6 on the College of Fine Arts for details.

Folklore and Mythology
(Interdepartmental)

1041 Graduate School of Management, (213) 825-3962

Professors
Shirley L. Arora, Ph.D. (Spanish and Portuguese)
Mariana D. Birnbaum, Ph.D. in Residence (Germanic Languages)
Kees W. Bolle, Ph.D. (History)
Margherita Cottino-Jones, Ph.D. (Italian)
Elsie Dunin, M.A. (Dance)
Patricia K. Ford, Ph.D. (English)
Robert A. Georges, Ph.D. (English)
Manja Gimbutas, Ph.D. (Slavic Languages and Literature)
Nazar A. Jairazbey, Ph.D. (Music)
Michael O. Jones, Ph.D. (History)
Vladimir Markov, Ph.D. (Slavic Languages and Literature)
Janes W. Porter, Ph.D. (Music)
Douglas Price-Williams, Ph.D. (Anthropology)
Evan Pugh, Ph.D. (Dance)
Donald J. Ward, Ph.D. (Germanic Languages)
Johannes Wilbert, Ph.D. (Anthropology)
O. K. Wilgus, Ph.D. (English and Music)
Wayland D. Hand, Ph.D., Emeritus (Germanic Languages and Literatures)
Mervyn B. Heisien, Ph.D., Emeritus (Spanish and Portuguese)

Associate Professors
Steven Lattimore, Ph.D. (Classics)
Joseph F. Nagy, Ph.D. (English), Chair
Philip L. Newman, Ph.D. (Anthropology)
Arnold Rubin, Ph.D. (Art, Design, and Art History)

Assistant Professors
Jacqueline C. DieDie, Ph.D. (Music)
Beverly D. Robinson, Ph.D. (Theater, Film, and Television)
Stephen Stern, Ph.D. (Library and Information Science), Vice Chair

Adjunct Lecturer
Inkeri A. Rank, M.A., M.Ed. (Scandinavian Languages)

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 life-styles 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, song, music, art, dance, 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 GSM, UCLA, Los Angeles, CA 90024.
Foreign Language Requirement

Reading knowledge of French, German, or Spanish is required. 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.
2. Successfully completing the Educational Testing Service GSFLT examination with a score of 550 or better.
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 the comprehensive examination plan (see below), must complete the following courses: Folklore 200, 201A, 201B, 216, and at least one course from each of the following groups:

Group 1: One course in folk song or folk music.
Group 2: One course in the folklore and mythology of a specific culture or culture area.
Group 3: One course in the mythology of a specific culture or in the principles of mythology.
Group 4: One graduate seminar in an area of folklore and mythology.

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 quarters.

The thesis committee, composed of three or more faculty members selected with the approval of the chair of the interdepartmental committee, is appointed no later than the quarter before you expect to complete the requirements. No outside members are required.

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 requiring a grasp of (1) theoretical bases, major docu-
ments, 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 quarters.

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 will be 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 have a 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 German and another language approved by the guidance committee is required. You may demonstrate proficiency in any of the three ways 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.

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 the approval of the interdepartmental committee and includes one or more members from your related discipline.

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, to be determined by your doctoral committee after you complete the oral qualifying examination.

Lower Division Courses

15. Introduction to American Folklore Studies. Lecture/discussion. A cultural-historical survey of the role of folklore in the development of American civilization and of the 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. A survey of the various forms of folklore and an examination of their historical and social significance.
M122. Celtic Mythology. (Same as English M111D.) Prerequisite: course 101 or consent of instructor. A survey of the early materials, chiefly literary, for the study of the mythic traditions of the Celtic peoples, ranging from ancient Gaul to medieval Ireland and Wales. Mr. Ford

M123A. Finnish Folklore and Mythology. (Same as Scandinavian M123A.) The art, folk art, and results of Finnish folklore studies and the mythic traditions of the Finns. Special attention to the oral epic, beliefs, and legends. Ms. Rank

M123B. Finnish Folk Song and Ballad. (Same as Scandinavian M123B.) Course M123A is not prerequisite to M123B. A survey of Finnish balladry and folk song, with attention to historical development, ethnic background, and poetic and musical values. Ms. Rank

124. Finnish Folk Art and Technology. Material manifestations of Finnish folk culture: village layout and architecture, folk technology, arts and crafts, textiles, costumes, and design. Ms. Rank

M125. Folklore and Mythology of the Lapps. (Same as Scandinavian M125.) Survey of Lappish beliefs, customs, and various genres of oral tradition, including tales, legends, songs, and music. Attention also to the material manifestations of Lappish culture: arts and crafts, textiles, costume, folk technology. Ms. Rank

M126. Baltic and Slavic Folklore and Mythology. (Same as Slavic M179.) Lecture, three hours. A general course for students interested in folklore and mythology and for those interested in Indo-European mythic antiquities. Mrs. Gimbutas

M127. Celtic Folklore. (Same as English M111F.) Prerequisite: course 101 or consent of instructor. The folkloric traditions of modern Ireland, Scotland, and other Celtic countries, with attention to current techniques of folkloristic research. Mr. Georges

M128. Hungarian Folklore and Mythology. (Same as Hungarian M135.) A general course for students in folklore and mythology, with emphasis on types of folklore and varieties of folklore research. Mr. Bernbaum

M129. Folklore and Mythology of the Ugric Peoples. (Same as Hungarian M136.) Survey of the traditions of smaller Ugric nationalities (Voguls, Ostyaks, etc.). Ms. Bernbaum

130. North American Indian Folklore and Mythology. (Same as Anthropology M101.) Course M101 is prerequisite or consent of instructor. An examination of folklitistic and mythological data recorded from various North American Indian peoples within the contexts of the principal ideological frameworks which have been evolved historically for the analysis of such data. Mr. Georges

131. Folklore of India. Prerequisite: course 101 or consent of instructor. A survey of the folklore of India, with special reference to the content and dissemination of oral epics, ballads, legends, and beliefs. Mr. Jairazbhoy

M140. From Boccaccio to Basile. (In English.) (Same as Italian M140.) Lecture, three hours. A study of the origins and the development of the Italian novel in its tokones, its structure, its literary content, and in its European ramifications. Designed for students in other departments who wish to become acquainted with either the premises or the growth of similar literary genres. Also intended for students majoring in folklore and mythology, who are given an 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 Boccaccio) they become embedded into the folk tradition of the Western world. Ms. Cottino-Jones

M142. Introduction to Jewish Folklore. (Same as Jewish Studies M143.) The nature of Jewish folklore; narrated, performed, and written in different Jewish communities; an examination of the methods and perspectives used in their analysis. Mr. Stern

M149. Folk Literature of the Hispanic World. (Same as Spanish M149.) Lecture, three hours. A study of the history and present dissemination of folk literature, including the major principal forms of folk literature 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 Music M154A-M154B.) Prerequisite: Music 1A or consent of instructor. Course M154A is prerequisite to M154B. A survey of African-American rhythm, dance, music, field hollers, work songs, spirituals, blues, and jazz; the contrast between West African, African-American, and Afro-Brazilian musical traditions. Ms. DjeDje


163. Folklore and Oral History. Prerequisite: junior standing. An examination of the relationships between folk oral tradition and oral history; how history may be derived from tradition; how traditions are embedded in historical sources; how the folkloric tradition history to reflect their point of view. Mr. Stern

M170. Russian Folklore. (Same as Russian M170.) Lecture, three hours. A general introduction to Russian folklore, including a survey of genres and related folkloric phenomena. Lectures and readings in English.

172. Folklore in Ethnic Context. Prerequisite: course 15 or 101 or consent of instructor. The role of folklore in ethnic relations; the processes by which ethnic folklore is generated, transmitted, and maintained by immigrant groups and subsequent generations. Mr. Georges, Mr. Stern

M180. Analytical Approaches to Folk Music. (Same as Music M180.) Prerequisites: Music 5A-5B or consent of instructor. An intensive study of the methods and techniques necessary to the understanding of Western folk music. Mr. Porter

M181. Folk Music of Western Europe. (Same as Music M181.) Prerequisite: consent of instructor. Introduction to the forms and styles of traditional music in Western Europe. Historical and ethnological perspectives on this music combined with numerous recorded examples from the major cultural subdivisions of the Western world. Mr. Parkinson

190. Selected Topics in Folklore and Mythology Studies. Prerequisites: course 15 or 101, consent of instructor. A seminar focusing on selected problems, data, or themes in folklore and mythology studies.

199. Special Studies in Folklore (2 to 4 units). Prerequisites: senior standing, consent of instructor.

Graduate Courses

200. Folklore Bibliography, Theory, and Research Methods. A basic course in theory and bibliography for folklore students, including the techniques of research necessary for serious folklore study. Ms. Robinson

201A. Folklore Collecting and Field Research. Prerequisite: course 200. Discussion-demonstration concerning the theoretical concepts, methods, and techniques of data gathering and field research in folklore. Mr. Jones, Mr. Stern, Mr. Wilgus

201B. Folklore Conservation and Field Research. Prerequisite: course 201A. The supervised completion of a fieldwork project developed in course 201A. Mr. Jones, Mr. Stern, Mr. Wilgus

M202. Folklore Archiving, (Formerly numbered M202A-M202B.) (Same as Library and Information Science M202.) Lecture, two hours; laboratory, two hours. Exploration and analysis of alternative data indexing, storage, and retrieval systems and procedures for folklore archival collections, supplemented by first-hand experience in creating and managing data bases, utilizing both manual and computerized techniques. Mr. Georges, Mr. Stern

M205. Perspectives in American Folklore Research. (Same as English M205.) Prerequisites: course 101, one other upper division folklore course. An examination of American folklore studies compared and contrasted with investigations in other countries, with emphasis on the principal conceptual schemes and research techniques employed in the study of folklore in American society. Mr. Georges, Mr. Jones, Mr. Stern

C206. Anglo-American Folk Song. Prerequisite: graduate standing. A study of Anglo-American balladry, with attention to historical development, ethnic background, and poetic and musical values. May be concurrently scheduled with course CM106. Mr. Wilgus

C207. Folklore in Urban Environments. Lecture, three hours. Prerequisites: course 200 and/or consent of instructor. Exploration of the major symbolic and dimensional complexes of urban life, focusing on how migrants, immigrants, and workers shape their experiences through the dynamic interplay of ethnicity, community, culture, and religion. Concurrently scheduled with course C107. Mr. Jones, Mr. Stern

208. Afro-American Folklore and Culture. Prerequisite: graduate standing. The theoretical and methodological constructs which have contributed to the redefinition of the body of black cultural expression in the United States. Ms. Robinson

213. Folk Belief and Custom. Prerequisites: course 101 and one course from 118, M121, M122, M123A, M123B, M124, M125, M126, M128, M149, M150, M154A, M154B, 155, 156, Anthropology 156, German 134, 240A, 240B, 240C. A study of beliefs and customs in the folk community; the life cycle, calendrical and agricultural customs, and legal antiquities. Mr. Jones, Mr. Ward

M214. The Ethnography of History. (Same as Anthropology M232.) Lecture, three hours. Prerequisite: graduate standing in folklore or anthropology. An examination and analysis of selected humorous expressions and events in cross-cultural perspective, with emphasis on the major psychological and sociocultural approaches to their study and interpretation.

215. The Popular Legend. Prerequisite: course 200 or consent of instructor. A study of the categories of legend and their relation to myth, custom, ritual, popular beliefs, and ballads. Mr. Ward

216. The Folktales. Prerequisite: course 200 or consent of instructor. Mr. Georges, Mr. Ward

217. Folk Speech. Prerequisite: course 101, CM106, or M111. Recommended: Anthropology M140, English 208. An examination of the stylistic, linguistic, and ethnographic nature of the ethnohistorical embodiment of communication and its relevance to the study of social and regional dialects, proverb, riddles, onomastics, folk poetry and verse, and traditional humor. Mr. Georgi

218. Folk Art, Craft, and Aesthetics. Lecture, three hours. Prerequisite: course 200. An 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 the latter part of the 19th century to the present. Mr. Jairazbhoy

M219. Seminar in the Puppet Theater. (Same as Theater M217B.) Lecture, three hours. Prerequisite: consent of instructor. Studies in the puppet theaters of the world: techniques, literature, aesthetics.

228. Seminar: Topics in Celtic Folklore and Mythology. Lecture, three hours. Prerequisites: course 200, coursework in Celtic studies. Preparation for the advanced study of and research in important areas of Irish oral tradition and folklore/mythology course 101, one other upper division folklore course; the British/Ireland; comparative Celtic mythology; Celtic origin legends; literary and oral saints' legends; the Irish Fenian (Ossianic) tradition of ballads (laoidhean) and prose tales; "faery" beliefs; collecting and archiving methods of the Irish Folklore Commission; folklore studies and nationalism.

Mr. Ford, Mr. Nagy
### Related Courses in Other Departments

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<tr>
<th>African Languages (Linguistics)</th>
<th>150A-150B. African Literature in English Translation</th>
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<tr>
<td>Anthropology</td>
<td>118A, 118B. Museum Studies</td>
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<tr>
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<td>133P. Social and Psychological Aspects of Myth and Ritual</td>
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<td>133R. Aesthetic Anthropology</td>
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<td>156. Comparative Religion</td>
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<td>230P. Ethnology</td>
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<td>232Q. Myth and Ritual</td>
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<td>233Q. Aesthetic Anthropology</td>
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<td>M247A. Ethnographic Film</td>
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<td>264. Ethnography of the Mexican/Chicano People in North America</td>
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<td>271. African Cultures</td>
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<td>M272. Indians of South America</td>
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<td>273. Cultures of the Middle East</td>
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<td>274. Cultures of the Pacific Islands</td>
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<td>Art History (Art, Design, and Art History) 102. Art of the Ancient Near East</td>
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<td>C117A. Advanced Studies in Pre-Columbian Art: Mexico</td>
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<td>C117C. Advanced Studies in Pre-Columbian Art: The Andes</td>
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<td>115A. The Arts of Oceania</td>
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<td>C119A. Advanced Studies in African Art: Western Africa</td>
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<td>203. Museum Studies</td>
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<td>220. Oceanic, Pre-Columbian, African, and Native North American Art</td>
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<td>Classics 161. Introduction to Classical Mythology</td>
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<td>162. Classical Myth in Literature</td>
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<td>166A. Greek Religion</td>
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<td>Comparative Literature C240. Medieval Epics</td>
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<td>Dance 180A-180B. Introduction to Dance Ethnography</td>
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<td>181A. Dance Cultures of Asia</td>
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<td>181B. Dance in Southeast Asia</td>
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<td>181C. Dance in East Asia</td>
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181D. Dance in South Asia
182A. Dance Cultures of Africa
183A. Dance in Latin America
184B. Dance in the Balkans
167A. Dance Cultures of Native American Indians
280A-280E. Advanced Studies in Dance Ethnology

### Related Courses in Other Departments

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<td>220. Readings in Medieval Literature</td>
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<td>French 115A-115D. Medieval French Literature</td>
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<tr>
<td>215A-215F. The Medieval Language and Literature German (Germanic Languages) 134. German Folklore</td>
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<td>240A. Theories, Methods, and History of Germanic Folklore</td>
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<td>240B. Folk Song and Ballad</td>
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<td>240C. Oral Prose Genres</td>
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<td>245B. Germanic Antiquities</td>
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262. Seminar in Germanic Folklore

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<th>History 193A. History of Religions: Myth</th>
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<td>Italian 214E. The Decameron</td>
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<td>217B. Commedia dell'arte and the Theater</td>
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<td>218C. The Theater, Especially Metastasio, Galvani, C. Gozzi</td>
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<td>Music 132A-132B. Development of Jazz</td>
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<td>140A-140B-140C. Musical Cultures of the World</td>
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<td>141. Survey of Music in Japan</td>
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<td>142A-142B. Folk Music of Eastern Europe and the Mediterranean</td>
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<td>143A-143B. Music of Africa</td>
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<td>147A-147B. Music of China</td>
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<td>148. Folk Music of South Asia</td>
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<td>149. The Anthropology of Music</td>
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<td>152. Survey of Music in India</td>
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<td>153A-153B-153C. Music of the American Indians</td>
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<td>158. New Orleans Jazz</td>
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<td>C190A-C190B. Proseminar in Ethnomusicology</td>
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<td>253. Seminar in Notation and Transcription in Ethnomusicology</td>
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<tr>
<td>254A-254B. Seminar in Field and Laboratory Methods in Ethnomusicology</td>
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<tr>
<td>255. Seminar in Musical Instruments of the Non-Western World</td>
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<td>280. Seminar in Ethnomusicology</td>
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<td>281A-281B. Music of Indonesia</td>
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<td>282. Music of Iran and Other Non-Arabic-Speaking Communities</td>
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<td>285. Music of Tibet</td>
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<td>287. Seminar in African Music</td>
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<td>288. Seminar in North American Indian Music</td>
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<th>Old Norse Studies (Germanic Languages) 139. The Saga</th>
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<td>140. Viking Civilization and Literature</td>
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<td>151. Elementary Old Norse</td>
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<td>152. Intermediate Old Norse</td>
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<td>221. Advanced Old Norse Prose</td>
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<td>222. Advanced Old Norse Poetry</td>
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<td>Russian (Slavic Languages) 251A-251B. Old Russian Literature</td>
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<td>291A. Seminar in Old Russian Literature</td>
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<td>Sociology 124. Ethnic and Status Groups</td>
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<td>130. Social Processes in Africa</td>
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<td>131. Latin American Societies</td>
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<td>132. Population and Society in the Middle East</td>
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<td>133. Comparative Sociology of the Middle East</td>
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<tr>
<td>Spanish (Spanish and Portuguese) 262B. Studies in Medieval Spanish Literature</td>
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<tr>
<td>Theater (Theater, Film, and Television) C117. The Puppet Theater</td>
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</table>
Foreign Literature in Translation

The following courses offered in the departments of language and literature do not require a reading knowledge of any foreign language.

African Languages (Linguistics) 150A-150B. African Literature in English 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
Classics 141. A Survey of Greek Literature in English
142. Ancient Drama
143. A Survey of Latin Literature in English
144. A Survey of Greek and Roman Epic in Translation
145. Ancient Greek and Roman Philosophy
Czech (Slavic Languages) 155A-155B. Czech Literature
Dutch and Afrikaans (Germanic Languages) 112. Dutch, Flemish, Afrikaans Literature in Translation
East Asian Languages and Cultures 140A-140B-140C. Chinese Literature in Translation
141A-141B. Japanese Literature in Translation
141C-141D. Korean Literature in Translation
English 108A-108B. The English Bible as Literature
French 142. Contemporary French Theater in Translation
143. Modern French Thought
144A-144B-144C. The French Novel in Translation
145. Topics in French Literature
German (Germanic Languages) 119A. German Literature in the Age of Chivalry, in English Translation
119B. Weimar Classicism and Its Influence, in English Translation
119C. The Faust Tradition from the Renaissance to the Modern Age, in English Translation
119D. The Romantic Heritage in German Literature, in English Translation
119E. Pattern and Chaos: Modern German Literature and Thought, in English Translation
119F. From Dream to Nightmare: The German-Jewish Experience, in English Translation
Humanities All courses
Hungarian (Germanic Languages) 121A-121B. Survey of Hungarian Literature in Translation
121C. Hungarian Literature
Iranian (Near Eastern Languages) 150A-150B. Survey of Persian Literature in English
Italian 42A-42B. Italian Civilization or Italy through the Ages
46. Italian Cinema and Culture
50A-50B. Main Trends in Italian Literature
110A-110B. The Divine Comedy in English
Mi40. From Boccaccio to Baudelaire (in English)
150. Modern Italian Fiction in Translation
Jewish Studies (Near Eastern Languages) M150A-150B. Hebrew Literature in English
151A-151B. Modern Jewish Literature in English
Old Norse Studies (Germanic Languages) 40. The Heroic Journey in Northern Myth, Legend, and Epic
139. The Saga
140. Viking Civilization and Literature
Polish (Slavic Languages) 152A-152B. Survey of Polish Literature
160. Polish Romanticism
Romanian (Slavic Languages) 152. Survey of Romanian Literature
Portuguese (Spanish and Portuguese) 140. Portuguese, Brazilian, and African Literature in Translation
Russian (Slavic Languages) 100. The Russian Novel in Translation
118. Survey of Russian Literature to Pushkin
119. Survey of 19th-Century Russian Literature
120. Survey of 20th-Century Russian Literature
124A-124F. Studies in Russian Literature
125. The Russian Novel in its European Setting
126. Survey of Russian Drama
Scandinavian 138. Survey of Finnish Literature
141. Backgrounds of Scandinavian Literature
142. Scandinavian Literature of the 19th Century
143. Modern Scandinavian Literature
C144. Henrik Ibsen
C145. August Strindberg
C146. Soren Kierkegaard
C147. Knut Hamsun
C180. Literature and Scandinavian Society
C182. The Theory of the Scandinavian Novel
184. Hans Christian Andersen
Serbo-Croatian (Slavic Languages) 154A-154B. Yugoslavian Literature
Spanish (Spanish and Portuguese) 160A-160B-160C. Hispanic Literatures in Translation
Ukrainian (Slavic Languages) 152. Ukrainian Literature
Yiddish (Germanic Languages) 121A. 20th-Century Yiddish Poetry in English Translation
121B. 20th-Century Yiddish Prose and Drama in English Translation
121C. Special Topics in Yiddish Literature in English Translation

French

160 Haines Hall, (213) 825-1145

Professors
Marc Bensimon, Ph.D.
Hassan el Nouty, Docteur ès Lettres
Eric Gans, Ph.D., Chair
Peter Haidu, Ph.D.
Stephen D. Werner, Ph.D.
Francis J. Crowley, Ph.D., Emeritus
Milan S. La Du, Ph.D., Emeritus
L. Gardner Miller, Docteur de l’Université de Strasbourg, Emeritus
Oreste F. Pucciani, Ph.D., Emeritus

Associate Professors
Patrick Coleman, Ph.D., Graduate Adviser
Shuhsi Kao, Ph.D.
Sara Melzer, Ph.D.

Assistant Professors
Jean-Claude Carron, Ph.D.
James Reid, Ph.D.

Lecturers
Colette Brichant, Docteur d’Université
Jacqueline Hamel-Baccash, Licenciée-ès-Lettres
Lower Division Head
Madeleine Korol-Ward, Ph.D., Undergraduate Adviser
Padoue de Martini, B.A.

Scope and Objectives

French is second only to English as a language of international culture, and French literature is perhaps the richest and most consistently significant of all world literatures. In recent decades French critical thought has maintained a dominant position in the Western world. The French Department seeks to give its students not merely a background in French language and literature, but an opportunity to synthesize literary and linguistic study with examination of the critical intellectual questions of our time.

The lower division program is designed to provide a minimal competence in French after one year and a thorough basic knowledge of the language after two years. From the first day of French 1 all instruction is conducted in French.

The upper division program is chiefly devoted to perfecting linguistic skills and to the study of French literature. Courses in civilization and linguistics 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 civilization.

The graduate program comprises training in the various fields of French literature and thought, as well as in literary criticism and analysis. A number of courses in linguistics and stylistics are also offered. The department offers both the M.A. and Ph.D. degrees and admits several new graduate students each year, including many from France and a wide variety of other countries.

Bachelor of Arts Degrees

Preparation for the Majors

Required: French 1, 2, 3, 4, 5, 6, 12, and 15, or equivalent. You will normally take course 6 before undertaking course 12 or 15. If you received a grade of A in course 5, you may enroll in course 12 concurrently with course 6, with consent of instructor.

The Majors

Four majors are offered by the department:

Plan A leads to the Bachelor of Arts in French and subsequently to the standard elementary or secondary credential. Required: Fifteen full courses of upper division work, including French 100A, 100B, 100C, 101A, 114A-114B-114C; two quarters from courses 130A and 132; three courses in French literature from 115A through 120D; three elective courses normally selected from upper division courses in the Department of French in language, civilization, or literature. A maximum of one upper division course outside the department may be included in the major program with consent of the undergraduate adviser.

* A course in French history may be substituted for one of these with consent of the major adviser.

** In all major plans one course from the 121 series and or one undergraduate seminar (French 150 through 160, not including 152) may be substituted for courses in the 115A through 120D offerings.
Plan A: credential candidates must take 15 upper division French Department courses, including French 105, in order to qualify for a waiver of the national teacher examination for the single subject credential in French.

Plan B, with emphasis on literature, leads to the Bachelor of Arts in French and subsequently to the master's degree. Required: Fifteen full courses of upper division work, including French 100A, 100B, 100C, 103, 114A-114B-114C; six courses in French literature from 115A through 120D**; two elective upper division courses to be selected in consultation with a major adviser, either from the Department of French, from the humanities or social sciences division of the College of Letters and Science, or from the College of Fine Arts.

Plan C (French Studies) is a core program in French allowing for individual selection of relevant courses in related fields in the humanities, social sciences, linguistics, etc. Required: Fifteen full courses of upper division work, including French 100A, 100B, 100C, 103, 114A-114B-114C; three courses in French literature from 115A through 120D**; five upper division elective courses in the fields relevant to French studies to be selected in or out of the Department of French in consultation with the undergraduate adviser. This program does not normally prepare you for admission to the master's program in French at UCLA.

Plan D (French and Linguistics) leads to a Bachelor of Arts degree in French and Linguistics. In addition to the normal preparation for the major, you are required to complete the sixth quarter of work in one other foreign language or the third quarter in each of two other foreign languages. Required: French 100A, 100B, 100C, 103, 114A-114B-114C; two courses from French 105, 106, 107, 108A; Linguistics 100, 103, 110, 120A, 120B, and 164 or C165A or C165B.

It is strongly advised that students who intend to pursue advanced degrees begin preparation for the language requirements at the undergraduate level.

If your knowledge of French exceeds the preparation usually received in courses preparing for the major and if you demonstrate the requisite attainment in French 100A, 100B, or 100C, you may substitute for those courses in grammar and composition an equivalent number of upper division courses in the Department of French in consultation with an adviser. All prospective French majors who are native or quasi-native speakers of French must see the undergraduate adviser before beginning upper division work in the major.

All majors must complete a minimum of nine courses of appropriate upper division work in the UCLA Department of French. A maximum of eight units of course 199 may be applied toward the elective requirements for the major if approved in advance by the undergraduate adviser. 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 a major adviser before registering for upper division courses.

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 with a lower GPA may also apply for admission to the program). If you are interested, contact the department during your junior year.

To graduate with departmental honors, you must take French 140A and 140B and/or two upper division literature courses for honors credit. In order to receive honors credit for a nonhonors upper division literature course, you must arrange with the professor to do an extra honors project. On the basis of your coursework, you are expected to choose a research topic you wish to pursue in greater depth. You must then take course 140C where you will receive personal supervision from a faculty member in researching and writing the topic. The three courses count as literature courses for the purpose of satisfying major requirements.

Teaching Credential in French

If you wish to apply to the Department of Education to teach in French, you must satisfy the requirements of the Department of French and the Department of Education. To do this, you must complete the following two courses (200 series), four of which must be literature courses in the French Department.

**In all major plans one course from the 121 series and/or one undergraduate seminar (French 150 through 160, not including 157) may be substituted for courses in the 115A through 120D offerings.

Major Fields or Subdisciplines

The corpus of French literature is divided into three chronological periods: (1) medieval/Renaissance; (2) classical (roughly the 17th and 18th centuries); and (3) modern (since 1800), with Franco-African literature as an option.

Foreign Language Requirement

The foreign language requirement will be fulfilled by passing a course of at least level three in either German, Latin, Spanish, or Italian; by passing the University reading examination in one of these languages; or by passing the Educational Testing Service (ETS) language examination with a score of 500 or better. In special cases, substitution of another foreign language will be accepted if approved by the graduate adviser. You must complete the foreign language requirement before you submit 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: French 201, 202, and 203A or 203B are required and should be taken as early as possible. A total of 12 courses in French are required, including at least three courses in each of two periods. At least eight of the courses must be at the graduate level. Students in Plan I may include four units of credit for course 598.

Plan I Admission Requirements and Oral Qualifying Examination: 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 minimum admission requirements are a 3.5 graduate GPA in French and letters from two graduate professors in the department specifically recommending admission into this plan.

Final admission into Plan I (i.e., permission to write the thesis) is contingent on passing a one-hour oral examination in the two periods prepared. If you fail this examination, the examining committee will determine whether you may be permitted another attempt or be advised to take the comprehensive examination (Plan II).

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 by the thesis committee in writing before work on the thesis is begun. Final approval of the thesis by the committee is also required.

Master of Arts Degree

Admission

The Graduate Record Examination (GRE) Aptitude Test, a sample of written work in French, and three letters of recommendation are required and should be sent to the Department of French, 160 Haines Hall, UCLA, Los Angeles, CA 90024. A Bachelor of Arts in French is desirable but not mandatory.
Plan II Comprehensive Examination: You must pass written examinations of four hours in length in each of the two periods prepared, a two-hour explication de texte, and an oral examination in French. The examinations are given in the Fall and Spring Quarters and may be repeated once.

Terminal M.A. Degree

Decision to award a terminal M.A. degree is made by the department on the basis of (1) M.A. examination papers, (2) oral examination, and (3) overall appraisal of record.

Ph.D. Degree

Admission

Completion of a master's degree with recommendation for continuance by the M.A. committee is required; outside applicants need an M.A. degree or equivalent and three letters of recommendation, as well as the Graduate Record Examination (GRE) Aptitude Test and a sample of written work in French. Admitted students holding the M.A. or Maîtrise from another institution must take an oral examen de passage in two periods of literary history 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

The corpus of French literature is divided into three chronological periods: (1) medieval/Renaissance; (2) classical (roughly the 17th and 18th centuries); and (3) modern (since 1800), with Franco-African literature as an option.

Foreign Language Requirement

(1) Languages are divided into three groups: Latin; German and Russian; and other Romance languages. You must study two languages up to levels five and six respectively, 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 taking the Educational Testing Service (ETS) examination with level five corresponding to a score of 550 and level six, 600. 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.

(2) When the nature of your specialization requires the knowledge of a third language (in addition to the two normally required), the guidance committee is expected to take into account the extra work implied in making its other recommendations.

(3) Language requirements are to be completed before taking the doctoral qualifying examination.

Course Requirements

The following courses are required: (1) French 201, 202, and 203A or 203B; (2) at least four seminars, two of which should be in 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 examination.

Qualifying Examinations

Four written examinations of four hours each are required as follows: (1) focused specifically in the area of the prospective dissertation topic; (2) dealing with a more general subject related to the dissertation topic; (3) in a cognitive field related to the methodology or approach you plan to employ in the dissertation; (4) in the period not covered at the M.A. level. The topics to be dealt with in parts 1, 2, and 3 are determined by prior consultation with the doctoral guidance committee. At the discretion of the department, you may be permitted to retake a failed examination once.

After passing the written examinations, you are admitted to the University Oral Qualifying Examination. This examination, normally of two hours duration, bears chiefly on parts 1 and 2 of the written examinations and on the proposed dissertation subject. You are expected to submit a written outline of research plans before the 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

This examination is no longer required but may be imposed at the discretion of an individual doctoral committee.

Lower Division Courses

Students who have had special advantages in preparation may, through placement examinations or with recommendation of the instructor, be permitted a more advanced program. 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. Not open for credit to students who have completed two years of high school French or equivalent with grades of C or better. Ms. Hamei-Baccash in charge
2. Elementary French. Lecture, five hours. Prerequisite: course 1 with a grade of C or better or one year of high school French. Not normally open for credit to students who have completed two years of high school French or equivalent. Ms. Hamei-Baccash in charge
3. Elementary French. Lecture, five hours. Prerequisite: course 2 with a grade of C or better or two years of high school French or advanced placement standing. Ms. Hamei-Baccash in charge
4. Intermediate French. Lecture, five hours. Prerequisite: course 3 with a grade of C or better or three years of high school French or advanced placement standing. Ms. Hamei-Baccash in charge
5. Intermediate French. Lecture, five hours. Prerequisite: course 4 with a grade of C or better or four years of high school French or advanced placement standing. Ms. Hamei-Baccash in charge
6. Intermediate French. Lecture, five hours. Prerequisite: course 5 with a grade of C or better or advanced placement standing. Ms. Hamei-Baccash in charge

Upper Division Courses

Prerequisites to all upper division courses taken in partial fulfillment of the French major are French 6, 12, 15, 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 104, 105, 106, 107, and 106A are not sequential and may be taken in any order, provided the prerequisites for each course are fulfilled.

100A. Advanced Grammar I. Prerequisites: courses 6 and (normally) 15, or equivalent. A placement examination is administered, and qualified students are advanced to course 100B or 100C. Ms. Brichant
100B. Advanced Grammar II. Prerequisite: course 100A or equivalent. A placement examination is administered, and qualified students are advanced to course 100C or 100D. Ms. Brichant
100C. Advanced Grammar III. Prerequisite: course 100B or equivalent. A placement examination is administered, and qualified students are advanced to course 100D or 100E. Ms. Brichant
102. Advanced Stylistics. Lecture, three hours. Prerequisite: course 100C or equivalent. Required of all majors, as well as of all candidates for the standard credential in elementary or secondary teaching. Ms. Korol-Ward in charge
104. Literary Composition. Lecture, two hours. Prerequisite: course 103 or consent of instructor. Ms. Korol-Ward
105. French Linguistics. Lecture, three hours. Prerequisite: consent of instructor. Ms. Korol-Ward
106. Advanced French Phonetics. Lecture, two hours. Prerequisite: consent of instructor. Ms. Korol-Ward
107. Contemporary Spoken French. Discussion, three hours; laboratory, added as needed. Prerequisite: course 103 or consent of instructor.

108A-108B-108C. Advanced Practical Translation. Lecture, three hours:

108A. Prerequisite: course 103 with a grade of B or consent of instructor. An introduction to the translation of advanced texts of general interest, with work in the theory of translation.

108B. Prerequisite: course 108A or consent of instructor. Practice in the translation of technical documents and texts; comparative stylistics of translation.

108C. Prerequisite: course 108B or consent of instructor. Advanced work in areas of general and specialized interest, with exercises in consecutive and simultaneous translation.

114A-114B-114C. Survey of French Literature I, II, III. Prerequisite: course 12 or equivalent. A survey of French literature from the medieval period through the 20th century:

114A. Medieval and Renaissance Literature.

114B. Literature of the Classical Era (17th and 18th Centuries).

114C. Modern Literature (19th and 20th Centuries).

115A-115D. Medieval French Literature:

115A. The Medieval Epic.

115B. The Medieval Romance.

115C. The Medieval Theater.

115D. Medieval Lyric Poetry.

116A-116D. The Renaissance:

116A. Rabelais and His Time.

116B. Ronsard and His Time.

116C. Montaigne and His Time.

116D. Renaissance Theater.

117A. Corneille and the Baroque.

117B. The Classical Theater: Racine and His Contemporaries.

117C. Moliere and the Comedy of the 17th Century.

117D. Philosophers, Moralists, and Novelists of the 17th Century.

118A-118D. The 18th Century:

118A. Comedy and Drama.

118B. Voltaire and the Encyclopedists.

118C. Diderot and Rousseau.

118D. The Novel.

119A-119D. The 19th Century:

119A. Romanticism.

119B. The Generation of 1848.

119C. Naturalism and Symbolism.

119D. The Turn of the Century.

120A-120D. The 20th Century:

120A. Gide, Proust, and Their Time.

120B. Post-World War I French Writers.

120C. Sartre, Camus, and Their Time.

120D. Contemporary French Writers.

121A-121D. Contemporary Literature of French Expression. Lecture, three hours:

121A. Franco-African Literature.

121B. French-Canadian Literature.

121C. Franco-Helvetian and Franco-Belgian Literature.

121D. Franco-Caribbean Literature.

122. French Folklore and Young People's Literature.


124. Dramatic Interpretation. Study of the techniques of stage direction and interpretation of French drama. A survey of some of the different theories and approaches used on the French stage. Each student acts in or directs a scene from a play to be performed under rehearsal conditions.

130A-130B-130C. History of French Civilization and Institutions. Prerequisites: courses 6, 12, 15:

130A. France from Prehistoric Times to the End of the Middle Ages. (Formerly numbered 135.) Lecture, three hours. A fourth hour may be required for the viewing of films and other laboratory activities.

130B. From the Renaissance to the End of the "Ancien Régime." (Formerly numbered 134.) Lecture, three hours. A fourth hour may be required for the viewing of films and other laboratory activities.

130C. From the End of the "Ancien Régime" to 1918. (Formerly numbered 133.) Lecture, three hours. A fourth hour may be required for the viewing of films and other laboratory activities.

132. Contemporary France and Its Institutions. Lecture, three hours. Social, cultural, political, economic, and technological aspects of the position of France within the Common Market and other international organizations.

133. Cinema and Literature in Contemporary France. Lecture, three hours. Additional hours may be required for the viewing of films and other laboratory activities.

140A-140B-140C. Honors Program in French. Prerequisites: junior or senior standing in French with a 3.5 GPA in the major, a 3.3 overall average, consent of department:

140A. Honors Seminar in French. Seminar on different aspects of a selected literary genre, such as drama, poetry, the novel, etc.

140B. Honors Seminar in French. Seminar on a selected theme or particular problem of French literature, civilization, or ideas.

140C. Honors Tutorial in French. Individual study on a topic related to that of course 140A or 140B leading to an essay to be written under the guidance of a faculty member.

150. Studies in Medieval Literature.


156. Studies in Contemporary Literature of French Expression.


158. Woman in French Literature. Lecture, three hours. Exploration of a selected aspect of the situation of women in French literature as author, character, symbol, etc.

160. Studies in the History of Ideas. Specific themes which address a particular problem of French literature, civilization, or ideas. May be repeated for credit with consent of major adviser.

199. Special Studies in French (2 to 8 units). Prerequisites: junior or senior standing, consent of instructor, consultation with undergraduate adviser. May be repeated once.

Graduate Courses

201. Literary Research and Composition. Formerly numbered 201D.) Lecture, three hours. Practical work of an advanced nature in the expression and presentation of literary research.

202. Techniques of Literary Analysis. Lecture, three hours. Practice in the close analysis of literary texts.

203A-203B. French Literary Criticism. (Formerly numbered 203A-203B-203C.) Lecture, three hours:

203A. History of Literary Theory. The evolution of literary theory from classical times to the 20th century.

203B. Modern Theories of Criticism.


205A-205D. The Intellectual Background of French Literature:

205A. Scholasticism (with Ancient Sources), Humanism.

205B. Rationalism, Empiricism, Positivism.

205C. Criticism, Idealism, Dialectical Materialism.

205D. Phenomenology, Existentialism, Structuralism.

206. French Linguistics. Prerequisite: course 105 or Linguistics 100 or equivalent. Discussion of modern linguistic theory in the area of French grammar, syntax, and semantics.

207. Introduction to Stylistics. Discussion of the basic stylistic devices of the French language.


215A. Old and Middle French. Course 215A is prerequisite to 215B through 215F. Phonology and morphology of the language. Introduction to Old French texts.

215B. The Chanson de geste.

215C. The Romance.

215D. Medieval Theater.

215E. Provencal Poetry.

215F. Medieval French Poetry.

216A-216H. The Renaissance:

216A. Topics in Early 16th-Century French Literature.

216B. Topics in the Pleiade.

216C. Topics in Late 16th-Century French Literature.

216D. Ronsard.

216E. Rabelais and Prose Writers.

216F. Baroque Poetry.

216G. Montaigne.

216H. Theater.

217A-217I. The 17th Century:

217A. Topics in Classical Theater.
COLLEGE OF LETTERS AND SCIENCE / Geography / 175

Geographical knowledge deals with the description and analysis of the spatial distribution of those conditions (either naturally occurring or humanly produced) that form the material basis for the reproduction of social life. It also entails understanding the relationships between such conditions and the qualities of social life achieved under given economic, political, social, and cultural systems.

The research and teaching interests of the faculty, ranked sixth nationally by the Conference Board of Associated Research Councils, cover major areas of geographical knowledge and underlie both the undergraduate and graduate instructional programs. These areas of interest may be broadly grouped into basic environmental studies, applied environmental studies, cultural and historical geography, economic and urban geography, political and social geography, geographical procedures, and regional geography.

The undergraduate program is designed for students who wish to gain a thorough understanding of geographical analysis, with emphasis on ecological, physical, social-spatial, and historical theories and methods of analysis applied to a wide range of biophysical, material, and social questions. The department offers two undergraduate majors that lead to the Bachelor of Arts degree: (1) the major in geography and (2) the major in geography/
ecosystems. The majors prepare students for employment opportunities in both the public and private sectors (in environmental analysis, assessment, and management, map making, and remote sensing, regional analysis, economic and urban spatial analysis, and teaching) and for graduate study in law, management, urban and regional planning, education, other biophysical and social sciences, and applied programs, as well as in geography.

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 program, 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, and Mathematics 50 or equivalent. A mathematics background, such as Mathematics 3A, 3B, and 3C, or 31A, 31B, and 32A, is recommended. All courses must be completed for a letter grade.

**The Major**

**Required:** A minimum of 10 upper division courses in geography taken for a letter grade. In meeting this requirement, you must take three courses from Group I — The Environment; three courses from Group II — Human Geography; one course from Group III — Procedures; two courses from Group IV — Regions; and one elective upper division course in geography. You are encouraged to take more than 10 upper division courses. A C average in the major is required for graduation.

**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. Each year of high school language (but not mathematics) will be accepted as equivalent to one quarter course. A score of 500 on an Educational Testing Service (ETS) language examination will also satisfy this requirement. In mathematics, only Mathematics 2, 3A, 3B, 3C, 5, 31A, 31B, 32A, or equivalent are acceptable. A grade of Passed or C (or better) is required in all courses intended to satisfy this requirement. These courses may be used to meet the general education requirements of the college. (Note: Students should be aware of the college restrictions on duplication of high school foreign language.)

**Allied Fields**

You must develop some competence in one or two allied fields. This requirement consists of at least four upper division courses selected from at least one but not more than two of the following disciplines: anthropology, atmospheric sciences, biology, chemistry, earth and space sciences, economics, folklore, history, management, philosophy, physics, political science, psychology, public health, sociology, architecture and urban planning, 187, 190, and M195 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/Ecosystems**

The major in geography/ecosystems offers a choice of three plans, each of which has its foundations within the Department of Geography but is essentially interdisciplinary in scope.

Plan 1 (Environmental Policy) has a social science orientation and is designed primarily for students whose environmental interests focus on policy issues concerning environmental management and conservation.

Plan 2 (Natural Resources) has a biogeographic orientation and is designed for students whose environmental interests focus on the conservation and management of renewable natural resources.

Plan 3 (Environmental Engineering) has a physical geography/technological orientation and is designed primarily for students interested in the physical and technological aspects of environmental conservation and management.

All three plans have certain features in common: (1) a high degree of emphasis is placed on student input and interaction with the faculty — particularly with respect to seminars; (2) you are encouraged to consult with the undergraduate adviser in planning a program; (3) all courses required for the major, both geography and non-geography, must be taken for a letter grade. A C average in the major is required for graduation.

**Plan 1 (Environmental Policy)**

**Preparation for the Major:** Biology 2, Economics 1, 2, Engineering 11, Geography 1, 2, 5, Mathematics 50, Program in Computing 10A, Geography 3, 4, and 6 are recommended. A mathematics background, such as Mathematics 2, 3A, 3B, and 3C, or 31A, 31B, and 32A, is also recommended.

**The Major:** Geography 129, three courses from Group Ia, two courses from Group Ib, one course from Group III.

**Electives:** Six courses from the following: Anthropology 132, 150, 153A, 153B, 167; Architecture and Urban Planning 190; Communications Studies 120; Economics 110, 111, 170; English 131A through 131H; Geography: no more than three courses from 100 through 199; one course only from History 195A through M195G; Political Science 141, 142, 167, 170, 191; Psychology M138; Public Health 150, 152, 154, 186; Sociology 120, 125.

**Plan 2 (Natural Resources)**

**Preparation for the Major:** Biology 5, 6, Chemistry 11A, Economics 1, Engineering 11, Geography 1, 2, 5, Mathematics 3A, 3B, and 3C, or 31A, 31B, and 32A, 50, Program in Computing 10A. Economics 2, Geography 2, 3, 4, and 6, and Microbiology 6 are recommended.

**The Major:** One course from Biology 103, 111, M116; Earth and Space Sciences 150; Geography 129, three courses from Group Ia, two courses from Group Ib, two courses from Group III.

**Electives:** No more than three courses may be taken in any one department to satisfy the elective requirement. Six courses should be selected from the following: Anthropology 132, 167, Biology 103, 111, M118, 120, 122, 125, 131, 135, 147; Civil Engineering 181A, 184A, 184D; Earth and Space Sciences M139; Economics 111, 170; English 131A through 131H; Geography: no more than three courses from 100 through 199; Materials Science and Engineering M107A; Mechanical, Aerospace, and Nuclear Engineering 180A; Public Health 103, 152, 154. Biology courses taken for elective requirements may not be applied toward the major requirement in biology.

**Plan 3 (Environmental Engineering)**

**Preparation for the Major:** Biology 2, Chemistry 11A, Earth and Space Sciences 1 or 100, Economics 1, Engineering 11, Geography 1, 2, 5, Mathematics 3A, 3B, 32A, 33A, 50, Program in Computing 3 or 10A. Chemistry 11B/11BL, 11C/11CL, Geography 3, 4, 6, Mathematics 33B, Physics 8A, 8B are recommended.

**The Major:** Earth and Space Sciences M139, 150; Geography 129, five courses from Group I (100, 104, 105, 124, and 106 or M127), two courses from Group III, including 160 or 168.

**Electives:** Six courses from the following: Atmospheric Sciences 144; Civil Engineering M134A, 181A, 184A, 184D, 184E; Earth
and Space Sciences 105; Economics 110; Electrical Engineering 103; English 131A through 131H; Geography: no more than three courses from 100 through 199; Mathematics 115A, 141A, 141B; Mechanical, Aerospace, and Nuclear Engineering 103, M105A, M105D, 153A, 180A; Public Health 150.

Honors Program
Honors may be awarded if you attain and maintain at least a 3.4 GPA in the major (including the senior thesis) from the beginning of your senior year to graduation. The thesis (Geography 196) is a substantial though not necessarily lengthy contribution to ecosystem analysis that must be submitted no later than early in your final quarter.

Specialization in Computing
Majors in geography and geography/ecosystem 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), (3) completing at least two courses from Geography 104, 167, 168, 171.

Graduate Study
Admission
Application may be made for admission to any quarter. You must submit an official application, a complete set of transcripts of prior university coursework, the results of the Graduate Record Examination (GRE) Aptitude Test, and three letters of evaluation. You should normally have (1) completed the undergraduate major in geography or its equivalent, (2) received a B.A. 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 and a 3.5 GPA for the Ph.D. (exceptions may be made if your record indicates unusual promise), (4) attained a high GRE score (normally well above 1,100) in the combined verbal and quantitative sections, (5) strong letters evaluating past academic and professional performance and potential for high achievement in the graduate program.

Non-geography majors entering the graduate program are required to make up identified deficiencies. Normally this entails completing from three to six upper division courses during your first year in residence. Under most circumstances these courses are to be distributed evenly between Groups I and II and are in addition to those required for the M.A. or Ph.D. degree.

Admission to the Ph.D. program usually requires an M.A. or M.S. degree. You must provide clear evidence of your ability to conduct substantive research and to articulate your ideas clearly in writing. In addition, a faculty member must be willing to serve as your interim adviser, so it is advisable to establish prior contact with potential advisers before the decision to admit is made. Under rare circumstances, you may proceed directly toward the Ph.D. degree without taking a master's degree.

The Test of English as a Foreign Language (TOEFL) is normally required of all international applicants whose native language is not English.

Information and graduate brochures may be obtained by writing to the Graduate Adviser, Department of Geography, 1255 Bunche Hall, UCLA, Los Angeles, CA 90024.

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, political, cultural, historical, urban, and regional geography. At the M.A. level students emphasize at least one of these specialized areas: the written qualifying examinations for the Ph.D. include three papers in the major fields or subdisciplines. 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.

Master of Arts Degree
Course Requirements
You must complete at least nine courses, seven of which must be at the graduate level, including the required core courses (Geography 298A, 298B, 298C). 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). Your program must have the approval of your committee chair and the graduate adviser each quarter.

Only one 500-series course may be applied toward the minimum course requirement for the Master's degree. You must complete at least nine courses, seven of which must be at the graduate level, including the required core courses (Geography 298A, 298B, 298C). 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). Your program must have the approval of your committee chair and the graduate adviser each quarter.

Research Tool Requirement
At least one research tool (a foreign language, statistics, mathematics) is required. The requirement varies according to each subdisciplinarity area or region and is required in addition to the M.A. tool requirement. Students who receive their M.A.'s elsewhere need to fulfill the UCLA tool requirement for the M.A. (credit may be given for research tools acquired at other institutions). At least a B average must be attained in any series of courses taken, and the requirement must be met prior to approval of the thesis proposal by your guidance committee. If a foreign language is selected, the requirement may be met by (1) taking a series of courses, (2) passing the Educational Testing Service (ETS) examination with a score of 500 or better, or (3) passing a formal departmental written examination.

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 (excluding 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 committee. The allied field requirement must be met before you can take the oral qualifying examination. Your total program must be approved by the graduate adviser each quarter.

Research Tool Requirement
At least one research tool (a foreign language, statistics, mathematics) is required. The requirement varies according to each subdisciplinarity area or region and is required in addition to the M.A. tool requirement. Students who receive their M.A.'s elsewhere need to fulfill the UCLA tool requirement for the M.A. (credit may be given for research tools acquired at other institutions). At least a B average must be attained in any series of courses taken, and the requirement must be met prior to approval of the thesis proposal by your guidance committee. If a foreign language is selected, the requirement may be met by (1) taking a series of courses, (2) passing the Educational Testing Service (ETS) examination with a score of 500 or better, or (3) passing a formal departmental written examination.
Qualifying Examinations
You are expected to take the written qualifying examination, which consists of five written papers and is administered by your guidance committee, no later than the sixth quarter of the Ph.D. program (exceptions may be made in case you are entering from disciplines outside geography). The examination may be taken over a period of 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.

The dissertation is the ultimate focus of your Ph.D. program and demonstrates your ability for independent investigation 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.

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 may be required by the dissertation committee.

Lower Division Courses
Contact the department office to learn of additional offerings, seminar topics, and specific instructors for the quarter you wish to enroll in courses in geography.

1. Physical Environment. Lecture, three hours; laboratory, one hour. A study of the earth’s physical environment, with particular reference to the nature and distribution of landforms and climate.

2. Biogeography. Lecture, three hours; laboratory, one hour. Prerequisite: course 1 or equivalent. A study of the earth’s biosphere, with particular reference to the evolution and distribution of plants, animals, and soils. May not be offered each quarter.

3. Cultural Geography. Lecture, three hours; discussion, one hour. A broad examination of the basic cultural variables in the human occupation of the earth’s surface. Ecological, spatial, and historical approach.

4. Human Location and Behavior. Lecture, three hours; laboratory, one hour. An examination of the historical and contemporary roles of man as a major agent of biological change in the earth’s ecosystems.

5. People and the Earth’s Ecosystems. Lecture, three hours; laboratory, one hour. An examination of the historical and contemporary roles of man as a major agent of biological change in the earth’s ecosystems.

6. Maps and Mapping. Lecture, two hours; laboratory, two hours; independent study, one hour. Introduction to maps and their role in society. Fundamentals of reading and use of both reference and thematic maps. Influence of maps on attitudes toward and image of the geographic environment. Introductory survey of the fields of cartography and remote sensing.

7. 100A. Principles of Geomorphology: Field and Laboratory (2 units). Laboratory/fieldwork, six hours. Prerequisite or corequisite: course 100. Field and laboratory investigations of weathering, mass movement, fluvial erosion, transport, deposition; related geomorphic phenomena.

8. 101. Coastal Geomorphology. Lecture, three hours; discussion, one hour. A study of the origin and development of coastal landforms, emphasizing past and present changes, hydrodynamic processes, sediment transfers, and such features as beaches, estuaries, lagoons, deltas, wetlands, dunes, seafloors, and coral reefs, together with coastal zone management.

9. 101A. Coastal Geomorphology: Field and Laboratory (2 units). Laboratory/fieldwork, six hours. Prerequisite or corequisite: course 101. Field and laboratory investigations of coastal landforms, emphasizing past and present changes, hydrodynamic processes, sediment transfers, and such features as beaches, estuaries, lagoons, deltas, wetlands, dunes, and seafloors, together with coastal zone management.

10. Glacial Geomorphology. Lecture, three hours; reading period, one hour. A study of the origin and development of glacial landforms, emphasizing past and present changes, hydrodynamic processes, sediment transfers, and such features as beaches, estuaries, lagoons, deltas, wetlands, dunes, and seafloors, together with coastal zone management.

11. Plant Migration. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 2, 100, and 105, or equivalent. An examination of the many relations between climate and the world of man. Application of basic energy budget concepts to the microclimates of relevance to the ecosystems of agriculture, animals, man, and urban places.

12. Hydrology. Lecture, three hours; reading period, one hour. Prerequisite: course 1 or equivalent. The 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.

13. Clastic Sedimentation Processes in Geomorphology. Lecture, three hours. Prerequisite: courses 1, 100, and 105, or equivalent, or consent of instructor. Recommended: courses 101, 103, 107, or equivalent. A study of the processes of and the hazards posed by erosion, sedimentation, and pollution and the techniques needed to conserve soil and maintain environmental quality. The scope includes agriculture, forest engineering, mining, and other rural uses of land.

Upper Division Courses

Group I: The Environment

1. Basic Environmental Studies

100. Principles of Geomorphology. Lecture, three hours; discussion, one hour. Prerequisite: course 1 or Earth and Space Sciences 1 or 100 or consent of instructor. Strongly recommended: introductory physics and chemistry. A study of the processes that shape the world’s landforms, with emphasis on weathering, mass movement, and fluvial erosion, transport, deposition; energy and material transfers; space and time considerations.

100A. Principles of Geomorphology: Field and Laboratory (2 units). Laboratory/fieldwork, six hours. Prerequisite or corequisite: course 100. Field and laboratory investigations of weathering, mass movement, fluvial erosion, transport, deposition; related geomorphic phenomena.

101. Coastal Geomorphology. Lecture, three hours; discussion, one hour. Prerequisite: course 100. A study of the origin and development of coastal landforms, emphasizing past and present changes, hydrodynamic processes, sediment transfers, and such features as beaches, estuaries, lagoons, deltas, wetlands, dunes, seafloors, and coral reefs, together with coastal zone management.

101A. Coastal Geomorphology: Field and Laboratory (2 units). Laboratory/fieldwork, six hours. Prerequisite or corequisite: course 101. Field and laboratory investigations of coastal landforms, emphasizing past and present changes, hydrodynamic processes, sediment transfers, and such features as beaches, estuaries, lagoons, deltas, wetlands, dunes, and seafloors, together with coastal zone management.

103. Glacial Geomorphology. Lecture, three hours; reading period, one hour. Prerequisites: course 100, upper division standing. An introduction to both mountain and continental glaciers, glacial processes, and deposits. Topics include the classification of glaciers, glacial stratigraphy, glacial fluvial processes, glaciofluvial and glaciolacustrine deposition.

103A. Glacial Geomorphology: Field and Laboratory (2 units). Laboratory/fieldwork, six hours. Prerequisites or corequisites: courses 100, 103. Field and laboratory investigations of glacial and glaciolacustrine processes of erosion, transport, and deposition.

104. Climatology. Lecture, three hours; reading period, one hour. Examination of the many relations between climate and the world of man. Application of basic energy budget concepts to the microclimates of relevance to the ecosystems of agriculture, animals, man, and urban places.

105. Hydrology. Lecture, three hours; reading period, one hour. Prerequisite: course 1 or equivalent. The 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.

105A. Hydrology: Field and Laboratory (2 units). Laboratory/fieldwork, six hours. Prerequisite or corequisite: course 105. Field and laboratory investigations into the role of water in geographic systems: hydrologic 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.

106. Soils. Lecture, three hours; reading period, one hour. Prerequisites: course 1 or equivalent. Chemistry 11A, or consent of instructor. A study of the origins, evolution, properties, and utilization of soils, with special emphasis on the world’s major soil groups.

106A. Soils: Laboratory (2 units). Prerequisite or corequisite: course 106. A study of the natural development of soils, physical and chemical properties of soil, and uses of soil. Analyses of pH, moisture, texture, nutrients, and organics. Includes a one-day field trip.

107. Soil and Water Conservation. Lecture, three hours; discussion, one hour. Prerequisite: course 105 or Civil Engineering 184A or equivalent. Recommended: courses 105, 106, 160. A systematic study of the processes of and the hazards posed by erosion, sedimentation, and pollution and the techniques needed to conserve soil and maintain environmental quality. The scope includes agriculture, forest engineering, mining, and other rural uses of land.

108. World Vegetation. Lecture, three hours; reading period, one hour. Prerequisites: courses 1 and 2, or equivalent, or consent of instructor. Characteristics of the world’s vegetation and its effects on the distribution of life and cultural relationships of the world’s principal vegetation patterns.

109. Ecology of Vegetation. Lecture, three hours; fieldwork, 12 hours total. Prerequisites: course 2 and Mathematics 104A or equivalent. Study of the processes of and the hazards posed by erosion, sedimentation, and pollution and the techniques needed to conserve soil and maintain environmental quality. Emphasis on structure, dynamics, and measurement of the characteristics of terrestrial vegetation.

109A. Ecology of Vegetation: Laboratory (2 units). Prerequisites: course 2 and Mathematics 50, or consent of instructor. Methods of sampling and a variety of current data analysis techniques involving multivariate statistics and computer use. Workbooks, research papers, and two one-day field trips.

110. Plant Migration. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 2, and Biology 2, or equivalent, or consent of instructor. Mechanisms of geographic patterning of natural and artificially modified vegetation. Emphasis on range changes for which there is direct fossil or documentary evidence.

112. Animal Geography: Biophysical Aspects. Lecture, three hours; laboratory, two hours. Prerequisites: courses 1, 2, Biology 2. A study of the factors and principles of animal distribution and dispersal on continents and islands of the earth in time and space.

113. Ecosystems. Lecture, three hours; laboratory, two hours. Prerequisite: course 1 or equivalent. A study of the factors and principles of animal distribution and dispersal on continents and islands of the earth in time and space.

114. Plant Migration II. Lecture, three hours; laboratory, two hours. Prerequisite: course 1 or equivalent. A study of the factors and principles of animal distribution and dispersal on continents and islands of the earth in time and space.

115. Animal Geography: Biogeographic Aspects. Lecture, three hours; laboratory, two hours. Prerequisites: courses 1, 2, Biology 2. A study of the factors and principles of animal distribution and dispersal on continents and islands of the earth in time and space.

116. Plant Migration II. Lecture, three hours; laboratory, two hours. Prerequisite: course 1 or equivalent. A study of the factors and principles of animal distribution and dispersal on continents and islands of the earth in time and space.

117. Animal Geography: Biophysical Aspects. Lecture, three hours; laboratory, two hours. Prerequisite: course 1 or equivalent. A study of the factors and principles of animal distribution and dispersal on continents and islands of the earth in time and space.
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. Geographical patterns of domestication and diffusion of useful plants from antiquity to the present, based on detailed case histories of selected species. Mr. Sauer

117. Animal Geography: Cultural Aspects. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 2, 5, Biology 2, or equivalent. A study of human cultural factors influencing animal distributions; the roles of animals in human societies; origins and diffusion of domesticated animals. Mr. Bennett, Mr. Walter

118. Medical Geography. Lecture, three hours; reading period, one hour. Prerequisite: course 5 or consent of instructor. An examination of patterns of population-place-disease interactions and some effects of change and development on disease etiology and problems of health care.

119. Agricultural and Pastoral Ecosystems. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 2, 5, 116, and 112 or 117, or equivalent. Recommended: courses 120, 121. Students who do not meet the prerequisites should not attempt this course. A geographical, ecological, and historical analysis of the world's agricultural and pastoral systems. Emphasis on energy flows, nutrient cycles, and ecological and social problems associated with the various systems. Mr. Bennett

120. Conservation of Resources: North America. Prerequisites: courses 1 and 2, or equivalent, or upper division standing. An analysis of the basic principles and problems associated with the conservation of natural resources in the United States and Canada. Mr. Bennett, Mr. McKnight, Mr. Trumble

121. Conservation of Resources: Underdeveloped World. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 2, 120, or equivalent, upper division standing. An analysis of the principles and problems of the conservation of natural resources of the underdeveloped world. Mr. Bennett

122. Man and Environment in Africa. Lecture, three hours; discussion, one hour. Prerequisites: courses 1, 2, 5. An analysis of the unique ecosystems of tropical and subtropical, with special emphasis on the role of human and modern human impacts on vegetation, wildlife, and other natural resources. A discussion of development goals in relation to socioeconomic policies and Africa's environmental heritage. Mr. Walter

123. Bioresource Management. Lecture, three hours; discussion, one hour. Prerequisites: courses 2, 5. Recommended: introductory statistics (i.e., Mathematics 50 or Economics 40). Theory and practice of the management and conservation of bioresources. Introduction to wildlife management, endangered species conservation, and the design and maintenance of National Parks and ecological reserves. Mr. Walter

124. Environmental Impact Analysis. Lecture, three hours; discussion, one hour. Prerequisites: courses 1, 2, 5, Biology 2. Recommended: at least two courses from 100 through M127 and Mathematics 50. Recommended: courses 2, 5, 126. Introduction to the interdisciplinary analysis of local and regional environmental planning. Concepts, models, and techniques. Evaluation of state and federal concepts for the analysis of environmental impact.

125. Marine Ecosystems. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 2, 5, Biology 2. An introduction to the description and analysis of the principal marine ecosystems, with particular emphasis on those which are chiefly affected by human activity. Detailed evaluation of the ecological and conservation problems associated with human use of marine ecosystems.

M127. Soil, Plants, and Society. (Same as Biology M127.) Lecture, three hours; field trip. Prerequisites: Chemistry 11 or equivalent and one of the following: consent of instructor. A general treatment of soil development and morphology and the physical and chemical properties of soils as they relate to plant growth and distribution, soil resources, management, conservation, preservation, and cultural aspects. Use of soil profiles examined on the field trip to explain developmental phenomena. Mr. Lunt

128. The World's Ecosystems: Problems and Issues. Lecture, three hours; discussion, one hour. Prerequisite: course 120 or 121. Identification of past, current, and projected problems associated with man-induced ecological disturbances. Identification and evaluation of the societal and biophysical factors which have contributed to the identified ecological disequilibria.

129. Problems of the Environment: Seminar. Lecture, three hours; reading period, two hours. Prerequisites: senior standing, four courses from Group I Highly recommended: Mathematics 125A. Limited enrollment. Qualitative-quantitative analysis of problems associated with rational protection and use of selected environmental systems (urban, rural, forest, desert, coastal, water, soil, or others).

Group II: Human Geography

130. Geographical Discovery and Exploration. Lecture, three hours; reading period, one hour. Prerequisites: courses 1 and 3, or equivalent, or upper division standing. A survey of the history of exploration, from earliest times to modern, with emphasis on the period from Marco Polo to the present. Mr. Dunbar, Mr. Thrower

133. Cultural Geography of the Modern World. Lecture, three hours; reading period, one hour. Prerequisite: course 3 or equivalent. An evolutionary and structural approach to the sociocultural geography of the modern world system, with particular emphasis on the structure and functioning of its core, periphery, and semiperiphery. Mr. Entrikin, Mr. Hale, Mr. Salter

135. Reading the Cultural Landscape: Perspectives and Processes. Lecture, three hours; discussion, one hour. Prerequisite: upper division standing or consent of instructor. Understanding personal and societal environmental preferences begins with an analysis of the landscape toward the cultural or humanized landscape, methods of landscape analysis, problem landscapes, and environments of the future through lectures, readings, and field study. Mr. Salter

136. Historical Geography of the United States. Lecture, three hours; reading period, one hour. Prerequisites: courses 1 and 3, or equivalent, or upper division standing. A study of the evolution of the cultural landscapes of the area that is now the United States. Examination of past geographies and of geographical change through time. Mr. Dunbar

140. Political Geography. Lecture, three hours; reading period, one hour. Prerequisites: courses 1 and 3, or equivalent, or upper division standing. An analysis of the political relevance and current status of regions as developed through regional studies of political phenomena throughout the world. Current problems in domestic and international affairs. Mr. Hale

142. Population Geography. Lecture, three hours; reading period, one hour. A study of the social and behavioral perspectives influencing people in their patterns of demographic change, migration, and mobility, with special emphasis on spatial relationships and selected case studies. Mr. Clark

M112. Economic and Urban Geography

145. Spatial Organization of Society. Lecture, three hours; reading period, one hour. Prerequisites: course 4 and elementary statistics, or consent of instructor. A study of the spatial structure of society as an expression of human decisions. Emphasis on the processes affecting city size and distribution, the internal structure of cities, rural land use, and industrial location. Mr. Johnson, Mr. Scott

146. Human Spatial Behavior. Lecture, three hours; reading period, one hour. Prerequisites: course 4 and elementary statistics, or consent of instructor. A study of human behavior within the spatial context. Regularities in patterns of trade, consumer behavior, migration, mobility, communication, and diffusion. Mr. Johnson

148. Economic Geography. Lecture, three hours; reading period, one hour. Prerequisite: course 4 or consent of instructor. Geographical aspects of economic production and growth. The general theory of the space-economy. Land-use processes. Location of industry. Regional development. Mr. Scott

149. Transportation Geography. Prerequisite: course 4 or upper division standing. A study of the geographical aspects of transportation, focusing on the characteristics and functions of the various modes and on the complexities of intra-urban transport.

150. Urban Geography. Lecture, three hours; reading period, one hour. Prerequisites: courses 1 and 3, or equivalent, or upper division standing. A survey of the diffusion and growth of cities in Western civilization. The development of city systems and the evolution of urban internal spatial structure.

152. World Cities. Lecture, three hours; reading period, one hour. Prerequisite: upper division standing. A discussion of the growth and structure of selected cities as illustrations of the processes of urbanization in different countries and societies. Topics include rural to urban migration, cities as centers of power, spatial organization, and the tendency to megalopolis. Mr. Clark

156. Metropolitan Los Angeles. Lecture, three hours; reading period, one hour. Prerequisite: upper division standing. A study of the origins, growth processes, internal structure and pattern, interactions, environments, and spatial problems of the Los Angeles metropolitan area.

159. Problems in Human Geography. Staff-student discussion, three hours; reading period, one hour. Prerequisites: two courses from Group II, senior standing. Limited to 15 students. A seminar course in which students carry out intensive research projects. Designed as a "capstone" to courses in this group, the subjects of research grow out of prior work.

Group III: Procedures

160. Field and Laboratory Analysis in Geomor- phology. (Formerly numbered 160, 162.) Laboratory: four hours; fieldwork, eight hours. Prerequisite: courses 100 and 101, or equivalent, and at least one of the following: courses 102, 107, or 128. Limited to two courses from 101, 103, 105, 106, 107. Limited to geography and ecosystems majors, with enrollment priority to seniors, then to juniors. Students must preregister in the department during the prior quarter. Examination of field and laboratory procedures and intellectual concepts used in the observation, measurement, analysis, interpretation of landforms, constituent materials, and relevant processes. Mr. Orme, Mr. Trumble, Mr. Weich
161. Field Analysis: Cultural Geography. Fieldwork, one week from 8 to 5. Prerequisites: courses 1, 3, two upper division courses in geography, consent of instructor. Enrollment priority to geography majors. The observation, analysis, and mapping of landscape phenomena of human origin. Techniques of data collection examined for such topics as settlement and cultural geography of Mexico and the countries of the United States and Canada. Mr. McKnight

162. Historical and Demographic Change and Land Use. Limited to geography and ecosystems majors, with enrollment priority to ecosystems majors. Examination of field and laboratory procedures and intellectual concepts used in the observation, measurement, analysis, and interpretation of phenomena pertinent to biogeography and interrelated human influences. Mr. Walter

167. Cartography (6 units). Lecture, two hours; laboratory, six hours; independent study, three hours. Prerequisites: courses 1 and 3, or equivalent, or consent of instructor. An introduction to the theory and construction of map projections, compilation procedures, principles of generalization, symbolization, terrain representation, lettering, drafting and surveying, and map reproduction methods. Mr. McMaster

168. Computer Cartography. Lecture, two hours; laboratory, two hours; independent study, two hours. Prerequisites: Program in Computing 3 or 10A, consent of instructor. An introduction to the theory and methods of mapping quantitative information with a computer. Problems of acquiring and processing machine-readable map data and representing them as point symbols and surfaces. Mr. McMaster

169. The Earth from Above. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, and 4, or consent of instructor. The interface between cartography and remote sensing. By means of a wide variety of imagery from maps and satellite photos, different landscapes analyzed and explained. Mr. Thrower

171. Quantitative Analysis. Lecture, three hours; laboratory, one hour. Prerequisite: Mathematics 50 or consent of instructor. An introduction to the theory of measurement and interpretation of geographic distributions and associations. Mr. Clark, Mr. McMaster

M178. Dating Techniques in Environmental Sciences and Archaeology (Same as Anthropology M116Q). Lecture, three hours; reading period, one hour. Prerequisite: consent of instructor. Introduction to scientific dating methods such as radiocarbon dating, radiometric dating methods, biological dating techniques, and magnetic dating, and applications in environmental sciences, archaeology, and physical anthropology. Mr. Berger

Group IV: Regions

180. North America. Prerequisites: courses 1 and 3, or equivalent, or upper division standing. Delimitation and analysis of the principal geographic regions of the United States and Canada. Mr. McKnight

181. Middle America. Lecture, three hours; reading period, one hour. Prerequisites: courses 1 and 3, or equivalent, or upper division standing. A study of the economic, social, and political geography of the area including Mediterranean Africa, the Sahara, the Sudan, and the eastern horn. Emphasis on geographical themes and problems during historical and modern times. Mr. Hale

182. Spanish South America. Lecture, three hours; reading period, one hour. Prerequisites: courses 1 and 3, or equivalent, or upper division standing. A study of the geographic factors, physical and cultural, that are basic to an understanding of the historical development of Spanish South America and of the contemporary economic and cultural geography of the individual Spanish-speaking countries. Mr. Bennett

182A. Spanish South America. Lecture, three hours; reading period, one hour. Prerequisites: courses 1 and 3, or equivalent, or upper division standing. A study of the geographic factors, physical and cultural, that are basic to an understanding of the historical development of Spanish South America and of the contemporary economic and cultural geography of the individual Spanish-speaking countries. Mr. Bennett

182B. Brazil. Lecture, three hours; reading period, one hour. Prerequisites: courses 1 and 3, or equivalent, or upper division standing. A study of the geographic factors, physical and cultural, that are basic to an understanding of the historical development of Portuguese South America and of the contemporary economic and cultural geography of Brazil. Mr. Bennett

183. Europe. Lecture, three hours; reading period, one hour. Prerequisite: consent of instructor. A study of geographic conditions and their relation to economic, social, and political problems in Europe. Mr. Thrower

184. Soviet Union. Lecture, three hours; reading period, one hour. Prerequisites: courses 1 and 3, or equivalent, or upper division standing. A study of geographic conditions and their relation to economic, social, and political problems in the Soviet Union. Mr. Thrower

185. South and Southeast Asia. Lecture, three hours; reading period, one hour. Prerequisites: courses 1 and 3, or equivalent, or upper division standing. A regional synthesis with varying emphasis on the people of South or Southeast Asia in their historical, political, and cultural environment and its dynamic transformation. Mr. Bennett

186. Contemporary China. Lecture, three hours; reading period, one hour. Prerequisites: courses 1 and 3, or equivalent, or upper division standing. A systematic geographic analysis of the elements of landscape, resources, population, and socioeconomic characteristics of the People's Republic of China. The dynamics that have led to China's major role in the East Asian and Indo-China scene, with special attention to China-Japan and Sino-American relations and their geographic bases. Mr. Saller

187. Middle East. Lecture, three hours; reading period, one hour. Prerequisites: courses 1 and 3, or equivalent, or upper division standing. An analysis of the economic, social, and political geography of the area including: Mediterranean Africa, the Sahara, the Sudan, and the eastern horn. Emphasis on geographical themes and problems during historical and modern times. Mr. Stiles

188. Northern Africa. Lecture, three hours; reading period, one hour. Prerequisites: courses 1 and 3, or equivalent, or upper division standing. An analysis of the economic, social, and political geography of the area including Mediterranean Africa, the Sahara, the Sudan, and the eastern horn. Emphasis on geographical themes and problems during historical and modern times. Mr. Hale

189. Middle and Southern Africa. Prerequisites: courses 1 and 3, or equivalent, or upper division standing. The regions of Africa south of the Sahara (middle and southern Africa) in terms of physical features, human settlement, economic production, and political patterns. Mr. McKnight

190. Australasia. Prerequisites: courses 1 and 3, or equivalent, or upper division standing. A regional synthesis of the physical and cultural features which characterize Australia, New Zealand, and the islands of the South Pacific. Mr. McKnight

191. California. Prerequisites: courses 1 and 3, or equivalent, or upper division standing. A systematic and regional treatment of the geography of California, including the physical, cultural, and economic aspects and detailed studies of the various regions. Mr. McKnight

Special Studies

196. Senior Thesis in Ecosystems Analysis. Hours to be arranged. Prerequisites: junior standing with a B average in the major or senior standing, consent of instructor. Mr. Bennett

196B. Senior Thesis in Ecosystems Analysis. Hours to be arranged. Prerequisites: junior standing with a B average in the major or senior standing, consent of instructor. Mr. Bennett

199A-H199B. Honors in Geography II, I. Hours to be arranged. Prerequisites: a 2.5 overall GPA, at least five upper division geography courses with a 3.5 GPA. Honors in Geography II, I. An independent study course taught by a team of two faculty members who assist the student with bibliographic research and/or field research on a topic of mutual interest to the student and the faculty members. Successful completion of course 199A entails the preparation of a detailed bibliography and outline (to be evaluated by the two faculty members) for the writing of a substantial paper during course 199B. If that work is determined to be of A quality, the student is allowed to continue in the honors program. If that work is graded B or below, credit is awarded, but the student is not permitted to continue in the honors program 199B. Devoted to the writing of the substantial paper researched and outlined in course 199A. It is also evaluated by the two faculty members. If the paper is determined to be of A quality, the student graduates with honors in geography. If the paper is graded B or below, credit is awarded, but the student does not receive honors.

Graduate Courses

Group I: The Environment

200. History and Paradigms of Geomorphology. Lecture, two hours; discussion, one hour; reading period, eight hours. Prerequisites: course 100 and 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 cyclicality, thermodynamics and mechanics, quantification, and current paradigms. View of each theme in its contemporary milieu. Mr. Orme

201. Coastal Geomorphology Seminar. Discussion, three hours; reading period, five hours; fieldwork. Prerequisites: courses 100, 101. Discussion of selected topics pertaining to geomorphic processes and responses observable in the coastal zone. May be repeated for credit. Mr. Orme

202. Fluvial Geomorphology Seminar. Discussion, three hours; reading period, five hours; fieldwork. Prerequisites: courses 100 and 105, or Civil Engineering 184A. Discussion of selected topics pertaining to the action of running water in shaping the physical landscape. May be repeated for credit. Mr. Trimble

203. Glacial Geomorphology Seminar. Discussion, three hours; reading period, five hours; fieldwork. Prerequisites: courses 100, 103. Discussion of selected topics pertaining to the action of snow and ice in shaping the earth and alpine environments. May be repeated for credit. Mr. Wambs

204A-204B-204C. Advanced Climatology. Lecture, three hours; laboratory, one hour. Prerequisites: course 104, first year of calculus, and acquaintance with FORTRAN IV; consent of instructor. Courses must be taken in sequence. An introduction to the tools and concepts of environmental physics of relevance to natural and man-made landscapes. Such basic intellectual, mathematical, and computer programming tools are of special concern to physical geographers, ecologists, and architects. Mr. Terjung
205. Seminar: Climatology. Discussion, three hours; reading period, one hour. Prerequisites: courses 204A-204B-204C or equivalent, consent of instructor. Selected topics. May be repeated for credit.

Mr. Terjung

208. Advanced Biogeography: Plants. Lecture, two hours; discussion, one hour; reading period, two hours. Prerequisites: courses 108 and 110 or 116, or equivalent, or consent of instructor. An intensive review and analysis of physical and cultural factors influencing plant distributions. Mr. Sauer

212. Advanced Biogeography: Animals. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisite: course 112 or 117 or equivalent or consent of instructor. An intensive review and analysis of biophysical and cultural factors influencing animal distributions. Mr. Bennett, Mr. Walter

213. Seminar: Biogeography. Discussion, three hours; reading period, two hours. Prerequisites: course 208 or 212 or equivalent, consent of instructor. Related research projects growing out of course 208 or 212. May be repeated for credit.

215. Seminar: Quaternary Studies. Discussion, three hours; reading period, two hours. Prerequisites: courses 202 or 204A-204B-204C or 208 or 212 or an appropriate graduate course in anthropoloby, botany, earth and space, or zoology. An introduction to the Quaternary period. An analysis of the changing environment of 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 118 or consent of instructor. An in-depth study of selected topics in medical geography and an intense review of recent research.

223. Seminar: Humid Tropics. Discussion, three hours; reading period, two hours. Prerequisite: consent of instructor. Selected topics in geographical and cultural complexes of the humid tropics, with emphasis on problems related to human settlement and livelihood. May be repeated for credit. Mr. Bennett

227. Water Quality Management. Discussion, three hours; reading period, two hours. Prerequisites: courses 145 and 146, or consent of instructor. An analysis of the changing environment of the Quaternary period. May be repeated for credit.

Mr. Scott

228. Seminar: Advanced Biogeography. Seminar, three hours; reading period, one hour. Prerequisite: course 242 or equivalent, consent of instructor. A study of population dynamics and migration, spatial variation in population composition, and population resource problems, diffusion, and epidemiology.

248. Location and Space Economy. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisite: course 140 or equivalent or consent of instructor. An analysis of problems related to the location and size distribution of cities. Mr. Clark

250. Urban Systems. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisites: courses 145 and 146, or consent of instructor. A general study of the hierarchy of urban places, including diffusion within the urban hierarchy and theories to account for the location and size distribution of cities. Mr. Clark

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.

252. Location and Social Structure within the City. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisites: courses 145 and 146, or consent of instructor. A study of the links between urban social and urban spatial structure, emphasizing urban residential land use, social areas of the city, and accessibility and urban form. Mr. Scott

254. Migration and Residential Mobility. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisite: consent of instructor. The description and modeling of national, regional, and intraurban migration. Mr. Clark

Group III: Procedures

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. Truscott, Mr. Timble, Mr. Wach

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 geography of the United States, especially in Southern California, with particular reference to settlement, agriculture, and environmental modification. Mr. Salter

262. Advanced Field Analysis: Biogeography (8 units). Fieldwork, 10 hours. Prerequisite: consent of instructor. Observation, measurement, and analysis of biogeographic phenomena, including identification and evaluation of biotic populations and communities and their modifications resulting from the impact of human activity.

Mr. Clark

265. Geographical Bibliography. Lecture, one hour; discussion, one hour; reading period, two hours. Prerequisite: consent of instructor. A survey of the literature of geography, with special reference to periodicals. Intended for beginning graduate students.

Mr. Dunbar

267. Advanced Cartography. Laboratory, three hours; independent study, two hours. Prerequisite: course 167 or equivalent or consent of instructor. An advanced work in the theory and practical application of modern cartographic principles. Special emphasis on terrain representation, quantitative and computer mapping, scribing, color separation, and reproduction of maps.

Mr. Mcmaster, Mr. Thrower

269. Remote Sensing of Environment. Laboratory, three hours; independent study, two hours. Prerequisite: course 167 or equivalent or consent of instructor. The study of aerial photographs and other remote sensing images as tools for geographical research. Particular attention to the analysis of landscapes and the formulation of interrelationships of individual features in their physical and cultural complex.

Mr. Thrower

M270A-M270B-M270C. Seminar in Climate Dynamics (2 to 4 units). (Same as Atmospheric Sciences M270A-M270B-M270C.) Lecture, two hours. The archaeological, geochemical, micropaleontological, and stratigraphic evidence for climate change throughout the geological past. Rheology and dynamics of climatic subsystems; atmosphere and oceans, ice sheets and marine ice, lithosphere and mantel. The climate of other planets. The modeling, simulation, and prediction of modern climate on the monthly, seasonal, and interannual time scale. May be repeated for credit. S/U or letter grading.

Mr. Berger, Mr. Ghil, Mr. Schubert

M272. Spatial Statistics. (Same as Architecture and Urban Planning M215B.) Lecture, two hours; discussion, one hour; laboratory, one hour. Prerequisites: course 171 or Mathematics 50, consent of instructor. Specific techniques useful in the analysis of spatial distributions, including both point and areal patterns and emphasizing spatial descriptive statistics, probability models of spatial distributions, and random surfaces. Mr. Clark

273. Seminar: Model Building for Spatial Analysis. Discussion, three hours. Prerequisite: consent of instructor. Discussions of the philosophy and methodology underlying the development and application of spatial models unique to models of spatial structure. Individual research topics. May be repeated for credit.

Mr. Clark

M278. Dating Techniques in Environmental Sciences and Archaeology. (Same as Anthropology M216.) Lecture, three hours. Prerequisite: consent of instructor. A 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

Group IV: Regions

Courses 280 through 291 may be repeated for credit (lecture, two hours; discussion, two hours).

280. North America. Prerequisite: course 180 or consent of instructor.

Mr. McKnight

281. Middle America. Prerequisite: course 181, consent of instructor.

Mr. Bennett

282. South America. Prerequisites: course 182A or 182B, consent of instructor.

Mr. Bennett

283. Europe. Prerequisites: course 183, consent of instructor.

Mr. Thrower

284. Soviet Union. Prerequisites: course 184, consent of instructor.

Mr. Berger

285. South and Southeast Asia. Prerequisites: course 185, consent of instructor.
286. Eastern Asia. Prerequisites: course 186, consent of instructor. Mr. Salter

287. Middle East. Prerequisites: course 187, consent of instructor. Mr. Hale

288. Northern Africa. Prerequisites: course 188, consent of instructor. Mr. Hale

289. Middle and Southern Africa. Prerequisites: course 189, consent of instructor.

290. Australia. Prerequisites: course 190, consent of instructor. Mr. McKnight


292. Advanced Regional Geography: Selected Regions. Lecture, three hours; discussion, one hour. Prerequisite: appropriate upper division regional course. A sequence devoted to a specific region at the discretion of instructor. May be repeated for credit. S/U grading.

Seminar

295. Seminar: Geographic Thought. Discussion, three hours; reading period, two hours. Prerequisites: graduate standing, consent of instructor. Discussion and study of topics significant to the growth of the modern philosophy of geography. Mr. Entrikin

Core Courses

298A. Philosophical Issues in Geographical Inquiry. (Formerly numbered 200A.) Lecture, three hours. Prerequisite: consent of instructor. A discussion of philosophical debates concerning the nature of scientific inquiry.

Mr. Entrikin

298B. History of Modern Geography. (Formerly numbered 200B.) Lecture, three hours; reading period, one hour. Prerequisite: consent of instructor. The evolution of the field of geography in the 19th and 20th centuries, with emphasis on the professionalization of geography and its emergence as a modern academic discipline.

Mr. Dunbar

298C. Statistical Methods for Geographic Research. (Formerly numbered 200C.) Lecture, three hours; laboratory, two hours. Prerequisite: course 171 or equivalent. The use of linear models, discriminant functions, and factor analysis to analyze problems in geography.

Mr. Clark

Special Studies

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the 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 of 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 methods, materials, and evaluation. May be repeated for credit. S/U grading.

596. Directed Individual Study or Research (2 to 8 units). Prerequisite: consent of instructor. May be repeated for credit. S/U grading.

597. Preparation for M.A. Comprehensive Examination or Ph.D. Qualifying Examinations (2 to 8 units). Prerequisite: consent of instructor. Special individual 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.

Geology

See Earth and Space Sciences

Geophysics and Space Physics

See Earth and Space Sciences

Germanic Languages

302 Royce Hall, (213) 825-3955

Professors

Ehrhard Bahr, Ph.D. (German)
Franz H. Bäuml, Ph.D. (German)
Marianna D. Birnbaum, Ph.D., in Residence (Hungarian)
Wolfgang Nehring, Ph.D. (German)
Hans Wiegler, Ph.D. (German), Chair
Terence H. Wilbur, Ph.D. (Germanic Linguistics and Philology)

Emeritus Professors

Gustave Otto Artt, Ph.D., LL.D.
Carls William Hage, Ph.D.
Wayland D. Hand, Ph.D.
William J. Moltto, Ph.D.
Victor A. Oswald, Jr., Ph.D.
Elie Sobel, Ph.D.
Erik Wahlgren, Ph.D.

Associate Professors

Jesse L. Byock, Ph.D. (Old Norse)
Janet R. Hadda, Ph.D. (Yiddish)
Robert S. Kirsner, Ph.D. (Dutch and Afrikaans)
Kathleen L. Komar, Ph.D. (German)
Wern L. Robinson, Ph.D., Emeritus

Assistant Professors

T. Craig Christy, Ph.D. (Germanic Linguistics and Philology)
Steven D. Martinson, Ph.D. (German)

Lecturer

Jutta Landa, Ph.D. (German)

Visiting Lecturer

Barbara Bopp, 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 a 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 German and Scandinavian and a Ph.D. in Germanic Languages, with a variety of specialized fields available. The department also offers courses in Dutch and Afrikaans, Hungarian, Old Norse studies, and Yiddish, and a program in Finno-Ugric languages and literatures, which are open to all students.

Bachelor of Arts in German

The undergraduate program in German 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

Required: German 1, 2, 3, 4, 5, 6, or equivalent. Course 1 is not open for credit to students who have completed two years of high school German or equivalent with grades of C or better. Students who have completed two semesters of college German 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

Required: Fifteen upper division German courses as follows: Group I — German 100A or 100B or 100C, 108A, 108B, 129; Group II — four courses from 100A or 100B or 100C (whichever has not been taken to satisfy the Group I requirement), 101A, 101B, 101C, 121A, 128, 134; Group III — three courses from 103, 105, 106, 107, 137; Group IV — four courses from 121B, 122, 123, 124, 126, 127, 130, 132. Native speakers of German should consult the undergraduate adviser before enrolling in course 108A, 108B, or 128.
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.

Departmental Honors
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 3.9 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.

Teaching Credential in German
Students desiring the general secondary credential in German should consult the Graduate School of Education (201 Moore Hall) 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 United States. The department provides programs of study leading to the M.A. in German, the M.A. in Scandinavian, and the Ph.D. in Germanic Languages, with specialized fields in all areas of German literature, Germanic philology and linguistics, Germanic folklore, Scandinavian literature and philology, Netherlandic languages and literatures, and Yiddish studies. In addition, the department offers a program in Finno-Ugric languages and literatures. This wide range of studies within the Germanic languages and cultures enables the Ph.D. candidate to acquire competence in several specialized fields.

For brochures and other information, contact the Department of Germanic Languages, 302 Royce Hall, UCLA, Los Angeles, CA 90024.

Master of Arts in German

Admission
A bachelor’s degree in German with a minimum grade-point average of 3.0 from an accredited U.S. institution or the equivalent is required. Candidates deficient in their undergraduate preparation may be admitted but will be required to take remedial courses, as recommended by the graduate adviser. A placement examination in German language or literature may be required. Three letters of recommendation are also required.

Major Fields or Subdisciplines
There are two M.A. plans that differ with respect to the course requirements and the comprehensive examinations. Plan A is for students who plan to terminate their studies with the M.A. and a teaching credential. Plan B is for students whose main interests are literary and linguistic rather than pedagogical and for students who plan to proceed toward the Ph.D.

Foreign Language Requirement
Before advancement to candidacy for the M.A., you must pass the Graduate School Foreign Language Test reading examination in French with a score of 500 or better. The test is administered through University Extension at the beginning of each quarter, including the summer.

Course Requirements
Plan A requires a minimum of nine upper division and graduate courses, of which at least five courses must be graduate level (200 or 500 series). German 128, 129 (or equivalent), and 370 are required. Undergraduate credit for these courses (or equivalent) is applicable in satisfaction of these requirements.

Plan B requires a minimum of nine upper division and graduate courses, of which at least six courses must be graduate level (200 or 500 series). One seminar must be included.

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. course requirements.

Thesis Plan
If you choose this plan, a thesis committee will be established no later than the end of your fourth quarter of graduate study to evaluate the proposal for the thesis. After acceptance of the thesis you must pass a two-hour oral 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 quarter, beginning with the written part during the fifth week of each quarter. Under exceptional circumstances the chair of the department will receive petitions for M.A. examinations during the summer recess.

One examination committee is appointed for each quarter. The members of the committee administer the written and oral examinations. The M.A. examination consists of two written examinations of three hours each, followed by a one-hour oral examination.

Part 1 of the written examinations covers various fields. In the case of Plan A, the origin and development of the standard German language and contemporary standards of the German language are included. In the case of Plan B, bibliography, Middle High German, and the history of the German language are included. Part 2 of the written examinations covers major works and authors of German literature from earliest times to the present and concepts of literary criticism. 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.

If you apply for an M.A. under Plan B (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) will be 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 literature 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 Romanticism 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) Germanic — 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. in Germanic Languages. However, the following rules apply: (1) you must have successfully completed 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 quarter. Written examinations may be repeated in case of failure. A repetition of the major examination is required 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; (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. Not open for credit to students who have completed two years of high school German or equivalent with grades of C or better. Students are, however, credited with four units toward the minor progress requirement. Ms. Bopp

2. Elementary German. Lecture, five hours; laboratory, one hour. Prerequisite: course 1. Not open for credit to students who have completed two years of high school German or equivalent with grades of C or better. Students are, however, credited with four units toward the minor progress requirement. Ms. Bopp

3. Elementary German. Lecture, five hours; laboratory, one hour. Prerequisite: course 2 or two years of high school German. Ms. Bopp

4. Intermediate German. Lecture, five hours; prerequisite: course 3 or three years of high school German. Ms. Bopp

5. Intermediate German. Prerequisite: course 4 or four years of high school German. Ms. Bopp

6. Intermediate German. Prerequisite: course 5 or equivalent. Ms. Bopp

12. German Conversation (2 units). Prerequisite: course 1 or one year of high school German. Use of German language teaching films; students have the opportunity to practice spoken German in small groups. Ms. Bopp

14. Intermediate Conversation (2 units). Prerequisite: course 3 or three years of high school German. Students have the opportunity to practice spoken German in small groups. Ms. Bopp

95. Freshman Seminar. 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 119F, 121A, 121B) is course 6 or equivalent or consent of instructor.

Courses in the German 119 literature series may not be applied toward completion of the major in German.

Courses Open to Majors and Nonmajors;
No Credit to Graduate Students in German

100A. German Civilization and Culture before 1700. Lectures, discussions, and readings in English; knowledge of German is not required. A study of the development of German civilization and institutions from the earliest times to 1700. Study of German culture as represented in its literature, art, music, and architecture. Mr. Bahr, Mr. Wagener, Mr. Ward

100B. Modern German Civilization and Culture from 1700 to 1919. Lectures, discussions, and readings in English; knowledge of German is not required. A study of the development of German civilization and institutions from 1700 to 1919. Study of German culture as represented in its literature, art, music, and architecture. Mr. Bahr, Mr. Wagener

100C. German Civilization and Culture in the 20th Century. Lectures, discussions, and readings in English; knowledge of German is not required. A study of the development of German culture and institutions from 1919 to the present. Emphasis on developments in its literature, art, and architecture. Mr. Bahr, Mr. Wagener

101A. Introduction to German Poetry. Close analysis of representative examples of early German lyric poetry from the 11th to the 19th centuries. Texts selected from modern literary periodicals, including a systematic consideration of poetic forms and diction, verse, imagery, symbolism, and metrics. Course should be taken at the beginning of literary studies. Mr. Bahr, Ms. Komar, Mr. Wagener

101B. Introduction to German Drama. Analysis of selected examples of drama (e.g., tragedy, comedy, one-act play, lyric drama, lyric theater, etc.), including a systematic introduction to dramatic forms, techniques, and theories. Texts from modern literary periodicals as well as from other periods. Course should be taken at the beginning of literary studies. Mr. Bahr, Mr. Martinson, Mr. Nehring

101C. Introduction to German Narrative Prose. Analysis of significant examples of narrative prose (e.g., short story, novel, fairytale, fairy tale), including a systematic introduction to narrative forms, techniques, styles. Texts selected from modern literature as well as from older periods. Course should be taken at the beginning of literary studies. Ms. Komar, Mr. Nehring

102. Business German. Prerequisites: courses 1, 2, 3, 4, 5, 6. German for business studies; exercises in German business correspondence, terminology of export and import, readings and translations in the field of business German. Ms. Landa

103. Introduction to German Enlightenment, Sturm und Drang, and Classicism. Reading and discussion of representative works by Lessing, Goethe, and Schiller; their historical and social background, their relationship to music (Bach, Mozart) and philosophy (Leibniz, Kant), as well as their place in the history of ideas. Mr. Bahr, Mr. Martinson

105. Introduction to 19th-Century German Literature. Reading and analysis of selected works from Romanticism to realism. Ms. Komar, Mr. Nehring

106. Introduction to Modern Literature. Analysis of selected works of the period from 1890 to 1945. Mr. Nehring, Mr. Wagener

107. Introduction to Contemporary Literature. Analysis of selected works of the period from 1945 to the present time.
108A. Composition and Conversation. Mr. Christy, Ms. Landa, Mr. Martinson

108B. Composition and Conversation, Prerequisite: course 108A or consent of instructor. Mr. Christy, Ms. Landa, Mr. Martinson

Courses Not Open for Credit to Majors or Graduate Students in German

119A. German Literature in the Age of Chivalry, in English Translation, Lecture, three hours. Study and analysis of literary monuments in English translation, their social and cultural settings, including courtly love lyrics, Arthurian epics, and heroic epics. May not be applied toward completion of the major in German. Mr. Bahr, Mr. Martinson

119B. Weimar Classicism and Romanticism, in English. Lecture, three hours. Study and analysis of works in English translation from the classic age of German literature and concentrating on the major works of Lessing, Goethe, and Schiller and their reflection in the modern period. May not be applied toward completion of the major in German. Mr. Bahr, Mr. Martinson

119C. The Faust Tradition from the Renaissance to the Modern Age, in English Translation. For prerequisite: course 108A or consent of instructor. Readings and discussions in English of the Faust theme and tradition in European literature and intellectual history, including the chippiebook of Doktor Faustus, Christopher Marlowe's Faustus, and Bulgakov, as well as Thomas Mann's novel, Doktor Faustus: The Life of the German Composer Adrian Leverkühn. May not be applied toward completion of the major in German. Mr. Bahr, Mr. Martinson

119D. The Romantic Heritage in German Literature, in English Translation, (Formerly numbered 119C.) Lecture, three hours. Study and analysis of literary works in English translation that reflect German Romanticism in the 19th century. May not be applied toward completion of the major in German. Ms. Komar, Mr. Nehring

119E. Pattern and Chaos: Modern German Literature and Thought, in English Translation, (Formerly numbered 119D, 119E, 119F.) Lecture, three hours. Selected works in English translation of German authors, poets, and thinkers from the late 19th through the 20th century, such as Nelly Sachs, Goethe's Faust dramas, and Bulgakov, as well as Thomas Mann's novel, Doktor Faustus: The Life of the German Composer Adrian Leverkühn. May not be applied toward completion of the major in German. Mr. Bahr, Mr. Martinson

119F. From Dream to Nightmare: The German-Jewish Experience, in English Translation. (Formerly numbered 119G.) Lecture, three hours. Study and analysis of works in English translation reflecting the process of German-Jewish assimilation and disenfranchisement, including authors such as Menzel, Heine, Schnitzler, Kafka, Feuchtwanger, Anne Frank, Sachs, Celan, and Becker. Ms. Hadda

Courses Open for Credit to Majors, Nonmajors, and Graduate Students in German

121A. Special Problems in Literature, Lecture, three hours. Prerequisite: upper division standing. Varying topics of current importance and immediate relevance to literary study. Designed to introduce students to contemporary trends in literary study and predominantly concerned with topics related to German literature and criticism.

121B. The German Film in Cultural Context. A survey of various aspects of the German film in relation to the historical, artistic, and political directions of the time, with emphasis on the film as a separate mode of artistic expression.

121C. Selected Topics in German Culture and Civilization. Lecture, three hours. Required of all German majors who are candidates for the standard credential in secondary teaching.

122. Studies in German Literature before 1750. Prerequisites: three upper division courses (including course 100A) or consent of instructor. Readings and analysis of major works from the Middle Ages to the baroque. Mr. Bahr, Mr. Bauml, Mr. Wagener, Mr. Ward

123. Goethe, Prerequisites: courses 100A or 100B and 103, or consent of instructor. Reading and analysis of major works from Goethe's early period to his maturity and old age. Mr. Bahr, Mr. Martinson

124. Romanticism, Prerequisites: courses 100A or 100B and 105, or consent of instructor. Reading and analysis of major works of the Romantic period. Authors include Tieck, Novalis, E.T.A. Hoffmann, and Eichendorff. Mr. Komar, Mr. Nehring

126. Advanced Study in Modern Literature. Prerequisites: courses 100A, 100B, or 100C, and 105, or consent of instructor. Reading and analysis of a wide range of the literature from 1890 to 1945. Mr. Nehring, Mr. Wagener

127. Advanced Study in Contemporary Literature. Prerequisites: courses 100A, 100B, or 100C, and 107, or consent of instructor. Analysis of a wide range of German literature from 1945 to the present. Mr. Christy

128. Advanced Composition, Grammar, and Conversation. Prerequisites: courses 108A and 108B, or consent of instructor. Grammar, conversation, and writing of research papers. Mr. Bahr, Mr. Martinson

129. German Phonetics. Study of the articulatory basis of the German language and practice in standard pronunciation. Mr. Bahr

130. Methodology of Literary Criticism. Prerequisite: major standing or consent of instructor. Introduction to the methodology of literary criticism, including a systematic study of the Poetic, the Prose, and the Poetic. Mr. Martinson

132. Goethe's Faust, Prerequisites: courses 100A or 100B, 103, and 123, or consent of instructor. Detailed interpretation of Goethe's Faust, Parts I and II, together with general consideration of other treatments of the Faust theme in European literature. Mr. Bahr, Mr. Martinson

134. German Folklore. A survey of the various genres of German folklore. Mr. Bahr

137. Language and Linguistics. Prerequisites: courses 100A or 100B. Introduction to the historical development of the German language; theories and methods of linguistics. Mr. Christy

195. Senior Thesis Course. Extensive reading, research, and writing of senior thesis. May be used for honors writing honors. Mr. Bahr

199A-199Z. Special Studies (2 to 4 units). Prerequisite: consent of instructor. To be arranged with faculty member who will direct the study (course section to be identified by a two-letter code using initials of sponsoring instructor — see department for code). A course of 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 the current state of advanced research and analysis of literary and philological materials, with emphasis on bibliography and such tools of research as reference works, series publications, study of archives, literary histories, and computer data banks. Practical exercises in the analysis of sources, compilation and presentation of bibliographies, and the writing of research papers. Mr. Bahr, Mr. Ward

201C. Theories of Literary Criticism. Analysis and discussion of the foundations of literary criticism and current theories such as hermeneutics, positivism, psychology, sociology, intellectual history (Gestesgeschichte), New Criticism, Marxist Criticism, Russian and Czech Formalism, structuralism, and semiotics. Mr. Bahr, Mr. Bauml

202A. Middle High German. Introduction to the grammar, syntax, and vocabulary of the Middle High German language. Exercises in reading Middle High German literary works, combined with a study of the sociocultural contexts in which the works of the medieval period were produced and performed. Mr. Bauml

202B. Readings in Middle High German Literature. Extensive reading of the literary monuments of the medieval period in Germany. Introduction to the cultural and literary history of the Middle Ages. Mr. Bahr, Mr. Ward

203A. The Courtly Epic. An analysis of the major epics of the medieval period, including such works as Hartmann's Erec and Iwein, Wolfram's Parzival, and Gottfried's Tristan. A study of courtly society, as well as an introduction to methods of interpretation and analysis. Mr. Bauml

203B. The Courtly Lyric. Analysis of the medieval songs of courtly performers, beginning with Der von Künzingen and ending with Johannes von Haddad. Study of the sociocultural context in which the songs were produced and performed, and an introduction to methods of interpretation and analysis. Mr. Bahr, Mr. Ward

203C. The Heroic Epic. A survey of German heroic literature, beginning with the Hildebrandslied and including such works as the Nibelungenlied, Kudrun, and Dietrich epics. Methods of analysis and interpretation, as well as an analysis of thematic and formal characteristics of the different epics. Mr. Bahr, Mr. Ward

204. Renaissance and Reformation Literature. The literature of the 15th and 16th centuries, including an introduction to and the study of the early New High German language. Selected readings from the works of such authors as Sebastian Brant, Martin Luther, Hans Sachs, Hans Sachs, and Gerhart Hauptmann. Mr. Bahr, Mr. Wagener, Mr. Ward

205. Baroque Literature. Definition of the term baroque; development of modern baroque scholarship; influence of foreign models; analysis of sample theoretical writings (prosodies) and representative poets, dramas, novels, and prose styles of the 17th century. Mr. Bahr

206A. Enlightenment and Sentimentalism. Study of representative authors of the early part of the 18th century from Germany through Lessing, including such authors as Leibniz, Thomasius, Wolff, Homilius, and Breitinger, Johann Elias Schlegel, Haller, Brockes, Anacreontic poets, Gesner, Klopstock, Mendelssohn, and Wieland. Mr. Bahr, Mr. Martinson

206B. Sturm und Drang. Study of representative authors of the Sturm und Drang period, such as Herder, Forster, Gerstenberg, Leisewitz, Klinger, Wagner. R.M. Lenz, Moritz, Heinze, Schubart, and the young Goethe and Schiller. Mr. Martinson

207A. Classicism: Goethe. Selected topics from the works of Goethe in the period from 1766 to 1832, such as Iphigenie auf Tauris, Torquato Tasso, Wilhelm Meisters Lehrjahre, Die natürliche Tochter, Parnpora, and poetry selections. Mr. Bahr

207B. Classicism: Schiller. Selected topics from the critical and dramatic works of Schiller in the period from 1793 to 1805, such as Über Anmut und Würde, Uber das Erhabene, Wallenstein, Maria Stuart, Jungfrau von Orleans, and Wilhelm Tell. Mr. Bahr, Mr. Martinson

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208. Romanticism. Analysis of selected works of the Romantic period by authors such as Wackenroder, Tieck, the brothers Schlegel, Novalis, Hölderlin, Brentano, and Hemptinne. The period from 1540 to 1950 is the Romantic period in symbolism. Discussion of forms, attitudes, tendencies. Analyses may include poetry by Romantic authors, such as Heine, Platen, the political poets of Wilmart, Dorothe-Hülshoff, Keller, Storm, C.F. Meyer, Nietzsche, George, and others. Ms. Komar, Mr. Nehring

209A. 19th-Century Lyrics. The development of German lyric poetry and the classical/Romantic period to symbolism. Discussion of forms, attitudes, tendencies. Analyses may include poetry by Romantic authors, such as Beethoven, Grillparzer, and others. Discussion and analyses may include topics such as Schicksalsttragdie, bourgeois trivial drama, sociopolitical drama, historical drama, Viennese Volkstheater. Ms. Komar, Mr. Nehring

209B. 19th-Century Drama. Reading and analysis of selected dramas by Kleist, Büchner, Hebbel, Grillparzer, and others. Discussion and analyses may include topics such as Schicksalsttragdie, bourgeois trivial drama, sociopolitical drama, historical drama, Viennese Volkstheater. Ms. Komar, Mr. Nehring

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, Dorothe-Hülshoff, Stifter, Goethe, Keller, C.F. Meyer, Fontane, and the early naturalists. Ms. Komar, Mr. Nehring

210A. Naturalism and Symbolism. Sociological background and theoretical writings concerning naturalism and symbolism. Analysis of representative poems, dramas, and shorter narratives by authors such as Holz, G. Hauptmann, George, Hofmannsthal, Rilke. Ms. Nehring, Mr. Wagener

210B. Expressionism and Neorealism. Historical and sociological background in the period from 1910 to 1953. Literary magazines, theoretical writings, poetry of expressionism and Dadaism, early phases of German literature. Drama and short narratives. Definition and representative works of neorealism. Mr. Ward

210C. 20th-Century Novel to 1945. Analysis of selected 20th-century novels written prior to 1945. Authors of different literary and historical eras, such as Broch, Döblin, Hesse, Kafka, Heinrich Mann, Thomas Mann, and Hille. Ms. Komar, Mr. Nehring

211A. Contemporary Novel. Study of selected novels in the period from 1945 to the present. Works by authors from West Germany, Austria, and Switzerland, such as Böll, Grass, Handke, Frisch, and Christa Wolf, analyzed and placed in the context of literary, cultural, and political trends. Ms. Komar, Mr. Nehring

211B. Contemporary Lyrics and Drama. A study of selected poetry and short drama in the period from 1945 to the present. Works by authors from West and East Germany, Austria, and Switzerland, such as Dürenmatt, Frisch, Handke, Celan, and Brecht, analyzed and placed in the context of literary, cultural, and political trends.

217. History of the German Language. A historical survey of the development of the standard literary German language from the time of Indo-European unity through proto-German, West Germanic, the medieval period, the Reformation, the baroque period, and the Enlightenment until its final codification at the end of the 19th century. Mr. Christy, Mr. Wilbur

230. Survey of Germanic Philology. A systematic survey of the major problems in the field of Germanic linguistics: the origin and historical diffusion of the Germanic dialects and their classification; problems in the evolution of the nominal and verbal morphology of the various dialects; problems in the phonological evolution of the various dialects. Mr. Wilbur

231. Gothic. A systematic study of the phonology and grammar of the Gothic language, with readings in Wulfilas's translation of the Bible and an introduction to the history of the Goths and their place in the development of modern European. Mr. Wilbur

232. Old High German. An introduction to the earliest phases of German literature, with extensive readings in the major documents of that period (750-1000). Analysis of the Germanic languages and the evolution of these documents and the identification of the dialects used in their composition. Mr. Christy, Mr. Wilbur

233. Old Saxon. An introduction to the study of the earliest documents in Old Low German. Readings in the Heiland and the study of the Old Saxon Genesis. Mr. Christy, Mr. Wilbur

240A. Theories, Methods, and History of Germanic Folklore. The history of Germanic folklore studied in the context of European cultural history. The evolution of the theories and methods of the discipline as developed by Herder, the Grimms, Bolte, Meier, Naumann, Bausinger, and others. Mr. Ward

240B. Folk Song and Ballad. Analysis of the poetic and musical aspects of German folk songs and ballads. Study of thematic and formal evolution of text and music, combined with an introduction to the theories and methods of analysis of folk music and the function of folk song in its social context. Mr. Ward

245B. Germanic Antiquities. Survey of the prehistoric and early history of Germanic civilization from the Bronze Age to the end of the migrations on the basis of archaeological, historical, and philological evidence. Uses of methods of comparative ethnography, religion, and myth to interpret the evidence. Mr. Ward

251. Seminar in Syntax and Phonology of German. Topics selected from the field of contemporary German syntax and phonology according to the needs and preparation of the students enrolled (e.g., Dialektgeographie, generative phonology, generative syntax, Valenztheorie, Texttheorie). Mr. Wilbur

252. Seminar in Historical and Comparative German Linguistics. Topics selected from the field of historical German phonology and syntax according to the needs and preparation of the students enrolled (e.g., the West Germanic problem and the classification of the Germanic languages). Mr. Wilbur

253. Seminar in Medieval Literature. Selected topics in medieval literature, with emphasis on problems in literary analysis and the accessibility of various types of analysis to medieval texts. Mr. Baurm, Mr. Ward

254. Seminar in Renaissance and Reformation. Seminar on selected literary or philological problems, such as a particular genre, author, or theme. Study on textual analysis or pertinent research to apply the methods of literary history to the literature of the 15th and 16th centuries. Mr. Baurm, Mr. Ward

255. Seminar in Baroque Literature. Seminar on selected problems of German baroque literature, such as a particular genre, author, or theme. Textual analysis supplemented by critical review of research and the application of methods of literary analysis pertinent to the literature of this age. Mr. Wagener

256. Seminar in Enlightenment and Sturm und Drang. Selected topics in 18th-century literature, such as utopian literature, love and money as motifs, family structure and family life, image of women and women's literature, Jacobin literature, seduction and betrayal as motifs, nobility and middle class in 18th-century literature. Textual analysis and review of current research. Mr. Bahr, Mr. Martinson

257. Seminar in the Age of Goethe. Selected topics in German literature between 1775 and 1832, such as Schiller's theatrical writings, Goethe's Faust II, Hegel's Phenomenology of the Spirit, the French Revolution and German classicism. Textual analysis and review of current research. Mr. Bahr

258. Seminar in Romanticism. Discussion of a specific author or topic from the Romantic period, possibly in close connection with course 208. Critical review of secondary works. Ms. Komar, Mr. Nehring


260. Seminar in the Modern Period. Seminar on a selected genre, author, or theme of 20th-century German literature prior to 1945. Mr. Bahr, Mr. Nehring, Mr. Wagener

261. Seminar in Contemporary Literature. Study of selected works, a specific author, genre, period, or topic of 20th-century German literature and placed in the context of literary, cultural, and political trends. Ms. Komar, Mr. Nehring

262. Seminar in Germanic Folklore. Detailed research on individual aspects of Germanic folklore. The topic selected generally is drawn from the course in the German 240 series that preceded the seminar. Emphasis on problems of theory and method. Mr. Ward

263. Seminar in Theories of Literature. Specialization in theoretical approaches, such as Rezeptionsästhetik, Neo-Marxist Criticism, New Criticism, psychology or sociology of literature, structuralism, semiotics, and hermeneutics. Mr. Baur, Mr. Baumi

270. The Teaching of German in Secondary Schools. Lecture, three hours; discussion periods. Prerequisite: graduate standing or consent of instructor. Required of all candidates for the general secondary credential in German.

275. The Teaching of German in Secondary Schools. Lecture, three hours; discussion periods. Prerequisite: graduate personnel; employment as a teaching assistant, assistant, associate, or fellow. A teaching apprenticeship under the 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-495B. Preparation for College Teaching of German (2 units each). Study of problems and methods in teaching German on the college level. Theory and classroom practice, observation, and critical evaluation. May not be applied toward the M.A. course requirements. In Progress and S/U grading.

596. Directed Individual Study or Research. To be arranged with faculty member who will direct the study or research (course section to be identified by a two-letter code using initials of sponsoring instructor — see department for code). May be repeated once; however, only one course in the 500 series may be applied toward the M.A. graduate course requirement. S/U grading.

597. Preparation for M.A. Comprehensive Examination or Ph.D. Qualifying Examinations. To be arranged with faculty member who will direct the study or research (course section to be identified by a two-letter code using initials of sponsoring instructor — see department for code). May be taken only once before and only once after the M.A. degree, except for Ph.D. candidates with a formal minor field of studies who may take the course twice after the M.A., once in the major and once in the minor. Only one course in the 500 series may be applied toward the M.A. graduate course requirement. S/U grading.
Dutch and Afrikaans

Upper Division Courses

103A. Elementary Dutch. (Formerly numbered 101A.) Lecture-language laboratory. Introduction to the standard language of the Netherlands and one of the three standard languages of Belgium. Practice in grammar, listening, speaking, reading, and writing. Mr. Kirsner

103B. Elementary Dutch. (Formerly numbered 101C.) Lecture-language laboratory. Prerequisite: course 103A or equivalent. Mr. Kirsner

103C. Intermediate Dutch. (Formerly numbered 101D.) Lecture-language laboratory. Prerequisite: course 103B or equivalent. Grammatical exercises, conversation, reading and analysis of simple texts. Mr. Kirsner

105A. Elementary Afrikaans. (Formerly numbered 101B.) Lecture-language laboratory. Introduction to a sister language of modern Dutch and a national language of South Africa. Grammar, practice in listening, speaking, reading, and writing. Mr. Kirsner

105B. Intermediate Afrikaans. (Formerly numbered 101E.) Lecture-language laboratory. Prerequisite: course 105A or equivalent. Grammatical exercises; reading and linguistic analysis of texts from both literary and nonliterary sources. Mr. Kirsner

112. Dutch, Flemish, Afrikaans Literature in Translation. Readings and analysis of selected works in translation from Dutch, Flemish, and Afrikaans literature. Mr. Kirsner

120. Introduction to Dutch Studies. Prerequisite: consent of instructor. Brief review of Dutch grammar. Reading and discussion of selections from contemporary Dutch literature, contemporary Dutch literary criticism and modern Dutch poetry by such groups as the symbolist Beweging van Tachtig and the post-War symbolist Beweging van Vijftig. Mr. Kirsner

131. Introduction to Modern Dutch Literature. Discussion, three hours. Prerequisite: course 103B or 120 or equivalent. Selected works of the literature of the Netherlands and northern (Flemish) Belgium from the mid-1850’s to the present, including novels by such writers as Multatuli, Couperus, Hermans, Mol, and Poeke and poetry by such groups as the symbolist Beweging van Tachtig and the post-War Beweging van Vijftig. Mr. Kirsner

135. Introduction to Afrikaans Literature. Discussion, three hours. Prerequisite: course 105B or equivalent. Analysis of selected works from the founding of the Genootskap van Regte Afrikaners in 1875 to the present time, including novels by recent writers such as Lourens and Bink, as well as the work of poets such as Eybers, Opperman, W.G. Louw, Van Wyk, and Breytenbach. Mr. Kirsner

199. Special Studies in Dutch and Afrikaans (2 to 4 units). Mr. Kirsner

Graduate Courses

234. The Structure of Modern Standard Dutch. A detailed examination, from contrasting theoretical viewpoints, of central problems in Dutch phonology, grammar, and semantics, with attention to related phenomena in German, English, and Afrikaans. Equivalent to Linguistics 225. Mr. Kirsner

596. Directed Individual Study or Research in Dutch and Afrikaans. To be arranged with faculty member who will direct the study or research (course section to be identified by a two-letter code using initials of sponsoring instructor — see department for code). 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 code). S/U grading. Mr. Kirsner

Hungarian

Upper Division Courses

101A. Elementary Hungarian. Introduction to grammar and exercises, with emphasis on the spoken language. Ms. Birnbaum

101B. Elementary Hungarian. Prerequisite: course 101A or equivalent. Ms. Birnbaum

101C. Elementary Hungarian. Prerequisite: course 101B or equivalent. Conversation and readings in literary texts. Ms. Birnbaum


101E. Advanced Hungarian. Prerequisites: courses 101A, 101B or equivalent. Conversation, reading, and discussion of literary texts. Ms. Birnbaum

101F. Advanced Hungarian. Prerequisites: courses 101A-101E or equivalent. Conversation and review of Hungarian grammar from a typological point of view. Ms. Birnbaum

120A-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: advanced knowledge of Hungarian, 120A or 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. A study of Hungarian civilization and institutions from the earlies- est times to the present. Study of Hungary and culture as represented in its arts (literature, fine arts, music). Ms. Birnbaum

M135. Hungarian Folklore and Mythology. (Same as Folklore M128.) A general course for students in folklore and mythology, with emphasis on types of folklore and varieties of folklore research. Ms. Birnbaum

M136. Folklore and Mythology of the Ugric Peoples. (Same as Folklore M129.) Survey of the traditions of the smaller Ugric nationalities (Votyks, Tsytaks, etc.). Ms. Birnbaum

199. Special Studies in Hungarian (2 to 4 units). Prerequisite: consent of instructor. A course of 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. Ms. Birnbaum

Old Nurse Studies

Lower Division Course

40. The Heroic Journey in Northern Myth, Legend, and Epic. A comparison of the journeys of heroes. Readings in mythology, legend, folklore, and epic, including the Nibelungenlied, the Volsunga saga, the Eddas, and Beowulf. Cultural and historic back- grounds to the texts. All readings in English. Mr. Byock

Upper Division Courses

139. The Saga. Lecture, three hours. The sagas are the largest extant medieval prose literature. Texts in English, with selections from the different types of Icelandic sagas. Consideration to the history and culture that produced this literature. Mr. Byock

140. Viking Civilization and Literature. Readings in the history, society, and culture of the early Scandinavians. All texts in English: Old Norse sagas, Eddas, and early ballad literature. Mr. Byock

C145. Old Norse Literature and Society. Lecture, three hours. Readings in primary texts in conjunction with the original literature. Specific issues in medieval Scandinavian studies. May be repeated for credit. Concurrently scheduled with course C223. Mr. Byock

151. Elementary Old Norse. Introduction to the grammar and pronunciation of Old Norse. Selected readings from the sagas and the Prose Edda. Mr. Byock

152. Intermediate Old Norse. Prerequisite: course 151 or equivalent. Continued grammar, pronuncia- tion, and readings from the Eddas and the sagas of the Icelanders, the Norwegian kings, and the legendary heroes. 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. A course of inde- pendent 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. 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 the Poetic Edda. Secondary sources used where appropriate. Mr. Byock

C223. Old Norse Literature and Society. Lecture, three hours. Critical issues in medieval Scandinavian studies can be repeated for credit. Concurrently scheduled with course C145. Mr. Byock

245A. Germanic and Scandinavian Mythology. Lecture, three hours. A study of Northern myth and religion through a close reading of the Eddic texts and secondary sources. Mr. Byock

596. Directed Individual Study or Research. To be arranged with faculty member who will direct the study or research (course section to be identified by a two-letter code using initials of sponsoring instructor — see department for code). May be repeated once; however, only one course in the 500 series may be applied toward the M.A. graduate course requirement. S/U grading. Mr. Byock

597. Preparation for Ph.D. Qualifying Examinations. To be arranged with faculty member who will direct the study (see department for code). S/U grading. Mr. Byock
Yiddish

Lower Division Courses

1. Elementary Yiddish. Introduction to grammar; instruction in listening, speaking, reading, and writing skills.
   - Ms. Hadda

2. Elementary Yiddish. Prerequisite: course 1 or equivalent.
   - Ms. Hadda

3. Elementary Yiddish. Prerequisite: course 2 or equivalent.
   - Ms. Hadda

Upper Division Courses

104. Intermediate Yiddish. Prerequisite: course 3 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. Prerequisite: course 104 or equivalent. A course of 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.
   - 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 a two-letter code using initials of sponsoring instructor — see department for code). 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 code). S/U grading.
   - Ms. Hadda

Scope and Objectives

Scandinavia consists of five Northern European countries: Denmark, Finland, Iceland, Norway, and Sweden. Together with the Faroe Islands and Greenland, these countries form a geographic bridge between the American and European continents and a political bridge between the West and Eastern Europe. For all students of literature, history, and social planning, 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, as well as a strong set of course offerings in Finnish language, literature, and folklore. 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 will 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, 25, and 30, or equivalent.

The Major

Required: Twelve upper division courses in Scandinavian, including 105 and 106 or 110 for two quarters and 141, 142, 143. As an option, three upper division courses in a related field may be taken. These three courses must be 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

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, 332 Royce Hall, UCLA, Los Angeles, CA 90024.

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 a knowledge of the Scandinavian languages). You must pass the Graduate School Foreign Language Test 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 courses on the upper division or graduate level may be taken in a related field of linguistic or literary study to be determined in consultation with the graduate adviser; at least one of these must be on the graduate level. Comparative Literature 200 or an equivalent course in methodology is required as one of the 12 courses.

Three 596 courses (12 units) may be applied toward the total course requirement, but only one (four units) may be applied toward the minimum graduate course requirement.

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 feel prepared to be examined on both the coursework and the reading list.

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.

Scandinavian Section

332 Royce Hall, (213) 825-2432

Professors

Ross P. Shideker, Ph.D.
Kenneth G. Chapman, Ph.D., Emeritus
Erik Wahlgren, Ph.D., Emeritus

Associate Professors

James R. Massengale, Ph.D.
Mary Kay Norseng, Ph.D., Vice Chair

Adjunct Lecturers

Inkeri A. Rank, M.A., M.Ed. (Finnish Studies)
Jules L. Zentner, Ph.D.
Native speakers of Norwegian, Swedish, or Danish may not enroll in any language course (including courses 105, 106, 110) in the Scandinavian Section, except by petition in writing to the section. Non-Scandinavian students with a good knowledge of a Scandinavian language may not take courses in the others except by petition in writing. Petitions must include a description of the student's linguistic background and the reason for wanting to take the language course in question.

1. Elementary Swedish.

2. Elementary Swedish. Prerequisite: course 1 or equivalent. Mr. Massengale, Mr. Shideler

3. Elementary Swedish. Prerequisite: course 2 or equivalent. Mr. Massengale, Mr. Shideler

4. Intermediate Swedish. Prerequisite: course 3 or equivalent. Mr. Massengale, Mr. Shideler

5. Intermediate Swedish. Prerequisite: course 4 or equivalent. Mr. Massengale, Mr. Shideler


7. Elementary Norwegian. Prerequisite: course 11 or equivalent. Ms. Norseng

8. Elementary Norwegian. Prerequisite: course 12 or equivalent. Ms. Norseng

9. Intermediate Norwegian. Prerequisite: course 13 or equivalent. Ms. Norseng

10. Intermediate Norwegian. Prerequisite: course 14 or equivalent. Ms. Norseng

11. Elementary Danish. Mr. Massengale

12. Elementary Danish. Prerequisite: course 21 or equivalent. Mr. Massengale

13. Elementary Danish. Prerequisite: course 22 or equivalent. Mr. Massengale

14. Intermediate Danish. Prerequisite: course 23 or equivalent. Mr. Massengale

15. Intermediate Danish. Prerequisite: course 24 or equivalent. Mr. Massengale

16. Intermediate Danish, Norwegian, and Swedish. Prerequisite: course 5 or 15 or 25 or equivalent. Readings in Danish, Norwegian, and Swedish. Written and oral exercises. P/NP (undergraduates), S/U (graduates), or letter grading.

17. Introduction to Scandinavian Literature. Lecture, three hours. Intended for students in general and for those wishing to prepare for more advanced and specialized studies of Scandinavian literature and culture. Selected works from the literature of Norway, Sweden, Denmark, Iceland, and Finland, ranging from myth, national epic, saga, and folklore through modern novel, poem, play, short story, and film script, read in English and critically discussed.

18. Ingrid Bergman and Other Swedish Filmmakers. Discussion, three hours. Knowledge of a Scandinavian language or of film is not required. Intended for students in general and for those preparing for more advanced studies in Scandinavian literature or culture. A history of Swedish film, emphasizing how it reflects social and cultural aspects of Scandinavian life. Discussion and analysis of representative Bergman and other Swedish films.

Upper Division Courses

105. Advanced Swedish. Prerequisite: course 30 or equivalent. Readings, composition, and conversation in Swedish. Mr. Massengale, Mr. Shideler

106. Advanced Swedish. Prerequisite: course 105 or equivalent. Readings, composition, and conversation in Swedish. Mr. Massengale, Mr. Shideler

110. Advanced Danish and Norwegian. Prerequisite: course 30 or equivalent. Readings, composition, and conversation in Danish and Norwegian. May be repeated once for credit. Mr. Massengale, Ms. Norseng

123A. Finnish Folklore and Mythology. (Same as Folklore M123A.) The methods and results of Finnish folklore studies and the mythic traditions of the Finns. Special attention to the oral epic, beliefs, and legends. Ms. Rank

123B. Finnish Folk Song and Ballad. (Same as Folklore M123B.) Course M123A is not prerequisite to M123B. A survey of Finnish balladry and folk song, with attention to historical development, ethnic background, and poetic and musical values. Ms. Rank

125. Folktale and Mythology of the Lapps. (Same as Folklore M125.) Survey of Lappish beliefs, customs, and various genres of oral tradition, including tales, legends, songs, and music. Attention also to the material manifestations of Lappish culture: arts and crafts, textiles, costume, folk technology, etc. Ms. Rank

130. Elementary Finnish. Introduction to pronunciation and grammar. Ms. Rank

131. Intermediate Finnish. Prerequisite: course 130 or equivalent. Grammatical exercises and readings. Ms. Rank

132. Advanced Finnish. Prerequisite: course 131 or equivalent. Readings, composition, and conversation. Ms. Rank

133. Survey of Finnish Literature. Conducted in English; knowledge of Finnish is not required. Intended for students in general and comparative literature, as well as students interested in Finnish studies. Readings and discussions of selected works from the literature of Finland in the 19th and 20th centuries. Ms. Rank

141. Backgrounds of Scandinavian Literature. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language is not required. Readings and discussions of representative texts selected from the literature of the medieval, Renaissance, and Early Enlightenment periods. Mr. Massengale

142. Scandinavian Literature of the 19th Century. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language is not required. Readings and discussions of selected works from the literature of Scandinavia in the 19th century. Mr. Massengale, Ms. Norseng

143. Modern Scandinavian Literature. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language is not required. Readings and discussions of selected works of modern Scandinavian literature. Mr. Massengale, Mr. Shideler

144. Henrik Ibsen. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language is not required. Readings and discussions of selected plays by Henrik Ibsen. May be concurrently scheduled with course C251. Ms. Norseng

145. August Strindberg. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language is not required. Readings and discussions of selected works by August Strindberg. May be concurrently scheduled with course C252. Mr. Massengale, Mr. Shideler

146. Soren Kierkegaard. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language is not required. Readings and discussions of selected works by Soren Kierkegaard. May be concurrently scheduled with course C146. Ms. Norseng

152. The Theory of the Scandinavian Novel. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language is not required. The predominant structures of the novel, the Scandinavian novel in particular, and related issues of form and strategy in the rise of the novel in the 19th century, and following the novel's evolution in the 20th century. Emphasis on the works of such writers as Kierkegaard, Anderssen, Amundsen, Hamsun, and Hamsun. May be concurrently scheduled with course C262. Mr. Massengale, Ms. Norseng, Mr. Shideler

153. The Scandinavian Ballads. Lecture, three hours. Prerequisite: reading knowledge of a Scandinavian language. A survey of Finnish balladry and folk song, including courses 105, 106, 110) in the Scandinavian Section, except by petition in writing to the section. Non-Scandinavian students with a good knowledge of a Scandinavian language may not enroll in any language course in question. Ms. Norseng

154. Survey of Finnish Balladry. Conducted in English; knowledge of Finnish is not required. Intended for students in general and comparative literature, as well as students interested in Finnish studies. Readings and discussions of selected works from the literature of Finland in the 19th and 20th centuries. Ms. Rank

160. Literature and Scandinavian Society. Knowledge of one Scandinavian language may be required. Discussion of selected aspects of Scandinavian society based on readings of the contemporary literature as well as other documentary material. May be repeated for credit (as determined by under-graduate advisor) with topic change. May be concurrently scheduled with course C263. Mr. Massengale, Ms. Norseng, Mr. Shideler

181. Contemporary Swedish Literature. Prerequisites: advanced knowledge of Swedish or Norwegian language. Reading and analysis of selected texts by major 20th-century Swedish authors, including not only specific novelists, playwrights, and poets, but placing them within a social and historical milieu. Mr. Shideler

182. The Theory of the Scandinavian Novel. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language is not required. The predominant structures of the novel, the Scandinavian novel in particular, and related issues of form and strategy in the rise of the novel in the 19th century, and following the novel's evolution in the 20th century. Emphasis on the works of such writers as Kierkegaard, Anderssen, Am- mundsen, Hamsun, and Hamsun. May be concurrently scheduled with course C264. Mr. Massengale, Ms. Norseng, Mr. Shideler

183. The Scandinavian Ballads. Lecture, three hours. Prerequisite: reading knowledge of a Scandinavian language. A survey of Finnish balladry and folk song, including courses 105, 106, 110) in the Scandinavian Section, except by petition in writing to the section. Non-Scandinavian students with a good knowledge of a Scandinavian language may not enroll in any language course in question. Ms. Norseng

190. Honors Course in Scandinavian. Prerequisites: senior standing with a minimum 3.0 GPA in the major, consent of the honors committee. Intensive study of a selected special topic in Scandinavian Studies. Discussions, oral and written reports.

199A-199Z. Special Studies in Scandinavian (2 or 4 units). Prerequisites: senior or graduate standing, consent of instructor. To be arranged with faculty member who will direct the study (course section to be identified by a two-letter code using initials of sponsoring instructor — see section for code). A course of independent study designed for graduates or seniors 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

C251. Henrik Ibsen. Prerequisites: advanced knowledge of Norwegian, consent of instructor. Intensive study of the works of Henrik Ibsen. May be concurrently scheduled with course C144. Ms. Norseng

C252. August Strindberg. Prerequisites: advanced knowledge of Swedish, consent of instructor. Intensive study of the works of August Strindberg. May be concurrently scheduled with course C146. Mr. Massengale, Mr. Shideler

C253. Soren Kierkegaard. Prerequisites: advanced knowledge of Danish, consent of instructor. Intensive study of the works of Soren Kierkegaard. May be concurrently scheduled with course C146. Mr. Massengale

C254. Knut Hamsun. Prerequisites: advanced knowledge of Norwegian, consent of instructor. Intensive study of the works of Knut Hamsun. May be concurrently scheduled with course C147. Ms. Norseng
History

6285 Bunche Hall, (213) 825-4601

Professors
Edward A. Alpers, Ph.D.
Joyce Appleby, Ph.D.
Kendall E. Bailey, Ph.D. (U.C. Irvine)
Amin Banani, Ph.D.
Robert L. Benson, Ph.D.
Rees W. Bolle, Ph.D.
Robert P. Brenner, Ph.D.
Giorgetto Bucchielli, Ph.D.
E. Bradford Burns, Ph.D.
Robert I. Burns, S.J., Ph.D.
Robert N. Burr, Ph.D.
Mortimer H. Chambers, Jr., Ph.D.
Claus-Peter Clasen, Ph.D.
Stanley Cohen, Ph.D.
Robert Dallek, Ph.D.
Christopher Ehret, Ph.D.
Amos Funkenstein, Ph.D.
Frank O. Gatter, Ph.D.
Juan Gómez-Quijones, Ph.D.
Thomas S. Hines, Ph.D.
Richard Hovannisian, Ph.D.
Daniel W. Howe, Ph.D., Chair
Philip C. Huang, Ph.D.
Norma C. Huntley, Ph.D.
Michael O. Jones, Ph.D.
Nikki Keddie, Ph.D.
Barbara Kreckic, Ph.D.
John H. M. Laslett, Ph.D.
James Lockhart, Ph.D.
Peter Loewenberg, Ph.D.
Aaf Marsot, Ph.D.
Lauro R. Martinez, Ph.D.
Ronald J. Mellor, Ph.D.
Eric H. Monkkonen, Ph.D.
Gary B. Nash, Ph.D.
Fred G. Nolteiller, Ph.D.
Boniface I. Obichere, D.Phil.
Merrick Posnansky, Ph.D.
Peter H. Reitl, Ph.D.
Hans J. Rigger, Ph.D.
Richard H. Rouse, Ph.D.
David W. Sabeen, Ph.D.
Damorad S. Sardei, Ph.D.
Alexander P. Saxton, Ph.D.
Stanford J. Shaw, Ph.D.
Kathryn Kish Sklar, Ph.D.
Geoffrey W. Symcox, Ph.D.
Spero Vyrionis, Jr., Ph.D.
Eugen Weber, M.Litt. (Professor of Modern European History)
Richard Weiss, Ph.D.
Robert S. Westman, Ph.D.
James W. Wilkie, Ph.D.
Robert Wolt, Ph.D.
Stanley A. Wolpert, Ph.D.

Emeritus Professors
Milton Anastas, Ph.D.
Truesdell S. Brown, Ph.D.
John G. Burke, Ph.D.
John W. Caughey, Ph.D.
Raymond H. Fisher, Ph.D.
Jere C. King, Ph.D.
Gerhart B. Ladner, Ph.D.
Andrew Lossky, Ph.D.
Lynn White, Jr., Ph.D.
Robert A. Wilson, Ph.D.

Associate Professors
Edward G. Berenson, Ph.D.
Robert G. Frank, Ph.D.
Robert A. Hill, M.Sc.
Michael G. Moran, Ph.D.
M. Norton Wise, Ph.D.
Mary A. Yeager, Ph.D.

Assistant Professors
Ruth Bloch, Ph.D.
Margaret W. Creel, Ph.D.
Melissa L. Meyer, Ph.D.
Debora L. Silverman, Ph.D.
Albion M. Urdank, Ph.D.
Scott L. Waugh, Ph.D.

Lecturers
Ludwig Lauerhass, Ph.D.
Albert Hoxie, M.A., Emeritus

Adjunct Associate Professor
S. Scott Barchey, 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.
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; 3D; 6A-6B-6C; 7A-7B; 8A, 8B; 9A-9B-9C; 9D plus one suitable upper division course; 10A-10B. 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-quarter course from the History 6A-6B-6C sequence may be applied toward this requirement, provided the same quarter course is not used to satisfy any other requirement of the major.

By petition, you may replace up to two social science courses with courses in humanities, fine arts, or natural sciences relevant to your program in history. Courses in communication studies do not fulfill this requirement.

Only two courses offered outside the History Department may be applied as major courses without petition: Anatomy (Medical History) 107A-107B.

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 10 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 the Spring Quarter of the junior year; honors students then take courses 199HB and 199HC in the Fall and Winter Quarters of their senior year under the guidance of the sponsoring professor. The Justin Turner Prize is awarded for the outstanding honors thesis.

Teaching Credential in History
If, based on your history major program, you would like notification of national teacher examination for the single subject credential in history, you must complete (1) History 7A-7B or two quarters of courses 6A-6B-6C, (2) courses 1A-1B-1C, (3) course 163, and (4) two upper division courses in modern European history from the 125A-125F or 126A-126E sequences. You may not select history of science as a non-Western field.

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 the scores of the Aptitude 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 scores, 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. Applications should be submitted before December 30; notification will be made on or before May 1. Except for extraordinary cases, students are expected to begin their graduate work in the Fall Quarter.

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 the 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, Department of History, 6265 Bunche Hall, UCLA, Los Angeles, CA 90024.

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) United States; (10) history of science; (11) special fields (students in the history of religions, Russian history, and modern Jewish history will normally be 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 GSFLT is required. Students of United States. Near East, and African history may use departmentally administered translation examinations in French, Spanish, or German in place of the GSFLT. Students of European history must pass departmentally administered examinations in these three languages. For other languages, certification is required by the department teaching the language according to that department's standards.

Course Requirements
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 United States history, a minimum of seven of the nine courses must be at the 200 level, including at least one two-quarter seminar and History 245. Students in European history must include course 225, and 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. Students in the United States field must submit the paper from the two-quarter research seminar in United States history.
Field examiners administer the M.A. comprehensive examinations in November, March, and May of each academic year. The committee will recommend 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 will reevaluate your progress after an additional three quarters of study. Only in exceptional cases are oral examinations required for the M.A. degree.

M.L.S./M.A.-History
This concurrent degree program of the Department of History and the Graduate School 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.S. and the M.A. in History. The best sequence of coursework should be discussed with the advisers from this department and the Graduate School 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, 1485-1763; England since 1763; the British Empire; the Near East, 500-1500; the Near East since 1500; ancient Near East; 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; United States: (1) mastery of the general field of United States 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 United States history, and only two fields in United States 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, 1986-87: 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-quarter 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 of United States history should complete course 245. Students of European history must complete course 225, and students of African history must complete course 275 unless exempted 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 quarter 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 the oral examination you are examined 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 on advancement to candidacy for the Ph.D.

Final Oral Examination
If required by the qualifying examination committee, a final oral examination will be 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 waiver of the final oral examination.
Lower Division Courses

1A-1B. Introduction to Western Civilization. Lecture, two hours; discussion, two hours. A broad, historical study of major elements in Western heritage from the dawn of civilization to the 20th century, designed to further beginning students' general education, introduce them to ideas, attitudes, and institutions basic to Western civilization, and to acquaint them, through reading and critical discussion, with representative contemporary documents and writings of enduring interest.

1AH-1BH. Introduction to Western Civilization (Honors). Lecture, two hours; discussion, two hours. A broad, historical study of major elements in Western heritage from the dawn of civilization to the 20th century, designed to further beginning students' general education, introduce them to ideas, attitudes, and institutions basic to Western civilization, and to acquaint them, through reading and critical discussion, with representative contemporary documents and writings of enduring interest.

Mr. Berenson, Mr. Sabean

2. History of Technology from Antiquity to the 20th Century. Lecture, three hours. Designed for students in the natural sciences, social sciences, and fine arts. A survey of the development of man's ability to understand and utilize the environment, stressing technological change. Mr. Burke

3A-3B-3C. Introduction to the History of Science. Lecture, three hours; discussion, two hours. History majors may not apply these courses on the science general education requirement.

3A. The Scientific Revolution. A survey of the beginnings of the physical sciences involving the transformation from Aristotelian to Newtonian cosmology, the mechanization of the natural world, the rise of experimental science, and the origin of the scientific method. Mr. Westman, Mr. Wise

3B. The Physical Sciences since the Enlightenment. A broad survey of the 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. Mr. Wise

3C. The Biological Sciences, 1800-1955. A survey of the development of the biological sciences from the period of Bichat and Müller to the discovery of the double helix. Mr. Frank

4. Themes in the History of Medicine. Lecture, three hours. Prerequisite: sophomore standing. Limited to 30 students. Examination, through illustrated lectures and focused discussion of primary sources, of five important themes in the development of modern medicine: the nature of diagnosis, the emergence of surgery, epidemics, the conception and treatment of insanity, and the use of medical technology. Mr. Frank

4. Introduction to the History of Religions. Lecture, three hours; discussion, one hour. A discussion of the various systems, ideas, and fashions of thought that have dominated Western approaches to the religions of the world since antiquity. Survey of the development from classical Greek and early Christian theories to modern history with its discoveries of the religions of India, China, Islam, the Middle East, etc., and the problem of the encounter of various religions in the 19th and 20th centuries. Mr. Bolle

5A-5B. Survey of British History. Lecture, three hours; discussion, one hour. Designed for students wanting a general orientation to British history and those in English literature and prelaw. A survey of the history of England and (after the union between England and Scotland) Great Britain. 5A. The Middle Ages to the Glorious Revolution in 1688; 5B. 1688 to the 19th Century. Mr. Frank

5A-5B. History of the American Peoples. Lecture, two hours; discussion, two hours. A survey of the American peoples from the advent of aboriginal society to the present, emphasizing racial and ethnic interaction, industrialization, urbanization, and cultural change. Ms. Appleby, Mr. Nash, Mr. Sjoberg

5BH. History of the American Peoples (Honors). Lecture, two hours; discussion, two hours. A survey of the American peoples from the advent of aboriginal society to the present, emphasizing racial and ethnic interaction, industrialization, urbanization, and cultural change. Mr. Monkkonen

7A-7B. Survey of the Political History of the U.S. Lecture, two hours; discussion, two hours. This sequence (or two quarters of course 6) is strongly recommended for history majors planning to take most advanced courses in U.S. history. Designed for students in the social sciences and other departments who desire a thorough grounding in American political culture. A survey of the history of the nation from the Revolutionary era to the present. Emphasis on political developments and the social, cultural, and economic bases of American politics. Ms. Appleby, Mr. Gatell, Mr. Saxton

8A. Latin America: Reform and Revolution. Lecture, three hours; discussion, one hour. A general introduction to Latin America emphasizing those institutions from the past which have shaped the present and the struggles for political and social change. Movies and discussions complement the topical lectures. Mr. E.B. Burns and the Staff

8B. Latin American Social History. Lecture, three hours; discussion, one hour. Course 8A is not prerequisite to 8B. The historical and contemporary performance of Latin America in the context of the capitalist society, stressing social change. Mr. E.B. Burns and the Staff

8C. Central America: The Struggle for Change. Lecture, three hours; discussion, two hours. The role of ordinary people in Latin America. Emphasis on the changes in Latin American society since the 1930s. Mr. E.B. Burns and the Staff

9A-9D. Introduction to Asian Civilizations:

9A. History of India. Lecture, three hours; discussion, one hour. An introductory survey for beginning students. Emphasis on the role of ordinary people in Indian history, traditions, and institutions of Indian civilization. Mr. Wolpert

9B. History of China. Lecture, three hours; discussion, one hour. A survey of Chinese history from the early period of unity to the present, with emphasis on the development of Japan as a cultural daughter of China. Emphasis on the problems of political change; China's response to the Western impact in modern times. Mr. E. Reill

9C. History of Japan. Lecture, three hours; discussion, one hour. A survey of Japanese history from earliest recorded time to the present, with emphasis on the development of Japan as a cultural daughter of China. Emphasis on the problems of political change; China's response to the Western impact in modern times. Mr. E. Reill

9D. History of the Near and Middle East. Lecture, three hours. An introduction to the history of the Muslim world from the advent of Islam to the present day. Mr. Notelhelfer

10A-10B. Introduction to the Civilizations of Africa. Lecture, three hours; discussion, one hour. Introduction to the history of the Muslim world from the advent of Islam to the present day. Mr. Marsot

10A. Interpretation of the Civilizations of Africa. Lecture, two hours; discussion, one hour. Emphasis on the role of ordinary people in African history. Exploration of African cultures on a thematic basis within a wider framework of political change over time. Ms. Marsot

M70. Survey of Medieval Greek Literature. (Same as Classics M70.) Lecture, three to four hours. Classical roots and medieval manifestation of Byzantine civilization: political theory, Roman law, pagan critique of Christianity, literature, theology, and contribution to the Renaissance (including the discovery of America). Mr. Dyck

97H. Three Trials. (Formerly numbered 98H.) Discussion, three hours. Prerequisite: consent of instructor. Limited to 20 students. An intensive study of three trials: each, which is significant in a different perspective of the role of ordinary people. Emphasis on the trials of Socrates, Jesus of Nazareth, and Joan of Arc. View of each trial as a conflict between legitimate but irreconcilable interests and world views. For each, the class constitutes itself as a court (prosecution, defense, jury) and reviews the verdict of the original trial. Mr. Benson

99. Introduction to Historical Practice. Seminar, three hours. Limited to freshmen and sophomores. Study of historiographies of not more than three intellectual processes by which history is written, with emphasis on problems of historiography and method. Mr. E.B. Burns, Ms. Posansky

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.

100. History and Historians. Lecture, three hours. A study of historiography, including the intellectual processes by which history is written, the results of these processes, and the sources and development of history. Attention also to representative historians. Mr. Reill

101. Introduction to Historical Practice. Seminar, three hours. Limited to juniors and seniors. Discussion classes of not more than 15 students meeting with a faculty member. Exploration of how works of history are written, with emphasis on problems of historiography and method. Mr. E.B. Burns, Mr. Posansky

101H. Introduction to Historical Practice (Honors). Seminar, three hours. Limited to juniors and seniors in the history honors program. Discussion classes of not more than 15 students meeting with a faculty member. Emphasis on problems in the philosophy of history, historiography, and historical method.

102. Explorations in Psychoanalysis and History. Lecture, three hours; discussion, one hour. Examination of recent writings in the field of psychohistory. Mr. Loewenberg, Mr. Wohl

M103. Historical Archaeology. (Same as Anthropology M115S.) A survey of the aims and methods of historical archaeology as practiced on both sides of the Atlantic, with case studies drawn from North America, the Caribbean, Africa, and Europe. Mr. Posansky

M104A-M104B. Ancient Egyptian Civilization. (Same as Ancient Near East M104A-M104B.) Lecture, three hours. Course M104A is not prerequisite to M104B. The political and cultural institutions of ancient Egypt and the ideas on which they were based. M104A. Chronological discussion of Prehistory, the Old and Middle Kingdoms, the New Kingdom and the Late period until 332 B.C. Mr. Callender (alternate years)
129B. 1848 to 1850. Survey of social, economic, cultural, and political history, including the rise of socialist and bureaucratic eras. Development and reform, the emergence of Austro-Prussian dualism, the transformation of the German economy, the impact of the French Revolution and the German reform movement, industrialization, national reaction, the rise of Romanticism, and the causes and failure of the Revolutions of 1848. Mr. Reill
129C. 1848 to Present. Revolutions of 1848, Prussian constitutional struggle, German unification, the Bismarckian and Wilhelmine eras in Germany and the Ausgleich in Austria, liberalism, industrialism, anti-Semitism, social democracy, the World Wars, revolutions, republics, Fascism and Nazism, occupation, and the Austrian, German Federal, and German Democratic Republics. Mr. Loewenberg
130A-130B-130C. Europe in the Age of Revolution, 1750-1850. Lecture, three hours: 130A. The End of the Old Regime. Economic development from ca. 1750. The agrarian revolution. The Enlightenment: social criticism and political estrangement from that of 1750. Mr. Symcox
130B. The Crisis of the Old Regime and the Revolution. The revolution in France, 1789-1797. Spread of revolution to other parts of Europe and varying responses. The impact of war on revolution in France after 1792 and the spread of the revolution by military force. Jacobinism in France and outside. Parallel movements abroad (e.g., Ireland, Haiti, Poland). Satellite regimes set up in Europe. Mr. Symcox
130C. Napoleonic Europe and the Restoration. Napoleon’s ascendency in France from 1799: internal effects. Restructuring of Europe under Napoleon and the national reactionists. Industrial and political change in Britain: Anglo-French world rivalry to 1815. The restoration: what could be restored and what could not. Rising national consciousness against Metternich’s system. The continuing revolutionary tradition: 1821, 1830, 1848. Romanticism as its apotheosis. Conclusion: how the world of 1850 differed from that of 1750. Mr. Symcox
131A-131D. History of Russia. Lecture, three hours: 131A. From the Origins to the Rise of Muscovy. Kiev, Russia and its culture, Appanage principalities and towns, the Mongol invasion; the unification of the Russian state by Muscovy, Autocrat and its Servitors; serfdom. Mr. Krečič
131B. Imperial Russia from Peter the Great to Nicholas II. Westernization of state and society; centralization at home and expansion abroad; the peasant problem; beginnings of industrialization; movements of political and social protest; the non-Russian peoples; political reforms and social changes; the Revolution of 1905; Russia in World War I; the fall of the old regime. Mr. Rogger
131C. Revolutionary Russia and the Soviet Union. The Revolutions of 1917, Civil War, consolidation of the Bolshevik Regime; succession crisis and ascendency of Stalin; collectivization and industrialization; foreign policy and World War II; death of Stalin, de-Stalinization, developments since; stagnation or stability? Mr. Rogger
131D. Intellectual History. Social thought and movements in modern Russia, late 18th to early 20th centuries. Mr. Rogger
132A-132B. History of Italy. Lecture, three hours: 132A. 1530 to 1815. Survey of social, economic, political, and cultural history covering the eclipse of the Italian economy and the city-state, the rise of absolutist governments. Enlightenment reforms and the origins of the Risorgimento. Mr. Symcox
132B. 1861 to the Present. Political, economic, social, diplomatic, and ideological developments. Mr. Wohl
133A-133B. The Social History of Spain and Portugal. Lecture, three hours. 133A. The Age of Silver in Spain and Portugal, 1479-1789. The development of popular history in the Iberian Peninsula. Emphasis on peasants and urban history, gold routes, slave trade, history of women, and the development of different types of collective violence. Mr. Krečič
133B. Rebellion and Revolution in Modern Spain and Portugal, 1789 to the Present. Spain’s position in Europe and its potentials for social change discussed through investigations of urban history, agrarian social structure, history of women, problems of slow industrial development, imperialism, anarchism, and labor history. Mr. Krečič
134A. Southeastern Europe, 500-1500. Lecture, three hours. A political, economic, and cultural survey of the independent Balkan states in the Middle Ages. Mr. Krečič
134B. Southeastern Europe, 1500-1918. Lecture, three hours. The Balkans under Ottoman rule, movements of national liberation, and the formation of nation states. Mr. Symcox
135A-135B. Marxist Theory and History. Lecture, three hours. Course 135A is generally prerequisite to 135B. Introduction to Marxist philosophy and method; conception of historical stages; comparing Marxist analysis with the transformation of state capitalism; the sociology of modern society via reading Capital; theory of politics and state in relationship to historical interpretation of 19th-century European revolutions; capitalist crises, anti-Semitism, social democracy, the World Wars, industrialization, the transformation of the German economy, the problem of slow industrial development, imperialism, anarchism, and labor history.
136A. Social Movements. Mr. Brenner
136B. Peasants and Agrarian Society. Mr. Urdank
136C. Urban Society. Mr. Symcox
136D. The Family. The social history of the family in Western Europe since the Middle Ages. Household and family organization of peasants, artisans, and aristocrats; kinship, child-rearing, parental authority, marriage and inheritance systems; attitudes toward love, sex, and children. Mr. Krečič
136E. Psychohistory. Mr. Loewenberg, Mr. Wohl
136F. Special Topics. Mr. Symcox
137A-137E. European History to 1914. Lecture, three hours. European women through the ages, prehistory to the present, with emphasis on the role of women in society, family, religion, the workplace, and politics. 136J. Ancient and Medieval; 136K. 1348 to 1814; 136L. 1814 to the Present. Ms. Norberg
137A-137B. Survey of English History. Lecture, three hours. A survey of English history from the Wars of the Roses to the present, dealing with changes in society, economics, and ideas from an agrarian, medieval monarchy to an industrial national and social democracy: 137A. 1450 to 1660; 137B. 1660 to the Present. Mr. Rouxe
137A-137B. Medieval England. Lecture, three hours: 138A. Anglo-Saxon England and the Norman Conquest, 900-1215. The nature of the society that emerged from the Viking invasions; the conquest and colonization by the Normans; the principles of lordship by which they ruled, to the Magna Carta (1215). Mr. Rouxe
138B. England in the High Middle Ages: Magna Carta to 1400. Emphasis on the social and economic development that underlay constitutional development, peasant revolt, the Black Death, and the Hundred Years’ War. Mr. Rouxe
139. Renaissance England. Lecture, three hours. Culture and society. Emphasis on literary culture (Elizabethans, Jacobean, Caroline), with readings and lectures on different aspects of political and economic life as required for a serious understanding of the culture. Mr. Martines
140A-140B. Early Modern England, 1450-1700. Lecture, three hours: 140A. The Development of Capitalism in England, Especially the Countryside, 1450-1700. The transformation of class relations; the emergence of political conflicts; state centralization and military aristocracy. Crown versus Parliament, the English Civil War. Mr. Brenner
140B. Analysis of the Transformation of Religious and Political Ideology in Relationship to Socioeconomic and Political Conflicts. Recommended prereq: 140A. 1440-1600. The English Reformation and the development of the State; Protestantism and political opposition; religious radicalism and the English Revolution. Mr. Brenner
141A-141B. Modern England. Lecture, three hours. Analysis of the English economy, society, and politics since 1660, focusing on the dynamics of both stability and change:
141A. 18th and 19th Centuries, 1688-1832. Mr. Urdank
141B. 19th and 20th Centuries, 1832 to World War II and its Aftermath. Mr. Urdank
142A-142B. The British Empire since 1783. Lecture, three hours. The political and economic development of the British Empire, including the evolution of colonial nationalism, the development of the commonwealth idea, and changes in British colonial policy. Mr. SarDesai
143. History of Canada. Lecture, three hours. A survey of the growth of Canada into a modern state from its beginnings under the French and British colonial empires.
144. History of Australasia. Lecture, three hours. The history of Australia and New Zealand from the European settlement, with emphasis on the interrelationships between the settlers and the aborigines; comparisons and contrasts between the Australian and New Zealand experiences.
145A. Colonial America, 1600-1763. Lecture, three hours. An examination of the molding of an American society in English North America from 1600 to 1763. Emphasis on the interaction of three converging cultures: Western European, West African, and American Indian. Ms. Appleby, Ms. Bloch, Mr. Nash
145B. Revolutionary America, 1750-1800. Lecture, three hours. An inquiry into the origins and consequences of the American Revolution, the nature of the revolutionary process, the creation of a constitutional national government, and the development of a capitalist economy. Ms. Appleby, Ms. Bloch, Mr. Nash
146A-146B. The United States, 1800-1850. Lecture, three hours: 146A. Jeffersonian America. Jeffersonian Republican ascendency and the Era of Good Feelings, 1800-1828; disintegration of the Federalist opposition; the testing of American nationality in the second war with Britain; beginnings of the transportation and industrial revolutions; restructuring of politics in an increasingly egalitarian age. Mr. Gatell, Mr. Howe
146B. Jacksonian America and Beyond. The “Jacksonian Revolution” and its aftermath, 1828-1850; the problem of national power versus state sovereignty; the problem of rapid social change through industrialization and urbanization; reform impulses; antislavery movements; territorial expansion as focus for sectional rivalry. Mr. Gatell, Mr. Howe
147A. The United States: Civil War and Reconstruction. Lecture, three hours. Topics include the rise of sectionalism, the anti-slavery crusade; the formation of the Confederate States; the war years; political and social reconstruction. Ms. Creel
147B. The United States, 1875-1900. Lecture, three hours. American political and institutional history in a period of great change. Emphasis on the altering concepts of the role of government and the responses to that alteration. Mr. Saxton
developments that have shaped the United States
three hours:

149A. The United States since 1945. Lecture, three hours. A historical analysis of America from the time of the European conquest until Mexican independence, with special focus on labor and politics. Provides an integrated understanding of change over time in the Mexican community and people of Mexican descent in the United States through the 20th century, with special focus on labor and politics. Offers an integrated understanding of change over time in the Mexican community and people of Mexican descent in the United States through the 20th century, with special focus on labor and politics. Offers an integrated understanding of change over time in the Mexican community and people of Mexican descent in the United States through the 20th century, with special focus on labor and politics. Offers an integrated understanding of change over time in the Mexican community and people of Mexican descent in the United States through the 20th century, with special focus on labor and politics.

149B. American Economic History. Lecture, three hours. An intensive analysis of the economic, demographic, labor and politics. Provides an integrated understanding of change over time in the Mexican community and people of Mexican descent in the United States through the 20th century, with special focus on labor and politics. Offers an integrated understanding of change over time in the Mexican community and people of Mexican descent in the United States through the 20th century, with special focus on labor and politics. Offers an integrated understanding of change over time in the Mexican community and people of Mexican descent in the United States through the 20th century, with special focus on labor and politics. Offers an integrated understanding of change over time in the Mexican community and people of Mexican descent in the United States through the 20th century, with special focus on labor and politics.

150A-150B. Intellectual History of the United States. Lecture, three hours. Consideration of the religious and political development of the United States, with emphasis on the development of new social, political and economic institutions. Does not count toward a major in American history. Mr. Howe

150C. History of Religion in the United States. Lecture, three hours. Consideration of the religious dimensions of the peoples' experience in the United States. Examination of a number of religious traditions which have been important in this country, with emphasis on relating developments in religion to other aspects of American culture. Mr. Howe

151A-151B. Constitutional History of the United States. Lecture, three hours:

151A. The Origins and Development of Constitutionality in the United States. Particular emphasis on the framing of the Federal Constitution in 1787 and its subsequent interpretation. Topics include judicial review, significance of the Marshall Court, and the effects of slavery and the Civil War on the Constitution. Mr. Gallet

151B. Constitutionalism since the Civil War. Particular emphasis on the development of the Reconstruction Court, the due process revolution, the Court and political questions, and the fact of judicial supremacy within self-imposed limits. Mr. Howe

152A-152B. American Diplomatic History. Lecture, three hours:

152A. The establishment of an independent foreign policy, the territorial expansion of the United States, and the emergence of a world power. Mr. Dallek

152B. The Role of the United States in the 20th-Century World. Mr. Dallek

153. The United States and the Philippines. Lecture, three hours. Recommended for: knowledge of Southeast Asian or United States history, or both. An examination of the interrelationships of immigration and of colonialism and independence between the United States and the Philippines, from the time within the period of 1898 to the present. Mr. Saxton

154A-154B. United States Urban History. Lecture, three hours:

154A. The Preindustrial and Early Industrial City. Emphasis on the social, spatial, and economic development of U.S. cities. Special attention to the social consequences of the preindustrial and early industrial economic relationships. Mr. Monkkonen

154B. The Industrial and Postindustrial City. Course 154A is not prerequisite to 154B. Emphasis on the major economic and demographic changes occurring from the 19th century to the present. Ms. Yeager

155A-155B. American and European Working Class Movements. Lecture, three hours. Major episodes in the development of the American working class from colonial times to the present, emphasizing both organizations and unorganized labor in a comparative context. A.F. of L., rise of unionism, and labor politics. Mr. Laslett

156A. American Social History, 1790-1870. Lecture, three hours. A historical analysis of American society and culture, with emphasis on the social, economic, and political development of the United States from 1790 to 1870. Mr. Hines

156B. American Social History, 1870-1910. Lecture, three hours. A survey of the social and cultural development of the United States from 1870 to 1910. Mr. Hines

156C. Colonial and Early National, 1600-1800. Ms. Sklar

156D. Victorian and Industrial, 1800-1920. Ms. Sklar

156E. 20th Century, 1900-1975. Ms. Sklar

157A-157B-157C. North American Indian History. Lecture, three hours. History of Native Americans from contact to the present, with emphasis on the ethnohistorical dimensions of culture change, Indian political processes, and the continuity of Native American cultures. Focus on selected Indian peoples in each period:

157A. Contact to 1760. Ms. Meyer

157B. 1760 to 1860. Ms. Meyer

157C. 1860 to the Present. Ms. Meyer

158A. Comparative Slavery Systems. (Formerly numbered 158A.) (Same as Afro-American Studies M158A.) Lecture, three hours. An examination of the preindustrial and early industrial urban environment. Mr. Hurley

158B-M158C. Introduction to Afro-American History. (Formerly numbered 158B-M156C.) Lecture, three hours. A survey of the African-American experience, with emphasis on the three great transitions of Afro-American life: the transition from Africa to New World slavery, the transition from slavery to freedom, the transition from rural to urban milieux. Ms. Creel, Mr. Hill

158D. Afro-American Urban History. Lecture, three hours. An examination of Afro-American urban life prior to 1945, with emphasis on the transformation from slavery to freedom and the shift from Southern to Northern areas. The forces which both propelled Afro-Americans to the cities and which also inhibited their adjustment to them. Mr. E.B. Burns, Mr. Burr
167A. Latin America in the 20th Century. (Formerly numbered 167A-167B-167C.) Lecture, three hours. Experiments in national development analyzed to relate the timing of social changes to economic, political, cultural, and geographic context. Successful country case studies each focus on world pressures and interplay of overlapping themes: the struggle between centralized and decentralized government agencies (emphasized in course 167A), the role of personality leaders (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 (Formerly numbered 167A-167B-167C), and “rightist” and “leftist” models of development (emphasized in course 167D). Mexico is treated in course 167B. Within each course, countries are studied according to the chronological contribution to the theme emphasized:

167A. Mr. Wilkie
167B. Mr. Wilkie
167C. Mr. Wilkie
167D. Mr. Wilkie

168. History of Latin American International Relations. Lecture, three hours. Emphasis on the developing interests of a non-Western power in their relationship with one another and with other areas of the world, beginning with 19th-century independence. Mr. Burr

169. Latin American Eliteoi. Lecture, three hours. Prerequisite: course 167A, 167B, 167C, 167D. Eliteoi (defined as oral or noninstitutional knowledge involving the leaders’ conceptual and perceptual life history views) in contrast to folklore (the followers’ traditional or popular views). Eliteoi genres include oral history, literature, and folk tradition. Mr. Wilkie

170B. The Classic Travel Accounts of Latin America since 1735. Lecture, three hours. Recommended for prospective researchers before they select their region of study. Introduction to “enlightened traveler” accounts as they reveal cultural change from wide-ranging spatial and temporal vantage points. Comparison of published works to photographic series to analyze the great variety of geographic regions, peoples, customs, occupations, dress, food, architecture, and transportation in the 20 countries of the area. Mr. Wilkie

171. The Mexican Revolution since 1910. Lecture, three hours. Examination of the concept of “permanent crisis” to describe and explain the structure of the Mexican Revolution. Mr. E.B. Burns, Mr. Wilkie

172. Brazilian Intellectual History. Lecture, three hours. Selected topics in the Latin American social, political, and cultural development of Brazil, with emphasis on modernization and the struggle for change, 1850 to the present. Discussions, films, slides, and guest speakers supplement and complement the lectures. Mr. E.B. Burns

173. Modern Brazil. Lecture, three hours. Selected topics in the Latin American social, political, and cultural development of Brazil, with emphasis on modernization and the struggle for change, 1850 to the present. Discussions, films, slides, and guest speakers supplement and complement the lectures. Mr. E.B. Burns

174. Brazilian Intellectual History. Lecture, three hours. The general intellectual development of Brazil, with emphasis on those retrospective movements in which the Brazilians attempted to interpret themselves, their nation, and their civilization. Mr. E.B. Burns

175A-175Z. Topics in African History. Lecture, three hours. Prerequisite: one prior course in African history or UCLA consent of instructor. Examination of specific topics which have a continental application rather than proceeding on a strictly chronological or regional basis:

175A. Prehistoric Africa—Technological and Cultural Traditions. A survey of the nondoctrinarian sources of early African history, with particular reference to technological, economic, and cultural developments from the origins of Man until the colonial period. Mr. Posnansky

175B. Africa and the Slave Trade. The social, economic, political, and cultural impact of the slave trade on African society, with emphasis on the Atlantic slave trade without neglecting those of the ancient Mediterranean, Islamic, and Indian Ocean worlds. Abolition and the African diaspora. Mr. Alpers, Mr. Obichere

175C. Africa in the Age of Imperialism. Topics include the penetration of pre-capitalist societies by capitalism; the emergence of colonies, the nature of the colonial and postcolonial state, and the struggle for national liberation in a global context. Mr. Alpers, Mr. Obichere

176A-176B. History of West Africa. Lecture, three hours.

176A. West Africa from Earliest Times to 1800. Mr. Obichere, Mr. Posnansky

176B. West Africa since 1800. Mr. Obichere

176C. Social and Economic History of West Africa since 1600. Lecture, three hours. An analysis of the main currents of West African social, cultural, and economic history since the 16th century. Emphasis on the dynamic, religious, values, education, urbanization, migrations, the arts, slavery, and the slave trade. The role of economic forces and individual action in process of change in West Africa; ethnic diversity and socioeconomic integration; colonial economic systems and the attempts at economic planning and development since the 1950s. Mr. Obichere

177. Ethiopia and the Horn of Africa. Lecture, three hours. Survey of the history of Ethiopia, Somalia, and Sudan. Mr. Alpers, Mr. Ehret

178A-178B. History of Eastern Africa. Lecture, three hours.

178A. The cultural diversity of Eastern African societies, the growth of more complex political systems, and the impact of international trade to the 19th century. Mr. Alpers, Mr. Ehret, Mr. Posnansky

178B. The economic, social, and political history of Eastern Africa since the imposition of colonial rule, with emphasis on underdevelopment and protest. Mr. Alpers, Mr. Posnansky

179A-179B. History of Southern Africa. Lecture, three hours.

179A. History of Southern Africa from the Origins to 1870. The origins of the South African peoples and their interactions to 1870. Attention to social and economic as well as political aspects. Mr. Ehret

179B. History of Southern Africa since 1870. The interactions between the inhabitants of Southern Africa since 1870. Attention to social and economic as well as political aspects. Mr. Ehret


180A. Origins to 900. Bronze Age and Iron Age China; the classical thinkers; the birth of the imperial state and the development of an aristocratic society.

182B. 900 to 1500. Prerequisite: course 98 or 182A or equivalent readings. The end of aristocratic rule; the emergence of the unified state and bureaucratic government; the foreign presence; trade, agriculture, and the growth of cities.

182C. 1500 to 1800. The background to modern China; landholding and agriculture; nascent capitalism; peasant movements; neo-Confucianism and the Manchu state.

183. Modern China, 1840-1920. Lecture, three hours. From the Opium War to the May Fourth Movement, imperialism, semi-colonial China, and popular mobilization, the emergence of classes, conflicts, and the establishment and revolutionary interpretations. Mr. Huang

184. The Chinese Revolution. Lecture, three hours. From the founding of the Chinese Communist Party to the present. Special emphasis on the evolution of Mao’s thought, the history of the Communist movement, the conditions in the Chinese countryside, the revolutionary developments under the People’s Republic. Mr. Huang

185. Diplomatic History of the Far East. Lecture, three hours. The role of the Far Eastern states in the international community, beginning with the establishment of the Treaty System in China and the opening of Japan to intercourse with the rest of the world in 1854.

187A-187B-187C. Japanese History. Lecture, three hours. The political, economic, and cultural development of Japan from prehistory to the present:

187A. Ancient: Prehistory to 1600. Mr. Nottebre.

187B. Early Modern: 1600 to 1868. Mr. Nottebre.

187C. Modern: 1868 to the Present. Mr. Nottebre.

188A. Early History of India. Lecture, three hours. Introduction to the civilization and institutions of India, the history and culture of the South Asian subcontinent from the earliest times to the founding of the Mughal Empire. Mr. Wolpert

188B. Recent History of India and Pakistan. Lecture, three hours. History of the South Asian subcontinent from the founding of the Mughal Empire through the eras of European expansion, British rule, and the nationalist movement to the present. Mr. Wolpert

190A-190B. History of Southeast Asia. Lecture, three hours.

190A. Early History of Southeast Asia. A political and cultural history of the peoples of Southeast Asia from the earliest times to about 1815. Mr. SarDesai

190B. Southeast Asia since 1815. History of modern Southeast Asia, with emphasis on expansion of European influence in the political and economic spheres, growth of nationalism, and the process of decolonization. Mr. SarDesai

191A-M191B. Survey of Jewish History. (Same as Jewish Studies M191A-M191B.) Lecture, three hours. A survey of social, political, and religious developments:

191A. From Biblical Times to the End of the Middle Ages. Mr. Funkenstein

191B. From the End of the Middle Ages to the Present. Mr. Funkenstein

191C-M191D. Focal Themes in Jewish History. (Same as Jewish Studies M191C-M191D.) Lecture, three hours. Treatments of one major theme in Jewish history (such as the history of Messianic Movements, the structure of the Jewish communities) through the ages. Mr. Funkenstein

191E-191F. The Third Reich and the Jews. Lecture, three hours.

191E. The history of modern anti-Semitic ideologies and movements. The rise of national socialism in Germany. Development and execution of Nazi anti-Semitic policy to the outbreak of World War II.


192A-192B. Jewish Intellectual History. Lecture, three hours. The development of Jewish self-understanding in relation to the intellectual climate of the environment as expressed in the halacha, in philosophy, and in cabalism. 192A. The Medieval Period; 192B. The Modern Period. Mr. Funkenstein

193A. History of Religions: Myth. Lecture, three hours. The nature and function of myth in the history of religion and culture. Examples selected from non-literate as well as from other Asian and European traditions. Mr. Bolte
193B. Religions of South and Southeast Asia. Lecture, three hours. Prerequisite: course 4 or 193A. Topics vary from year to year and include Buddhism in India; the religions of Java and Bali; the nonliterate traditions of India and Southeast Asia. See Schedule of Classes for specifics. May be taken independently for credit. Mr. Bolle

193C. Religions of South and Southeast Asia. Lecture, three hours. Prerequisite: course 4 or 193A. Topics vary from year to year and include Buddhism in India; the religions of Java and Bali; the nonliterate traditions of India and Southeast Asia. See Schedule of Classes for specifics. May be taken independently for credit. Mr. Bolle

193D. Religions of the Ancient Near East. Lecture, three hours. The main polytheistic systems of the ancient Near East, with emphasis on Mesopotamia and Syria and with reference to the religion of ancient Israel: varying concepts of divinity, hierarchies of gods, prayer and cult, magic, wisdom, and moral conduct. Mr. Buccellati

193E. Special Topics in the History of Religions. Lecture, three hours. Topics are announced in the Schedule of Classes and include ancient Germanic cults; Renaissance mysticism; mystics of the low countries; goddesses; religion in a secular age. Mr. Bolle

194A. History of the Early Christians. (Formerly numbered 198.) Lecture, three hours. The Christian movement from its origins to ca. 160 C.E., stressing its continuity/discontinuity with Judaism, the various responses to Jesus of Nazareth, the writings produced during this period, the movement's encounters with its religious, social, and political world, and methods of research. Mr. Bartych

194B. The Religious Environment of the Early Christians. (Formerly numbered 198.) Lecture, three hours. The rich variety in religious practice and thought in the Mediterranean world of the 1st century C.E. as seen in the context of the developing Christian movement. Topics include the Pharisees, Qumran, Philo, St. John, St. Paul, and other early Jewish and Roman religions, "mysteries." astrology, magic, gnosticism, and emperor-worship. Mr. Bartych

195A-195D. History of Science. Lecture, three hours. Science and scientific thought in relationship to society:

195A. Medieval and Renaissance Science. Prerequisite: course 3A or consent of instructor. Continuity and discontinuity in scientific traditions from the 12th to the 17th century; interrelationships between theology, scientific thought, and social conditions. Theology for the production of knowledge and the occult sciences. Mr. Funkenstein, Mr. Westman

195B. Perspectives on the Early Modern Physical Sciences. Prerequisite: course 3A or consent of instructor. A detailed view of selected topics in the development of early modern physical sciences from 1600 to 1750, with focus on explanations of historical change in science. Normally, four topics are studied in order to cover a broad range of scientific, philosophical, and social issues.

195C. The Classical Physical Sciences: 18th and 19th Centuries. Prerequisite: course 3B or consent of instructor. The development of classical physical science from Newton's mechanics to Maxwell's electromagnetism. The rise of modern science with the construction of the Enlightenment, the industrial Revolution, and the 19th-century professionalized science. Mr. Wise

195D. Physical Sciences in the 20th Century. Prerequisite: course 3B or consent of instructor. A nonmathematical, narrative introduction to the major developments in the physical sciences and scientific issues (e.g., the birth of quantum mechanics and relativity; stellar evolution and cosmological theories; nuclear physics, nuclear weapons, and nuclear policy; and the changing character of industrialized science).


197. Undergraduate Seminars. Seminar, three hours. Limited to 15 students meeting with a faculty member. Organized on a topic basis with readings, discussions, papers. Signups and descriptions of offerings each quarter are available in the undergraduate counselor's office (6284 Bunche Hall). May be repeated once for credit. When regularly scheduled with courses 210A-210U or 203, undergraduates must obtain instructor's consent to enroll.

199. Special Studies in History. An intensive directed research program. Eight units may be applied toward a major independently. Mr. Bolle

199A-199H.B-199HC. Directed Studies for Honors. Limited to history honors majors. In Progress grading:

199H. Seminar meetings to help students define their research topics and explore problems of historical research. Extensive reading and research in the field of the proposed honors thesis.

199B. Continued reading and research culminating in a draft of the honors thesis.

199C. Revisions of the draft and preparation of polished honors thesis; oral examination on thesis.

199D. Independent Study for Internships. Prerequisite: maintenance of a 3.0 grade-point average in the major. An independent study course to be supervised jointly by the Field Studies Office and the faculty advisor. Further supervision to be provided by the business for which the student is doing the internship. May not be used to satisfy the requirement for course 197 or 199. Normally, only four units of internship with the History Department are allowed. P/NP grading.

Graduate Courses:

Admission to all graduate courses is subject to the instructor's consent and to appropriate language qualifications. For multiterm courses, credit and grades are given only on completion of the full seminar sequence, with In Progress grading until the last term unless otherwise noted. Topics courses and seminars may be repeated.

200A-200U. Advanced Historiography. Seminar, three hours. 200A. Ancient Greece; 200B. Ancient Rome; 200C. Medieval; 200D. Early Modern Europe; 200E. Armenia and the Middle East; 200F. Japan; 200G. Britain; 200H. United States; 200I. Latin America; 200J. Near East; 200K. India; 200L. China; 200M. Japan; 200N. Africa; 200O. Science/Technology; 200P. History of Religions; 200Q. Theory of History; 200R. Jewish History; 200S. Armenia and the Caucasus; 200T. Southeast Asia; 200U. Psychohistory. May be repeated for credit.

M200V. Advanced Historiography: Afro-American. (Same as Afro-American Studies M200A.) Seminar, three hours. May be repeated for credit. Ms. Creel

M200W. Advanced Historiography: American Indian Peoples. (Same as American Indian Studies M200A.) Seminar, three hours. Mr. Andrews


201A-201U. Topics in History. Seminar, three hours. Topic titles are the same as for courses 200A-200U. A graduate course involving reading, lecturing, and discussion of selected topics. Does not fulfill the seminar requirements for the Ph.D. degree. May be repeated for credit. When concurrently scheduled with course 197, undergraduates must obtain instructor's consent to enroll.

202A-202B. Seminar in Comparative Economic History. Discussion, three hours. Prerequisite: senior standing. A study of problems of modern economics in the 19th and 20th centuries, including such topics as industrialization, growth, demography, development, and economic change. In Progress grading. Mr. Yeager

203. Topics in Comparative History. Seminar, three hours. Possible topics include study of European expansion and its impact on non-European societies, the American Revolution in an international perspective, etc.

204A-204B. Seminar in Near and Middle Eastern History. Seminar, three hours. Methodology, socioeconomic and political change in the Arab world. Ms. Marsot

205A-205B. Seminar in Medieval Middle Eastern History. Seminar, three hours. Mr. Morony

206A-206B. Seminar in the Social History of the Middle East. Seminar, three hours. The interrelationship of city, tribe and village in the Middle East; the role of such definable social groups as women, religion, and landowners; economic change. Ms. Keddie

M207. Seminar in Ancient Mesopotamia. (Same as Ancient Near East M250) Seminar, three hours. Selected topics on the political, social, and intellectual history of ancient Mesopotamia. May be repeated for credit. Mr. Bolle

209A-209B. Seminar in Ottoman and Modern Turkish History. Seminar, three hours. Mr. Shaw

211A-211B. Seminar in Armenian History. Seminar, three hours. Mr. Hovannisian

212. Methods in Armenian Oral History. Seminar, three hours. Prerequisite: proficiency in the Armenian language. Lectures and laboratory in the methods of taking, processing, and utilizing depositions and other oral sources for Armenian history, including a project assignment in the field. May be concurrently scheduled with course C112D. Mr. Hovannisian

215A-215B. Seminar in Ancient History. Seminar, three hours. Mr. Chambers, Mr. Melior

216A-216B. Seminar in Byzantine History. Seminar, three hours. Mr. Yvonis

217. Sources and Handbooks of Medieval History. Seminar, three hours. Prerequisite: reading knowledge of Latin or German or French. A history of the manuscript book from antiquity through the Carolingian renaissance, with emphasis on dating and localization as well as on proficiency in reading.

218. Medieval Latin Literary History. Seminar, three hours. Recommended prerequisite: reading knowledge of Latin or German or French. An examination of aspects of medieval history through the study of paleography, medieval libraries, and the transmission of ancient medieval authors.

219A. Paleography I. Seminar, three hours. Prerequisite: reading knowledge of Latin or German or French. A history of the manuscript book from antiquity through the Carolingian renaissance, with emphasis on dating and localization as well as on proficiency in reading.

219B. Paleography II. Seminar, three hours. Prerequisite: reading knowledge of Latin or German or French. A 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.

220A-220B. Seminar in Church and Monarchy in the Middle Ages. Seminar, three hours. Textual studies and historical approaches to the problems of problems of political, social, and economic change.

221A-221B. Seminar in Medieval Hebrew History. Seminar, three hours. Mr. R.Burns
43. Mind, Brains, Humans, and Computers. Seminar, three hours; computer laboratory, three hours. Prerequisite: consent of instructor. Investigation into the mind/body problem and into current theories of what constitutes the mind, including a study of artificial intelligence and the essentials of programming in LISP (an artificial intelligence program). P/NP or letter grading. Mr. Taylor (F)

47. Brains: Structure, Function, and Evolution. Seminar, three hours. An examination of current perspectives on the structure, function, and evolution of brains, over the three centuries during which the structures and the ways in which the two structures correspond. A course in the philosophy of knowledge, not in neuroscience. Mr. Goldberg (Sp)

50. Greek Views of Humanity. (CORE) Lecture, three hours; discussion, one hour. Greek views of human experience as expressed in the literary forms of the epic, the lyric, the theater, and the drama. A study of the ideal symbolic forms and of the way in which Greek texts provide a foundation for subsequent Western literature and thought. P/NP or letter grading. Mr. Bergren (Sp)

51. Renaissance Views of Human Nature. (CORE) Lecture, three hours; discussion, one hour. A study of the ideals and literary forms of the Renaissance and of the interplay between Christian theology and reborn classical aspirations. Investigation, through authors ranging from Erasmus to Shakespeare, of individualism, authority, and concepts of history and honor. P/NP or letter grading. Ms. King (W)

52. The Rise and Fall of the 19th-Century Novel. (CORE) Lecture, three hours; discussion, one hour. An examination of the narrative strategies used by such authors as Austen, Stendhal, Balzac, Dickens, Turgenev, Flaubert, and Fontaine, including a discussion of the historical and political circumstances, as well as the cultural and the capabilities of the languages and other mental abilities, and the autonomous nature of language as a system of knowledge. P/NP or letter grading. Ms. Re (Sp)

54. Literature and Performance. Seminar, three hours. An exploration of the ways in which literature is affected by readings, by performance, and by oral tradition. Students study the relationship between language and the relationship of a specific work (as affected by performance) or a presentation of a work (as in the one-man shows of Dickens and Twain). P/NP or letter grading. Mr. Hutter (F)

61. Social Theory in the 20th Century (6 units). (CORE) Lecture, three hours; discussion, one hour; writing seminar, two hours. An examination of the strikingly subjective thrust of 20th-century social thought which has emphasized cultural and emotional structures rather than the material, objective world. Focus on psychoanalysis, structuralism, functionalism, existentialism, and phenomenology in readings from Durkheim to Jean-Paul Sartre. P/NP or letter grading. Mr. Alexander, Mr. Entrikin (W)

62. Community and Self-interest in the History of American Culture. Seminar, three hours. An analysis of the late 20th-century city ranging from population process to the nature of community, from crime to finance, from politics to pollution. Includes opportunity for computer analysis of a data base. P/NP or letter grading. Ms. Monkonnen (Sp)

66. The Classics of Zen. Seminar, two and one-half hours. Introduction to characteristic thought forms and cultural expressions of the people of China, Korea, and Japan through the major classical texts (in translation) of the East Asian tradition of Zen. Discussion of the contemporary relevance of the classical texts. Mr. LaFlure (W)

67. The Trial of Galileo. Seminar, three hours. An appreciation of science as a historical process. The trial and condonation of Galileo raises questions about the scientific issues at stake, the legal, political, and religious complexities impinging on the decision, the real or apparent conflict between science and religion, and the meaning of the Galileo affair today. Mr. Westman (Sp)

68. History of Social Thought (6 units). (CORE) Lecture, three hours; discussion, one hour; writing seminar, two hours. A study of the significant forms of social theory and sociocultural change from the English Revolution to the beginning of the 20th century, including readings from Hobbes, Rousseau, Smith, Tocqueville, Marx, and Freud. P/NP or letter grading. Mr. Prager (F)

70. Genetic Engineering in Medicine and Agriculture. Lecture/discussion. An overview of the principles of cell and molecular biology and of the technical details of genetic engineering; discussion of the benefits and detriments of the new biotechnology in relation to medicine, agriculture, and general social issues. Mr. Goldberg (F)

71. The Physics of Music. Seminar, three hours; laboratory/demonstration, two hours. An exploration of the relationship between musical sound as a physical phenomenon and the aesthetic perception of its music. The physical principles of instruments, the role of room acoustics, and the theoretical basis of sound reproduction, including digital recording and signal processing. Mr. Greene (Sp)

80. The Literature of Diversity: Cultural Experience in America. Seminar, three hours. An examination of the richness and variety of American culture as revealed in literary works generally neglected in traditional anthologies. The selection of works is informed by readings presented in such works as Black Elk Speaks, Their Eyes Were Watching God, Mexican Corridos on immigration, and China Men. P/NP or letter grading. Mr. Paredes (F)

81. The City in History and Literature. Seminar, two and one-half hours. An examination of the literature dealing with the rise of the commercial city, moving to the industrial city and to the postindustrial or "global" city; a parallel study of sociocultural change from the English Revolution to the present. Mr. Lehan (W)
Humanities

334D Royce Hall, (213) 825-7650

Professors
Arnold J. Band, Ph.D. (Hebrew and Comparative Literature)
A. R. Braunmuller, Ph.D. (English)
Philip Levine, Ph.D. (Classics)
Ross P. Shideler, Ph.D. (Scandinavian and Comparative Literature), Chair
Per-Maria Pasinetti, Ph.D., Emeritus (Italian and Comparative Literature)

Associate Professors
Albert D. Hutter, Ph.D. (English)
Katherine C. King, Ph.D. (Classics and Comparative Literature)
Kathleen K. Komar, Ph.D. (German and Comparative Literature)

Assistant Professor
Lucia Re, Ph.D. (Italian and Comparative Literature)

Lower Division Courses

The following courses are made up of selected masterpieces of world literature. They are recommended to satisfy the humanities general education requirements in the College of Letters and Science.

1A. World Literature: Antiquity to Early Middle Ages. Lecture, three hours; discussion, one hour. Prerequisite: satisfaction of Subject A requirement. Not open for credit to students with credit for course 2A. A study of major texts in world literature, with emphasis on Western civilization. Texts include major works and authors such as the Iliad or the Odyssey, Greek tragedies, portions of the Bible, Virgil, Petronius, St. Augustine, and others such as Gilgamesh or Tristan and Yseult.

1B. World Literature: Late Middle Ages to the 17th Century. Lecture, three hours; discussion, one hour. Prerequisite: satisfaction of Subject A requirement. Not open for credit to students with credit for course 2B. A 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, Moliere, and Racine.

1C. World Literature: Age of Enlightenment to the 20th Century. Lecture, three hours; discussion, one hour. Prerequisite: satisfaction of Subject A requirement. Not open for credit to students with credit for course 2C. A study of major texts in world literature, with emphasis on Western civilization. Authors include Swift, Voltaire, Diderot, Rousseau, Goethe, Flaubert, Ibsen, Strindberg, Dostoevsky, Kafka, Joyce, Woolf, and Stevens.

2A. Survey of Literature: Antiquity to Early Middle Ages. Lecture, two hours; discussion, two hours. Prerequisites: satisfaction of Subject A requirement. Not open for credit to students with credit for course 1A. Fulfills the College of Letters and Science English Composition requirement and the College of Fine Arts Critical Reading and Writing requirement. The study of selected texts from antiquity to the Middle Ages, with emphasis on literary analysis and exppository writing. Texts include works and authors such as the Iliad, Greek tragedies, Ovid, Ovidian, Petronius, St. Augustine, or Tristian and Yseult.

2B. Survey of Literature: Late Middle Ages to the 17th Century. Lecture, two hours; discussion, two hours. Prerequisite: satisfaction of Subject A requirement. Not open for credit to students with credit for course 1B. Fulfills the College of Letters and Science English Composition requirement and the College of Fine Arts Critical Reading and Writing requirement. The study of selected texts from the Middle Ages to the 17th century, with emphasis on literary analysis and exppository writing. Texts may include works and authors such as Chaucer, Dante's Divine Comedy, Cervantes' Don Quixote, Shakespeare, Calderon, Moliere, and Racine.

2C. Survey of Literature: Age of Enlightenment to the 20th Century. Lecture, two hours; discussion, two hours. Prerequisite: satisfaction of Subject A requirement. Not open for credit to students with credit for course 1C. Fulfills the College of Letters and Science English Composition requirement and the College of Fine Arts Critical Reading and Writing requirement. The study of selected texts from the Age of Enlightenment to the 20th century, with emphasis on literary analysis and exppository writing. Texts may include works by authors such as Swift, Voltaire, Diderot, Rousseau, Goethe, Flaubert, Ibsen, Strindberg, Dostoevsky, Kafka, and James Joyce or Wallace Stevens.

Upper Division Courses

101. The Romantic Dilemma. Prerequisite: one course from Humanities 1A, 1B, 1C, 2A, 2B, 2C, or English 3, or consent of instructor. The theme of Romantic individualism and rebellion, pursued through literary examples of Romantic hero types (and anti-types) from Rousseau and Goethe to Dostoevsky and Hesse.

102. Satires. Prerequisite: one course from Humanities 1A, 1B, 1C, 2A, 2B, 2C, or English 3, or consent of instructor. An intensive study of The Magic Mountain and The Remembrance of Things Past as works of art and as expressions of the sense of social and cultural dissolution felt in early 20th-century Europe.

C105. The Comic Spirit. Prerequisites: upper division standing, literature major. Masterpieces of world literature, beginning with comic relief and ending with Pirandello and Nabokov. A study of the themes of inverted perspective and the presence of the comic spirit in a variety of works.

M106. Hebrew Literature in English — The Literary Traditions of Ancient Israel: Bible and Apocalypse. (Same as Jewish Studies M150A.) Lecture, three hours. A study of the literary culture of ancient Israel through an examination of the principal compositional components of the Hebrew Bible and the Apocalypse (read in translation).

C107. The Classical Tradition: Epic. Seminar, three hours. Prerequisites: upper division standing, literature major, consent of instructor. Analysis of the Iliad, the Odyssey, and ancient Greek and Roman epics, selected to demonstrate the variety of comic expression. May be concurrently scheduled with Comparative Literature C205. Undergraduates read all works in translation.

M. Band


M. Komar

110. Man and His Fictions. Prerequisite: one course from Humanities 1A, 1B, 1C, 2A, 2B, 2C, or English 3, or consent of instructor. The art of tale-telling and the nature of narrative. Examination of the cultural and philosophical implications of the novel as a form of art.

M. Komar

C111. The Classical Tradition: Tragedy. Seminar, three hours. Prerequisite: upper division standing or consent of instructor. Analysis of selected Greek dramas and their re-creations in Rome, in the Renaissances, and in the modern period. May be concurrently scheduled with Comparative Literature C211.

M. King

114. The Short Novel. Prerequisite: one course from Humanities 1A, 1B, 1C, 2A, 2B, 2C, or English 3, or consent of instructor. A study of selected short novels as works of literary art and as relevant intellectual statements. Texts by Melville, Flaubert, Dostoevsky, Kafka, et al. Mr. Pasinetti

115. Four Modern Dramatists. A study of several works by four major modern dramatists, focusing on understanding specific works in each work and the authors' possible interrelations. Pirandello, Beckett, and Pinter are read; the fourth author is selected from Ionesco, Giraudoux, Cocteau. Mr. Braunmuller
C117. The Mystery Novel. Prerequisites: upper division standing and literature major, or consent of instructor. A study of the presence and the treatment of history in the rhetoric of Renaissance authors ranging from the Italian humanists to Machiavelli and Shakespeare. Other authors include Poliziano and Lorenzo de' Medici. Concurrently scheduled with Comparative Literature C252. Undergraduates read all works in translation.

C118. Romantic Autobiography. Discussion, three hours. Prerequisites: upper division standing and literature major, or consent of instructor. An analysis of the autobiography from spiritual (Augustine) and secular (Collini) sources to the transition in the 19th century which blended features of the epic poem and the quest-romance. Wordsworth's Prelude aims to represent the best example of this mixture. Major examples of the Romantic autobiography to be studied include Rousseau's Confessions, Wordsworth's Prelude, and Goethe's Wilhelm Meisters Vorlesungen. Later novels that develop and extend the genre include Joyce's Portrait of the Artist as a Young Man and Proust's Swann's Way. May be concurrently scheduled with Comparative Literature C268. Undergraduates read all works in translation.

Ms. Packer

C119. The Dream in English and German Romantic Literature. Lecture, three hours. Prerequisites: upper division standing and literature major, or consent of instructor. A study of the use of the dream as a standard narrative technique in English and German Romantic literature. May be concurrently scheduled with Comparative Literature C270. Undergraduates read all works in translation.

Ms. Packer

C120. The Semiotics of Story and Film: An Introduction to Narrative Semiotics. Discussion, three hours. Prerequisites: upper division standing and literature major, or consent of instructor. An investigation of the theoretical aspects of semiotics in relation to the novel form. Readings include such texts as de Ayalas Belmarismo and Apolonia, Singer's The Magician of Lubin, selected stories from Babes in Red Cavalry, a Dickens' novel, and Laudos Lissons Dangereuses. Concurrently scheduled with Comparative Literature C283. Undergraduates read all works in translation.

Ms. Baumgarten

C121. Darwinsm and Literature. (Formerly numbered 173.) Seminar, three hours. Prerequisites: upper division standing or consent of instructor. The impact of Darwin's theories on European and American literature. While texts include major works in the development of naturalism, such as novels by Zola, Hardy, Crane, or Dreiser and plays by Strindberg and Ibsen, the course moves forward into the continuing influence of other "determinist" and behaviorally oriented theories in works by authors such as Mann, Sartre, Camus, Stevens and Skinner. May be concurrently scheduled with Comparative Literature C276.

Mr. Shideler

C122. Comparative Literature. Seminar, three hours. Prerequisites: upper division standing or consent of instructor. An exploration of key works in the development of naturalism, such as novels by Zola, Hardy, Crane, or Dreiser and plays by Strindberg and Ibsen, the course moves forward into the continuing influence of other "determinist" and behaviorally oriented theories in works by authors such as Mann, Sartre, Camus, Stevens and Skinner. May be concurrently scheduled with Comparative Literature C276.

Mr. Shideler

C123. Novel, Crime, Ritual. Discussion, three hours. Prerequisites: upper division standing and literature major, or consent of instructor. An investigation of a range of novels dealing with ritual and crime and their relation to the novel form. Readings include such texts as de Ayalas Belmarismo and Apolonia, Singer's The Magician of Lubin, selected stories from Babes in Red Cavalry, a Dickens' novel, and Laudos Lissions Dangereuses. Concurrently scheduled with Comparative Literature C283. Undergraduates read all works in translation.

Ms. King, Ms. Komar

C124. The Alternative Tradition: In Search of a Female Voice in Contemporary Literature. Seminar, three hours. Prerequisites: upper division standing and literature major, or consent of instructor. In- vestigation of narrative texts by contemporary French, German, English, American, Spanish-American, African, and Asian women writers from a cross-cultural perspective. Common themes, problems, and techniques. May be concurrently scheduled with Comparative Literature C284. Undergraduates read all works in translation.

Mr. Baumgarten

C125. The Modern Continental Novel. Lecture, three hours. Prerequisites: upper division standing and literature major, or consent of instructor. Study of the modern novel's development from naturalism toward a mythic or symbolic level. Authors such as Gide, Proust, Mann, Joyce, Nabokov, and Grass are used to focus on the development of themes such as oriztivism vs. authority, change vs. stability, and the self-conscious narrative. Concurrently scheduled with Comparative Literature C285. Undergraduates read all works in translation.

Ms. Lehan
Indo-European Studies
(Interdepartmental)

1037 Graduate School of Management, (213) 825-4242

Professors
Raimo A. Anttila, Ph.D. (Linguistics)
Henrik Birnbaum, Ph.D. (Slavic Languages and Literatures)
Patrick K. Ford, Ph.D. (Celtic Languages and Literatures)
Marija Gimbutas, Ph.D. (Slavic Languages and Literatures, Archaeology)
Bengt T. M. Löfstedt, Ph.D. (Classics)
Jaan Puhvel, Ph.D. (Classics, Indo-European Studies)
Harmit E. F. Scharfe, Ph.D. (East Asian Languages and Cultures)
Hanns-Peter Schmidt, Ph.D. (Near Eastern Languages and Cultures)
Alan H. Timberlake, Ph.D. (Slavic Languages and Literatures)
Terence H. Wilbur, Ph.D. (Germanic Languages)

Associate Professor
Joseph F. Nagy, Ph.D. (Celtic Languages and Literatures)

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 Folklore and Mythology Center, 1037 GSM, UCLA, Los Angeles, CA 90024.

Admission to the program itself constitutes admission to the doctoral program; there is no master’s degree 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 in 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 Educational Testing Service (ETS) examination 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 Homeric Greek, basic competence in Indo-European linguistics (including Indo-European Studies M150 and 210), mythology (e.g., Classics 168), 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 Linguistics (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 allow reexamination. 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
The final oral examination is designed to allow the committee to evaluate the dissertation within the discipline and within your own specialization. Although it is stated as a requirement, individual circumstances have on occasion dictated waiver of the final oral examination.

Upper Division Courses
131. European Archaeology: Proto-Civilizations of Europe. A survey of European cultures from the beginning of the food-producing economy in the 7th Millennium B.C. to the beginning of the Bronze Age in the 3rd Millennium B.C. Mrs. Gimbutas
132. European Archaeology: The Bronze Age. Prerequisite: course 131 or consent of instructor. A survey of European cultures from around 3000 B.C. to the period of the destruction of the Mycenaean culture about 1200 B.C. The Aegean area and the rest of Europe. Mrs. Gimbutas 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. A survey of the Indo-European languages from ancient to modern times; their relationships and chief characteristics. Mr. Anttila (Sp) 199. Special Studies (2 to 8 units).

Graduate Courses
Related Courses in Other Departments

**Ancient Near East (Near Eastern Languages)**
- 160A-160B. Introduction to Near Eastern Archaeology
- 161A-161B. Aegean Bronze Age
- 260. Seminar in Ancient Near Eastern Archaeology
- 261. Practical Field Archaeology

**Anthropology**
- 110. World Archaeology
- 112. Old Stone Age Archaeology
- 115Q. Archaeological Research Techniques
- 115R. Strategy of Archaeology
- 116P. Laboratory Analysis in Archaeology

**Classics**
- 161G. Dating Techniques in Environmental Sciences and Archaeology
- 183. History of Archaeology
- 259. Fieldwork in Archaeology
- 130A-130B. Elementary Classical Armenian
- 131A-131B. Intermediate Classical Armenian
- 132A-132B. Advanced Classical Armenian
- 161A. Introduction to Classical Mythology
- 166A. Greek Religion
- 166B. Roman Religion
- 168. Introduction to Comparative Mythology
- 180. Introduction to Classical Linguistics
- 230A-230B. Language in Ancient Asia Minor
- 251A. Seminar in Classical Archaeology: The Aegean Bronze Age
- 260. Topics in Ancient Religion
- 269. Seminar in Comparative Mythology

**East Asian Languages and Cultures**
- 160. Elementary Sanskrit
- 161. Intermediate Sanskrit
- 162. Advanced Sanskrit
- 165. Readings in Sanskrit
- 214A-214B. Pali and Prakrits

**English**
- 111D. Celtic Mythology
- 111E. Survey of Medieval Celtic Literature
- 111F. Celtic Folklore
- 211. Old English
- 216A-216B. Old Irish
- 217A-217B. Medieval Welsh
- 218. Celtic Linguistics
- 263. Celtic Literature
- 512. Celtic Mythology
- 512C. Celtic Folklore
- 228. Seminar: Topics in Celtic Folklore and Mythology

**German (Germanic Languages)**
- 230. Survey of Germanic Philology
- 231. Gothic
- 232. Old High German
- 233. Old Saxon
- 245B. Germanic Antiquities

**Greek (Classics)**
- 240A-240B. History of the Greek Language
- 242. Greek Dialects and Historical Grammar
- 243. Mycenaean Greek

**Iranian (Near Eastern Languages)**
- 169. Civilization of Pre-Islamic Iran
- 170. Religion in Ancient Iran
- 190A-190B. Introduction to Modern Iranian Studies
- M222A-M222B. Vedic
- 230A-230B. Old Iranian
- 231A-231B. Middle Iranian

**Latin (Classics)**
- 240. History of the Latin Language
- 242. Italic Dialects and Latin Historical Grammar

**Linguistics**
- 100. Introduction to Linguistics
- 103. Introduction to General Phonetics
- 110. Introduction to Historical Linguistics
- 120A, 120B. Linguistic Analysis

**Old Norse Studies (Germanic Languages)**
- 140. Viking Civilization and Literature
- 151. Elementary Old Norse
- 152. Intermediate Old Norse
- 245A. Germanic and Scandinavian Mythology
- 140A-140B. Elementary Akkadian
- 220A-220B. Ugaritic

**Slavic (Slavic Languages)**
- 177. Baltic Languages and Cultures
- M179. Baltic and Slavic Folklore and Mythology
- 201. Introduction to Old Church Slavic
- 202. Introduction to Comparative Slavic Linguistics
- 241A-241B. Advanced Old Church Slavic
- 242. Comparative Slavic Linguistics
- 251. Introduction to Baltic Linguistics

Courses in management and administration, and oral and written communications, ordinarily increase the career options of students in this program.

**Special Undergraduate Program**

**Preparation for the Program**

*Required: Political Science 20, 50, and two courses from 10, 40, 70, 80; History 1A-1B-1C or any three courses from 5A, 5B, 8A, 8B, 8C, 9A, 9B, 9C, 9D, 10A, 10B, Economics 1 and 2, or 100; Sociology 1; Anthropology 5 or 22; Geography 3 or 5.*

**Upper Division**

The political science major should be completed as follows: any four upper division political science courses in each of Fields II and IV and two additional courses both in Field I, Field III, Field V, or Field VI.


Completion of the sixth quarter course (or equivalent as prescribed by the 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 Portuguese, Italian, Germanic Languages, Near Eastern Languages and Cultures, African Languages, and East Asian Languages and Cultures. 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 Latin America, Africa, the Atlantic area, the Soviet sphere, East Asia, Southeast Asia, South Asia, or the Middle East.

For further information, contact Vicki Waldman, Political Science Counselor, in the program office.
Afaf Marsot, D.Phil.

formulated for candidates according to their

Georges Sabagh, Ph.D. (Sociology)

(Society)

Andras Bodrogligeti, Ph.D. (Near Eastern Languages and Cultures)

Seeger A. Bonebakker, Ph.D. (Near Eastern Languages and Cultures)

Robert L. Burns, S.J., Ph.D. (History)

Herbert A. Davidson, Ph.D. (Near Eastern Languages and Cultures)

Richard Hovannisian, Ph.D. (History)

Nikki Keddie, Ph.D. (History)

John G. Kennedy, Ph.D. (Anthropology and Psychiatry)

Afal Mersed, D.Phil. (History)

Ismael Poonawala, Ph.D. (Near Eastern Languages and Cultures), Chair

Georges Sabagh, Ph.D. (Sociology)

Damodar R. SarDesai, Ph.D. (History)

Stanford J. Shaw, Ph.D. (History)

Speros Vryonis, Jr., Ph.D. (History)

Stanley A. Wolpert, Ph.D. (History)

A. Bonebakker, Ph.D. (Near Eastern Languages and Cultures)

A feral project is required. In addition, you should have completed the equivalent of two years of Near Eastern history (classical and modern). Some coursework in Islamic culture and institutions may be applied toward the history requirement. Deficiencies in any of these prerequisites will 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 overseas applicants. No screening examination is required.

A departmental brochure may be obtained by writing to the G.E. von Grunebaum Center for Near Eastern Studies, 10286 Bunche Hall, UCLA, Los Angeles, CA 90024.

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 interdepartmental program for the Master of Arts and Ph.D. degrees in Islamic Studies is designed primarily for students desiring to prepare 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 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 and Iranian 102A-102B-102C or Turkic Languages 102B-102C. In addition, you should have completed the equivalent of two years of Near Eastern history (classical and modern). Some coursework in Islamic culture and institutions may be applied toward the history requirement. Deficiencies in any of these prerequisites will 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 overseas applicants. No screening examination is required.

A departmental brochure may be obtained by writing to the G.E. von Grunebaum Center for Near Eastern Studies, 10286 Bunche Hall, UCLA, Los Angeles, CA 90024.

Major Fields or Subdisciplines

Arabic, Persian, Turkish, history of the Near East, political science, anthropology, sociology, Islamic art, Near Eastern music.

Foreign Language Requirement

You are required to show proficiency in either French or German. You are expected to pass the Educational Testing Service (ETS) graduate foreign language reading examination in French or German by the end of your third quarter in residence.

Course Requirements

A minimum of nine courses is required, five of which must be graduate. You must take no fewer than four courses on the appropriate level in the two Near Eastern languages 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.

Comprehensive Examination Plan

The thesis plan is not available in this program. You must pass written examinations in two Near Eastern languages and literature, the history of the Near East, and one other social science. 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. 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 overseas applicants.

A departmental brochure may be obtained by writing to the G.E. von Grunebaum Center for Near Eastern Studies, 10286 Bunche Hall, UCLA, Los Angeles, CA 90024.

Major Fields or Subdisciplines

Arabic, Persian, Turkish, history of the Near East, political science, anthropology, sociology, political science, Islamic art, Near Eastern music.

Foreign Language Requirement

At the beginning of your first quarter 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 pass the graduate foreign language reading examination in both languages by the end of your second year in residence. For work in some fields, a reading knowledge of Italian, Spanish, or Russian may be substituted for one of the above European languages after satisfactory advisement. The Educational Testing Service (ETS) examination is acceptable.

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 other social science field (anthropology, political science, sociology). After successfully completing the written examinations, you must pass the University Oral Qualifying Examination in order to be advanced to doctor-
al 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. The Study of Culture
133P. Social and Psychological Aspects of Myth and Ritual
150. Comparative Society
155. Comparative Religion
161. Development Anthropology
M163. Women in Culture and Society
167. Urban Anthropology
176. Cultures of the Middle East
215. Field Training in Archaeology
230P. Ethnology
230Q. Cultural Anthropology
M232P. Cultural Modes of Thought
233Q. Myth and Ritual
239P. Selected Topics in Field Training in Ethnography
239Q. Analysis of Field Data
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
114A-114B-114C. Spoken Moroccan Arabic
120. Islamic Texts
130. Classical Arabic Texts
132. Philosophical and Kalam Texts
140. Modern Arabic Texts
141. Modern Arabic Literature
150A-150B. Survey of Arabic Literature in English
199. Special Studies in Arabic
220. Seminar in Islamic Texts
230. Medieval Literary Texts
240. Seminar in Arab Historians and Geographers
250. Seminar in Arabic Literature
596. Directed Individual Study
597. Examination Preparation
599. Ph.D. Dissertation Research and Preparation

Archaeology 259. Fieldwork in Archaeology
596. Individual Studies for Graduate Students
597. Preparation for Ph.D. Qualifying Examinations

Armenian (Near Eastern Languages) 130A-130B. Elementary Classical Armenian
131A-131B. Intermediate Classical Armenian
132A-132B. Advanced Classical Armenian
210. History of the Armenian Language
220. Armenian Literature of the Golden Age (A.D. 5th Century)

Art History (Art, Design, and Art History) 104A. Western Islamic Art
104B. Eastern Islamic Art
C104C. Problems in Islamic Art
105E. Byzantine Art
213. Problems in Islamic Art
C214. Problems in Islamic Art

Berber (Near Eastern Languages) 101A-101B-101C. Elementary Berber
102A-102B-102C. Advanced Berber
130. The Berbers
199. Special Studies in Berber Languages

Classics M170A, M170B. Byzantine Civilization
French 212A. Franco-African Literature
221A. Introduction to the Study of the French-African Literatures
221C. French-African Literature of Berbero-Sudanese and Arabo-Islamic Africa
257A-257B. Studies in French-African Literature

Geography 187. Middle East
188. Northern Africa
287. Middle East
288. Northern Africa

Greek (Classics) 231A-231B-231C. Seminar in Later Greek and Byzantine Literature

Hebrew (Near Eastern Languages) 230. Seminar in 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. Recent History of India and Pakistan
190A-190B. History of Southeast Asia
204A-204B. Seminar in Near and Middle Eastern History
205A-205B. Seminar in Medieval Middle Eastern History
206A-206B. Seminar in the Social History of the Middle East
209A-209B. Seminar in Ottoman and Modern Turkish History
216A-216B. Seminar in Byzantine History
596. Directed Studies
597. Directed Studies for Graduate Examinations
599. Ph.D. Research and Writing

Iranian (Near Eastern Languages) 101A-101B-101C. Elementary Persian
102A-102B-102C. Intermediate Persian
103A-103B-103C. Advanced Persian
140. Contemporary Persian Belle Lettres
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, the Mystic Poet of Islam
250. Seminar in Classical Persian Literature
251. Seminar in 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
598. M.A. Thesis Research and Preparation
599. Ph.D. Dissertation Research and Preparation

Jewish Studies (Near Eastern Languages) 110. Social, Cultural, and Religious Institutions of Judaism

Linguistics 220. Linguistic Areas
225. Linguistic Structures

Music 282. Music of Iran and Other Non-Arabic-Speaking Communities
284. Music of the Arabic-Speaking Near East

Near Eastern Languages 200. Bibliography and Method of Near Eastern Languages and Literatures
210. Survey of Afro-Asiatic Languages
M241. Folklore and Mythology of the Near East
290. Seminar in Paleography
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
165. Government and Politics in North Africa
C250F. Seminars in Regional and Area Political Studies

Semetics (Near Eastern Languages) 215A-215B. Syriac

Sociology 132. Population and Society in the Middle East

Turkic Languages (Near Eastern Languages) 101A-101B-101C. Elementary Turkish
102A-102B-102C. Intermediate Turkish
111A-111B-111C. Elementary Uzbek
112A-112B-112C. Advanced Uzbek
114A-114B-114C. Bashkir
160. Cultural History of the Turks
180. Modern Turkish Languages and Peoples
199. Special Studies in Turkic Languages
210A-210B-210C. Introduction to Ottoman
211. Ottoman Diplomatics
220A-220B-220C. Chagatay
230A-230B-230C. A Historical and Comparative Survey of the Turkic Languages
235A-235B. Middle Turkic
240A-240B-240C. Advanced Ottoman
250A-250B-250C. Islamic Texts in Chagatay
280A-280B. Seminar in Modern Turkish Literature
290A-290B. Seminar in Classical Turkish Literature
596. Directed Individual Study
597. Examination Preparation
599. Ph.D. Dissertation Research and Preparation
The Major

Required: Fourteen upper division courses out of 16 courses regularly offered every year or every other academic year, including Italian 101, 102A-102B-102C, 113A-113B, 190. An additional seven are to be selected from courses 114A through 122.

Three upper division courses from other departments are strongly recommended, as follows: Classics 143, History 132A or 132B, and English 110. Also recommended: Art History 106A, 106B, or 106C; upper division courses in another literature and philosophy and a second language (Latin, French, Spanish, or German, at least on level three). Programs must be organized in consultation with the department undergraduate adviser.

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 Department of Italian offers an intensive, eight-week summer Italian Studies program. For information on Casa Italiana, contact the department or the Summer Sessions Office, 100 Dodd Hall.

Honors Program

Majors with an overall grade-point average of 3.25 and a 3.5 GPA or better in Italian are eligible to participate in the honors program. Prerequisites: Italian 102A-102B-102C.

Candidates select three upper division literature courses in which additional readings are required. In the last quarter 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 quarter of your junior year.

Bachelor of Arts in Italian and Special Fields

Study programs fulfilling requirements for the major have been developed with the Departments of Anthropology, Art, Design, and Art History, Classics (Latin), English, French, History, Linguistics, Music, Philosophy, Political Science, Spanish and Portuguese, and Theater, Film, and Television. Consult the Italian undergraduate adviser for requirements in the various fields of specialization.

Preparation for the Major

Required: Italian 1, 2, 3, 4, 5, or equivalent, plus additional required courses associated with the field of specialization selected in consultation with the undergraduate adviser.

The Major

Required: Fourteen upper division courses, seven of which must be in Italian. Italian 102A-102B-102C are required, while the remaining four may be selected from courses 113A through 122 as determined by your area of specialization. The other seven courses are to be selected from offerings in another department, as determined by the field of specialization.

Study Lists each quarter must be planned in consultation with the undergraduate adviser. Courses are assigned in accordance with your needs as determined by the field of specialization pursued. In certain cases, as many as two courses (eight units) at the graduate level may be applied toward the 14-course minimum requirement.

Master of Arts Degree

Admission

Three letters of recommendation should be sent to the Graduate Adviser, Department of Italian, 340 Royce Hall, UCLA, Los Angeles, CA 90024.

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 in 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 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 quarter before the comprehensive examination.

Course Requirements

Italian Literature Specialization

(1) For the thesis plan, 12 courses are required, including Italian 200A, 200B, 200C, and 205B. At least nine courses must be in the 200 series.
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, 340 Royce Hall, UCLA, Los Angeles, CA 90024.

Prerequisite for entering the department’s doctoral program is an M.A. in Italian literature from UCLA or another university in the United States or the equivalent. Students with a master’s degree from another institution, or the equivalent, will be required to pass part 1 of the Ph.D. qualifying examinations by the end of their third quarter in residence. They should expect to take part 2 of the examinations after approximately eight quarters.

No 500-series courses may be applied toward the M.A. course requirements.

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 200A, 200B, 200C, 259A-259B, and Latin 232 or Italian 210A or both. The others should be courses on the Middle Ages (seminar on Dante strongly recommended), Renaissance, and modern times.

Major Fields or Subdisciplines
Two centuries of Italian literature in the medieval, Renaissance, baroque, or modern areas comprise the major fields, while two centuries of Italian literature from any of these areas make up the minor fields.

No 500-series courses may be applied toward the M.A. course requirements.

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 language requirement must be satisfied before taking part 2 of the qualifying examinations, either by Educational Testing Service (ETS) 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 will take such courses as your guidance committee may prescribe for the qualifying examinations (such as Italian 596 or 597). All courses from Italian 201 on 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 quarter. Normally taken six quarters 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 be reexamined on unanimous approval of the guidance committee, after at least one academic quarter 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, you may be required to 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, 2, 2A, and 3.

1. Elementary Italian — Beginning. Lecture, five hours; laboratory, one hour.
   Miss Mrs. Cheeseman in charge
2. Elementary Italian — Accelerated (8 units). Lecture, 10 hours; laboratory, two hours. Designed for those students having the capacity and desire to learn the language at a much faster pace than normal. Encompasses material ordinarily intended for courses 1 and 2. Mrs. Cheeseman in charge
3. Special Reading Course. Readings, three hours. Open to graduate students in other fields. Preparation for the Graduate Division foreign language reading requirement. S/U grading.
4. Elementary Italian — Continued. Lecture, five hours; laboratory, one hour. Prerequisite: course 1 or one year of high school Italian.
   Miss Mrs. Cheeseman in charge
5. Elementary Italian — Advanced. Lecture, 10 hours; laboratory, two hours. Prerequisite: course 1A or 2 or two years of high school Italian. Designed for those students having the capacity and desire to learn the language at a much faster pace than normal. Encompasses the material ordinarily intended for courses 3 and 4.
   Miss Mrs. Cheeseman in charge
6. Special Reading Course. Readings, three hours. Open to graduate students in other fields. Preparation for the Graduate Division foreign language reading requirement.
7. Elementary Italian — Advanced. Lecture, 10 hours; laboratory, two hours. Prerequisite: course 1A or 2 or two years of high school Italian.
   Miss Mrs. Cheeseman in charge
3A. Intermediate Italian — Accelerated (6 units). Lecture, six hours; laboratory, two hours. Prerequisite: course 2A or 3 or three years of high school Italian. Designed for those students having the capacity and desire to learn the language at a much faster pace than normal. Encompasses the material ordinarily intended for courses 4 and 5. Mrs. Cheeseman in charge

4. Intermediate Italian. Lecture, five hours; laboratory, one hour. Prerequisite: course 3 or three years of high school Italian. Mrs. Cheeseman in charge

5. Intermediate Italian. Lecture, five hours; laboratory, one hour. Prerequisite: course 4 or four years of high school Italian. 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 traveler’s vocabulary. (Sum)

8A-BB-9C. Italian Conversation (2 units each). Prerequisite: consent of instructor. Intended for students who have taken three to six quarters of language instruction and have developed considerable skills in Italian. Designed to improve further students’ spoken proficiency through constant exposure and practice of the language. Each course may be repeated once for credit. Mrs. Cottino-Jones in charge

25. Advanced Italian. Lecture, five hours. Prerequisite: course 5. An advanced grammar and composition course with readings from select literary works. Mrs. Cheeseman in charge

42A-42B. Italian Civilization or Italy through the Ages. Lecture, three hours: A general survey of the history, literature, art, music, and architecture audio visually illustrated, with emphasis on Italy’s cultural contributions to Western civilization. A service course designed to meet the general education requirements.

42A. From the Origins through the Renaissance. Mrs. Cottino-Jones, Mr. Tuttle

42B. From the Enlightenment to Modern Italy. Mr. Chiappelli

46. Italian Cinema and Culture. (Formerly numbered 46A-46B-46C.) Lecture, two hours; discussion, one hour; film screenings, two to three hours. A survey of the development of Italian cinema and culture from the 1900s to the present through an analysis of the principal aesthetic, literary, artistic, and philosophical movements in Italy as reflected in the works of the nation’s filmmakers and writers.

Ms. Re (F.W.Sp)

50A-50B. Main Trends in Italian Literature:

50A. Italian Literature to the Baroque Period. A study of selected works of the major writers of the period, including Dante, Petrarch, Boccaccio, Aniello, Machiavelli, Castiglione, Tasso, Marino.

50B. Italian Literature from 1700 to the Present. A study of selected works by the major writers of the period, including Vico, Althusser, Pirandello, Manzoni, Verga, Pirandello, Svevo, Moravia, Ungaretti, Montale.

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.

101. Preparation for Advanced Italian Studies. Lecture, three hours. Designed to acquaint juniors with the research tools fundamental to the study of Italian culture, with emphasis on how to find texts and collateral material, how to utilize bibliographies, dictionaries, encyclopedias, manuals, and periodicals, and how to proceed in literary analysis.

Mr. Chiappelli

102A-102B-102C. The Italian Cultural Experience. Lecture, three hours. A study of the cultural development of Italy conducted especially with a view to contemporary situations:

102A. From the Disruption of Roman Unity to Feudal and Communal Society and Culture.

102B. From Renaissance Civilization to the Baroque Age.

102C. Historical and Cultural Issues from the Age of Enlightenment to Our Day.

105. Tradition and Innovation in Italian Literature. Lecture, three hours. Italy’s basic social structures and cultural institutions delineated through their historical development and as they are manifest in the stressers to which the industrializing state currently is subject.

Mr. Tuttle

110A-110B. The Divine Comedy in English. Lecture, three hours.

113A-113B. Dante’s Divine Comedy. Lecture, three hours. Focus on the Divine Comedy. Selected readings from the text integrated with relevant information on scholasticism, classical tradition, medieval literature and poetics, and the sociopolitical structure of Dante’s world.

Mr. Betti

118. Italian Literature of the 18th Century. Lecture, three hours. Emphasis on Goldoni, Parini, Alfieri.

Mr. Betti

119. Italian Literature of the 19th Century. Lecture, three hours. Survey of the Romantic age as it expresses values and national aspirations of 19th-century Italy. Emphasis on the innovative approach to poetry as seen in the works of Foscolo and Leopardi and to the sociopolitical novels of Foscolo, Manzoni, and Verga.

Mr. Betti

120. Italian Literature of the 20th Century. Lecture, three hours. A brief introduction to Italian literature after unification of the country, followed by concentration on selected writers seen in their political, social, and artistic contexts.

Mr. Cecchetti

121. Italian Cinema. Lecture, three hours. A comparative study of specific literary works and their translations into films and of the different techniques in the two forms of expression. Texts include literary works, screenplays, and works on literary and film theory.

Mr. Betti

122. The Italian Theater. Lecture, three hours. Emphasis on what is alive today (read and performed) in the Italian theater. Texts range from the Renaissance to the present.

Mrs. Cottino-Jones

130. Advanced Grammar and Composition (Teaching). Lecture, three hours. A study in depth of the idiomatic phenomena of the language from both the grammatical and syntactical points of view.

Mrs. Cheeseman

131. Reading and Reciting. Lecture, three hours. Prerequisite: consent of instructor based on sufficient knowledge of Italian. Emphasis on diction, interpretation, and performance of one-act plays as vehicles for perfection of pronunciation, comprehension, and fluency. May be repeated twice for credit.

Mrs. Reynolds

M140. From Boccaccio to Basile (in English). (Same as Folklore M140.) Lecture, three hours. A study of the origins and the development of the Italian novella in its themes, in its structure, in its historical context, and in its European ramifications. Designed for students in other departments who wish to become acquainted with either the premises or the growth of similar literary genres. Also intended for students majoring in folklore and mythology, who are given insight into Italian literature (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. Modern Italian Fiction in Translation. Lecture, three hours.

151B. Women in Italian Culture. (Same as Women’s Studies M151B.) Lecture, three hours. Designed for students in other departments who wish to become acquainted with either the premises or the growth of similar literary genres. Also intended for students majoring in folklore and mythology, who are given insight into Italian literature (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

190. History of the Italian Language. Lecture, three hours. The 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 the effects wrought by historical events, changes in taste, and altered social functions.

Mr. Tuttle

195. Special Fields Research (2 units). Limited to senior Italian and special fields majors. Unscheduled tutorial in which a 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 is graded by an ad hoc committee of faculty from the department, with the chair in charge and grading the role that women have played in Italian society. Concentration alternatively on the world of the medieval and Renaissance “matriarch” and on the “liberated” women of our times. Historical and political documents and social and religious values and pressures are stressed, together with other data derived from literature and art. Italian majors are required to read texts in Italian and to prepare papers written in Italian.

Mrs. Cottino-Jones, Ms. Re

199. Special Studies (2 to 4 units). Prerequisite: consent of instructor. A course of independent study for advanced undergraduates who wish to pursue a special research project under the direction and close supervision of a faculty member.

Graduate Courses

200A. Readings in Italian Literature. Lecture, three hours. Prerequisites: course 200A, graduate standing. Readings in Italian literature and poetics, and the sociopolitical structure of the nation’s filmmakers and writers.

Mr. Chiappelli, Mrs. Cottino-Jones

200B. Readings in Italian Literature. Lecture, three hours. Prerequisites: course 200A, graduate standing. Readings in Italian literature and poetics, and the sociopolitical structure of the nation’s filmmakers and writers.

Mr. Chiappelli, Mrs. Cottino-Jones

200C. Readings in Italian Literature. Lecture, three hours. Prerequisites: course 200B, graduate standing. Readings in Italian literature and poetics, and the sociopolitical structure of the nation’s filmmakers and writers.

Mr. Betti, Mr. Chiappelli

201. Bibliography and Methods of Research. Lecture, three hours.

Ms. Reynolds, Mrs. Cottino-Jones

COLLEGE OF LETTERS AND SCIENCE / Italian / 209
210 / Italian / COLLEGE OF LETTERS AND SCIENCE

205A-205B. Methods of Literary Criticism. Lecture, three hours.

210A. Brief History of Literary Criticism.

210B. An Overview of Modern Critical Approaches. Mrs. Cottino-Jones

210A-210B-211C. Early Italian Literature. Lecture, three hours:

210A. The Origins of Italian Language and Early Texts. Mr. Tuttle

210B. The Scuola Siciliana and Early Poetry in Central and Northern Italy. Mr. Tuttle

210C. The Dolce Stil Novo.

212A. Theory of Textual Criticism. Prerequisite: graduate standing. A presentation and discussion of the critical edition of a medieval and/or Renaissance literary text. Mr. Chiappelli

214A. Italian Language of the 15th Century. Lecture, three hours:

214A. Dante's Vita Nuova and Rime. Mr. Chiappelli

214B. Convivio and De Vulgari Eloquentia. Mr. Chiappelli

214C. The Commedia and the Monarchia. Mr. Chiappelli

214D. Petrarcha. Mr. Chiappelli

214E. The Decameron. Mrs. Cottino-Jones

214F. Boccaccio's Other Works. Mrs. Cottino-Jones

214G. Sacchetti and Other Prose Writers. Mrs. Cottino-Jones

215A-215B-215C. Italian Literature of the 16th Century. Lecture, three hours:

215A. Fiction and Other Prose Texts. Mr. Chiappelli

215B. Writings of the Humanists. Mr. Chiappelli

215C. The Age of Lorenzo de’ Medici and Politian. Mr. Betti

216A-216B. Italian Literature of the 17th Century. Lecture, three hours:

216A. Machiavelli. Mr. Chiappelli

216B. Ariosto.

216C. Bembo, Folengo, Aretino, and the Theater. Mrs. Cottino-Jones

216D. Prose (Castiglione, Della Casa, Guicciardini, Cellini). Mrs. Cottino-Jones

216E. Tasso. Mr. Chiappelli

217A-217B-217C. Italian Literature of the 17th Century. Lecture, three hours:

217A. Bruno, Campanella, Galilei, Magalotti. Mrs. Cottino-Jones

217B. Commedia dell’arte and the Theater. Mrs. Cottino-Jones

217C. Marino and Marinistì. Mrs. Cottino-Jones

218A-218E. Italian Literature of the 18th Century. Lecture, three hours:

218A. The Prose from Vico to Cesaretti. Mr. Betti

218B. Essays and Autobiographical Writers. Mr. Betti

218C. The Theater, Especially Metastasio, Goldoni, C. Gozzi. Mr. Pasinetti

218D. Panini and the Poets of Arcadia. Mr. Pasinetti

218E. Allegri.

219A-219F. Italian Literature of the 19th Century. Lecture, three hours:

219A. Foscolo. Mr. Chiappelli

219B. Leopardi. Mr. Cecchetti

219C. Manzoni. Mr. Pasinetti

219D. Trends in Fiction before Verga. Mr. Betti

219E. Verga. Mr. Cecchetti

219F. Italian Literature at the Turn of the Century. Mr. Pasinetti

220A-220B-220C. Italian Literature of the 20th Century. Lecture, three hours:

220A. From D'Annunzio to Futurism and the Early Twenties. Mr. Cecchetti

220B. Contemporary Italian Poetry. Mr. Cecchetti

220C. Contemporary Italian Fiction. Mr. Pasinetti

230A-230B. Folk Tradition in Italian Literature. (Same as Folklore M230A-M230B.) Lecture, two hours:

250A-250D. Seminar on Dante. Seminar, three hours. Mr. Chiappelli

250A-251. Seminar on Petrarch. Seminar, three hours. Mr. Chiappelli

250A-252B. Seminar on Boccaccio. Seminar, three hours. Mrs. Cottino-Jones

253A-258B-253C. Seminar on Chivalric Poetry in Italy. Seminar, three hours. The relationship between the genre and its French medieval sources, with a study of its evolution in Italy through Pulci, Boiardo, Ariosto, and Tasso. Mrs. Cottino-Jones

254. Seminar on Machiavelli. Seminar, three hours. Mr. Chiappelli

255A-255B. Seminar on the Baroque. Seminar, three hours. Mr. Chiappelli

255A-256B. Seminar on the 18th Century. Seminar, three hours. Mrs. Cottino-Jones

257A-257B. Seminar on Romanticism. Seminar, three hours. Mr. Pasinetti

258A-258B. Seminar on Contemporary Italian Literature. Seminar, three hours. Mr. Cecchetti

259A-259B-259C. Studies in the History of Italian Language:

259A. History of the Italian Language. Prerequisite: graduate standing. A historical survey of the development of the language from medieval times to the unification of the country (1861). Questione della lingua, general acceptance of Florentine speech, and its evolution into the national language. Mr. Tuttle

259B. The Structure of Modern Italian. Prerequisite: graduate standing. Various tendencies in modern and contemporary Italian. Foreign influences in today's Italian language. Relationship between the national language and the various dialects. Mr. Tuttle

259C. Italian Dialectology. The historical differentiation of the Italian dialects considered in its areal dimension. Specific geolinguistic problems and solutions illustrating the growth of the discipline up to its present merging with sociolinguistics as Italian dialects become more vertically defined. Mr. Tuttle

298. Variable Topics in Italian Studies. Lecture, three hours, discussion, one hour: Prerequisite: graduate standing or consent of instructor. Seminar focusing on themes and issues outside the uniquely Italian literature topics covered in regular departmental graduate courses.

370. Problems and Methods in the Teaching of Italian. Lecture, two hours. Mrs. Chesaeman

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the 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. The Teaching of Italian at the College Level (2 to 4 units each). Prerequisite: consent of instructor.

495A. Techniques in Teaching Italian Language.

495B. Techniques in Teaching Italian Culture.

495C. Techniques in Teaching Italian Conversation.

495D. Techniques in Teaching Italian Film.

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. Course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.


599. Ph.D. Research and Writing (4 to 8 units). May be repeated. S/U grading.

Kinesiology

2834 Slichter Hall, (213) 825-3891

Professors

R. James Barnard, Ph.D.
Bryant J. Cratty, Ed.D.
V. Reggie Edgerton, Ph.D., Chair
Glen H. Egstrom, Ph.D.
Jack L. Feldman, Ph.D.
Gerald W. Gardner, Ph.D.
Louis J. Goldberg, D.D.S., Ph.D.
Jack F. Keogh, Ed.D.
Richard A. Schmidt, Ph.D.
Judith L. Smith, Ph.D.

Emeritus Professors

Serena E. Arnold, Ed.D.
Camille Brown, Ed.D.
Donald T. Handy, Ed.D.
Valerie V. Hunt, Ed.D.
Wayne W. Massey, Ph.D.
Ben W. Miller, Ph.D.
Norman P. Miller, Ed.D.
Laurence E. Morehouse, Ph.D.
Raymond A. Snyder, Ed.D.

Associate Professors

Robert J. Gregor, Ph.D.
Ronald F. Zernicke, Ph.D., Emeritus

Assistant Professors

Scott H. Chandler, Ph.D. (Neuroscience)
Arthur C. Vailas, Ph.D.

Lecturer

Dorothy Phillips, M.S.

Adjunct and Visiting Assistant Professors

Alan J. Garfinke, Ph.D., Adjunct
Thomas P. Martin, Ph.D., Visiting

Scope and Objectives

Kinesiology is the study of the biochemical, morphological, and general physiological responses of the human to exercise and environmental conditions; the description of movement and the neuromuscular and biomechanical determinants of motor performance; and the development, acquisition, and modification of motor performance. The purpose of this study is intended to develop and integrate principles and concepts of human movement.
Bachelor of Science Degree

Pre-Kinesiology Major

All students intending to major in kinesiology are identified as pre-kinesiology majors until the premajor requirements have been satisfied. Transfer students with 80 or more units must have completed one year of general chemistry with laboratory in order to be admitted as pre-kinesiology majors.

The pre-kinesiology major requirements are Kinesiology 12A, 12B, 14; Chemistry 11A, 11B/11BL, 11C/11CL, 21, 23, 25; Biology 5 or 7; Physics 3A and 3B (or 6A and 6B, or 8A and 8C); one introductory statistics course; Psychology 10; and an additional course from one of the following departments: Anthropology, Psychology, or Sociology.

Premajor courses outside the department may be taken for a letter grade or on a P/NP basis; Kinesiology 12A, 12B, and 14 must be taken for a letter grade (certain certification and graduate programs also require letter grades for courses). All premajor 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.

The Student Affairs Office in 2834 Slichter Hall petitions you into the major after you complete the premajor courses.

If you are in the kinesiology major or premajor, you must confer with the departmental counselor on a regular basis. If you are interested in this major and are transferring from another college or university, you should consult with the departmental counselor at least six months prior to your expected enrollment date at UCLA. Call the Student Affairs Office for an appointment.

The Major

Required Core Courses: Kinesiology 120, 122, 124, 126.

A total of five upper division electives (20 units) is required. Although all five courses may be taken in kinesiology, three upper division courses (12 units) must be taken in the department. Courses 193, 196A-196B, and 400-level courses may be applied toward this requirement. One or two of the five courses (up to eight units) may be taken in other departments related to your course of study. A list of approved extra-departmental courses is available in the Student Affairs Office.

A C average must be maintained in all upper division courses taken in the department. All upper division courses required for the major (including extra-departmental electives) must be taken for a letter grade.

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 3.5 GPA in upper division kinesiology courses, completion of the premajor courses, and identification of a sponsoring faculty adviser. After completion of all requirements and with the recommendation of the faculty adviser, the undergraduate affairs committee confers departmental honors at graduation.

Preparation for Graduate Study

Undergraduate students who plan to do doctoral studies in kinesiology are advised to complete Mathematics 3A and 3B. Students who wish to pursue doctoral studies in biomechanics must complete two full years of calculus. Students interested in graduate study (master's degree or Ph.D.) in areas of physiological kinesiology must complete two full years of chemistry (11A, 11B/11BL, 11C/11CL, 21, 23, 25). Consult the Student Affairs Office for additional information.

Graduate Study

The department offers Master of Science and Doctor of Philosophy degrees in the following fields:

(1) Exercise physiology — cardiovascular adaptations of exercise, environmental factors influencing work capacity, neuromuscular and metabolic adaptations to exercise, and neuromotor control.

(2) Biomechanical determinants of motor performance.

(3) Motor control, perceptual motor development, and social/psychological determinants of human motor performance.

When applying for graduate work, you should specify an interest in one of these general fields.

Admission

Applicants for graduate study are expected to have completed an undergraduate degree in kinesiology or the equivalent as outlined below under the master’s and doctoral programs. A grade-point average of at least 3.0 (B) in all upper division undergraduate coursework is required. 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) specific courses in the department to be taken and one or two departmental faculty members whose research area parallels the study interest.

A list of faculty names and research interests is available from the Department of Kinesiology, 2834 Slichter Hall, UCLA, Los Angeles, CA 90024. Applicants are encouraged to communicate directly with the faculty, and personal interviews are encouraged.

Applications for all quarters must be submitted by Fall Quarter deadlines, since applications for all quarters are reviewed only in January/February each year.

Master of Science Degree

Applicants without an undergraduate degree in kinesiology will receive serious consideration, particularly if undergraduate or other experiences provide a strong relationship to kinesiology. However, applicants are expected to complete minimum undergraduate preparation prior to graduate work. Completion of course deficiencies may take as much as an additional year of coursework, which may not be applied toward the master's degree. Required undergraduate preparation is equivalent to the following: (1) four required courses selected from cellular biology, inorganic chemistry, organic chemistry, introductory psychology, physics (mechanics), physics (electricity), calculus (differential), and calculus (integral), (2) one course each in statistics, human anatomy, and human physiology required for the B.S. degree in Kinesiology, (3) the four kinesiology core courses required for the B.S. degree, and (4) one elective from the proposed area of graduate study. Additionally, applicants in the field of exercise physiology should have completed one year of inorganic chemistry, one year of organic chemistry/biochemistry, and two quarters of calculus.

Course Requirements

The Master of Science in Kinesiology requires nine courses: five graduate-level kinesiology courses, two courses from a related field, one second-level statistics or research design course, and one other course from either kinesiology or a related field.

A minimum of six of the nine courses must be graduate-level (200) courses, toward which one 596 course may be applied. Lists of approved related field and statistics or research design courses may be obtained from the department.

A total of eight units of Kinesiology 596 may be taken for credit; only one course (four units) may be applied toward the minimum course requirement for the master's degree. Courses 597 and 598 may not be applied toward any of the course requirements for the degree. There is no limit on the number of times a master's student may enroll in course 597 or 598.

Thesis Plan

Students who elect the thesis plan for the master's degree must report the results of an original research investigation. Under the guidance of the thesis committee, you must pro-
pose 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 the competency of the candidate. If you fail the comprehensive examination, you may not repeat it until the following quarter. Only one repetition is allowed.

**Ph.D. Degree**

Doctoral students are expected to have the basic preparation coursework in kinesiology required of master's students. Six of the eight preparation courses required for the M.S. are required of doctoral students. You must show a solid educational background in one of three general fields of kinesiology, and undergraduate and prior graduate work is evaluated in terms of your declared field of interest.

**Major Fields or Subdisciplines**

From the three general content fields of the department's instructional and research programs, six areas of concentration have been identified: (1) biomechanics; (2) cardiorespiratory function and adaptation; (3) movement performance and learning; (4) musculoskeletal function and adaptation; (5) neural control of movement; (6) social psychological aspects of human movement.

You select one of the six areas of concentration as a major and one area as a minor. These areas are expected to relate to your proposed dissertation problem.

**Course Requirements**

Fourteen courses are specified for the doctoral degree, some of which may be satisfied by prior graduate work. Selection of all courses must be approved by the guidance committee and is determined in part by the selection of major and minor areas of concentration.

A total of eight departmental courses is required, two of which must be seminars. One seminar course requirement may be met by enrolling in two quarters of Kinesiology 290. Two 596 courses may be applied toward the degree requirements.

A minimum of three courses or 12 units in a related field outside the department is required. An approved list of courses in anatomy, biological chemistry, biology, biomathematics, education, engineering, neuroscience, pharmacology, physiology, psychology, public health, and radiological sciences is maintained by the department. A fourth course, either departmental or in a related field outside the department, and two department-approved advanced statistics courses are also required.

**First-Year Doctoral Review**

After completion of three quarters of coursework, the graduate affairs committee conducts a doctoral review to determine whether you (1) continue in the doctoral program, (2) enter the master's program, or (3) discontinue graduate study in the department. The review must be completed by the end of the fourth quarter of graduate work as a doctoral student.

**Teaching Experience**

Each candidate must complete two quarters as a teaching assistant. All teaching evaluations become a permanent part of your departmental record.

**Qualifying Examinations**

Each doctoral student must take two written qualifying examinations: one in a major area and one in a minor area. Written qualifying examinations may be taken when the student and guidance committee consider appropriate. These examinations, administered in Fall and Spring Quarters, are scored (1) passed at the Ph.D. level of achievement, (2) passed at the master's level of achievement, or (3) failed. To continue in the doctoral program, you must pass each examination at the Ph.D. level of achievement. If you fail to do so, you may (1) complete the master's degree, (2) discontinue graduate work in the department, or (3) reschedule the area examinations once at the discretion of the guidance committee.

After successfully passing the departmental written qualifying examinations, a University Oral Qualifying Examination is conducted by the doctoral committee. Normally, the examination is held the quarter following the completion of written examinations, all coursework, and two quarters of research work with your major professor. If you do not pass, the examination may be rescheduled at the discretion of the doctoral committee.

After advancement to candidacy, you must complete and submit a dissertation which meets the approval of the doctoral committee.

**Final Oral Examination**

A final oral examination is generally required, although the members of the doctoral committee who are to approve the dissertation have the option to waive it in exceptional cases. The major emphasis in this examination is a defense of the dissertation.

**Lower Division Courses**

12A. Introduction to Human Physiology. (Formerly numbered 12.) Lecture, three hours; laboratory, 90 minutes. Prerequisites: Biology 5 or 7, Chemistry 25, Physics 3B. An introduction to human physiology. Topics include cell and muscle physiology, cellular neurophysiology, and endocrinology.

Mr. Chandler, Mr. Vailas (W)

12B. Introduction to Human Physiology. (Formerly numbered 12.) Lecture, three hours; laboratory, 90 minutes. Prerequisite: course 12A. An introduction to human physiology. Topics include respiration and cardiovascular, renal, and gastrointestinal physiology.

Mr. Barnard, Mr. Gardner (F,Sp)

13. Introduction to Human Anatomy (6 units). Lecture, four hours; laboratory, four hours. Not intended for kinesiology majors; a combination of classes 13 and 14 is equivalent to nine units. A structural survey of the human body, including the skeletal system, nervous system, circulatory system, respiratory system, digestive system, and urinary system.

Laboratory includes examination of human cadaver specimens. Ms. Phillips (W)

14. Human Neuromuscular Anatomy (6 units). Lecture, four hours; laboratory, four hours. A thorough study of the skeletal, articular, muscular, and nervous systems. Special emphasis on relating these body structures to human movement capabilities. Laboratory includes examination of prosected human cadaver specimens. Ms. Phillips (F,Sp)

**Upper Division Courses**

115. Aquatic Kinesiology. Lecture, three hours; laboratory, two hours. Prerequisite: course 124. A study of man's adaptation to the aquatic environment.

Mr. Egstrom (F)


Mr. Barnard, Mr. Gardner (F)

117. Conditioning for Maximum Performance. Prerequisite: course 124. Study of factors and conditions accelerating and retarding levels of performance in various physiological and environmental conditions.

Mr. Egstrom (W)

118. Cellular Dynamics of Exercise. Prerequisites: courses 124, 126. Cellular responses to acute and chronic exercise.

Mr. Martin (W)

120. Biophysical Bases of Movement (6 units). Lecture, four hours; laboratory, three hours. Prerequisite: completion of premajor coursework (except for course 12B). An examination of motor performance and motor learning and the influence of selected psychological variables on human movement.

Ms. Scanlan, Mr. Schmidt (F,Sp)

122. Biomechanical Bases of Movement (6 units). Lecture, four hours; laboratory, three hours. Prerequisite: completion of premajor coursework (except for course 12B). Kinematic and kinetic principles underlying human movement, focusing on the human neuromuscular and skeletal systems.

Mr. Gregor, Mr. Zernicke (W)

124. Cardiorespiratory Bases and Environmental Factors Affecting Movement (6 units). Lecture, four hours; laboratory, three hours. Prerequisites: completion of premajor coursework. Response of the cardiovascular and respiratory systems to acute and chronic exercise, environmental stress, and adaptation.

Mr. Barnard, Mr. Egstrom, Mr. Gardner (W)

126. Neuromuscular and Metabolic Bases of Movement (6 units). Lecture, four hours; laboratory, three hours. Prerequisite: completion of premajor coursework. Metabolic, muscular, and neural processes underlying movement and adaptation to exercise.

Mr. Chandler, Mr. Edgerton, Ms. Smith (F,Sp)
C132. Biomechanics of Musculoskeletal Injury. (Formerly numbered C132) Prerequisites: course 122, consent of instructor. Anatomical, physiological, and mechanical characteristics of cartilaginous, fibrous, and bony tissues in normal and abnormal stress situations. Analysis of the effects of exercise and muscular exercise on the musculoskeletal system. Emphasis on the prevention and management of musculoskeletal injuries and effects of exercise in nonathletic activities. Prerequisites: concurrent enrollment in physical education courses 120, 160. Prerequisites: consent of instructor. An analysis of primarily human movement behavior and control, with emphasis on a behavioral level of analysis. Topic areas include methodological considerations, the structure of practice sessions, feedback and knowledge of results, theories of motor learning, and retention of skills. Consent of instructor. Examination of group dynamics in sport. Consent of instructor. Environmental pressure of high altitude and remote environments. Consent of instructor. 

C152. Motor Behavior and Motor Control. Prerequisite: course 122. An analysis of human movement behavior and control, with emphasis on a behavioral level of analysis. Topic areas include methodological considerations, the structure of practice sessions, feedback and knowledge of results, theories of motor learning, and retention of skills. May be concurrently scheduled with course C256.

C160. Human Movement Development. Prerequisite: course 120. Developmental movement throughout life, with emphasis on individual and societal determinants.

C178. Group Dynamics in Sport. (Formerly numbered 178.) Prerequisite: course 120 or consent of instructor. Examination of group dynamics in sport. Topics include group productivity, group structure, leadership, motivational factors, cohesion, conflict. May be concurrently scheduled with course C278.

C191A-1912. Proseminars in Kinesiology. Prerequisites: upper division standing, consent of instructor. Limited to 15 students. Advanced study of special topics. May be repeated for credit with topic change.

C193. Field Studies in Kinesiology (2 units). Lecture, one hour; fieldwork, six hours. Prerequisites: courses 120, 122, 124, 126, or equivalent, consent of instructor via course application. Supervised field studies in specific career related to kinesiology. May be repeated once but may not be applied toward the major. P/N grading.

C194A-194B. Laboratory Practicum in Kinesiology (2 units each). Laboratory, four hours. Prerequisites or corequisites: course 132, consent of instructor. Supervised practicum and training for advanced students who serve as undergraduate assistant in the basic anatomy laboratory course in the preparation of laboratory materials and innovative projects. May not be applied toward the major.

C197A-197Z. Variable Topics in Kinesiology. Prerequisite: consent of instructor. A variable topics course which covers specific subjects of special interest to graduate students. Eight units may be applied toward the B.S. degree requirements.

C199A-199ZZ. Special Studies in Kinesiology (2 or 4 units). Prerequisite: consent of instructor. Advanced junior standing and a 3.0 GPA in the major, or senior standing, and consent of instructor and department chair. Directed independent research with a faculty member (identified in course title by two initials). A variable topics course which covers specific subjects of special interest to undergraduate students. Eight units may be applied toward the B.S. degree requirements.

C199HA. Honors Thesis. (Formerly numbered 199HA-199HZZ) Directed independent research for departmental honors with a faculty member, including definition of a research topic and extensive reading and research in the field of the proposed honors thesis. Consent of instructor. 

C199HB. Honors Thesis. (Formerly numbered 199HA-199HZZ) Directed independent research for departmental honors with a faculty member, including definition of a research topic and extensive reading and research in the field of the proposed honors thesis. Consent of instructor. 

Graduate Courses


207. Respiratory Function during Exercise. Prerequisite: course 124. Topics include the acute and chronic effects of exercise on pulmonary gas exchange, gas transport and ventilatory control, and limiting factors to aerobic function. 

208. Neuromuscular and Metabolic Factors in Exercise. Prerequisite: course 118 or consent of instructor. Fundamental aspects of skeletal muscle contraction and metabolic demands under various exercise and training conditions, including neural and endocrine mechanisms potentially involved in inducing specific training effects on skeletal muscle, liver, kidney, gastrointestinal tract, and brain. 

209. Environmental Factors in Exercise. Prerequisites: courses 122, 124, and 126, or consent of instructor. Environmental pressure of high altitude and underwater diving, as well as temperature factors, as they affect work performance; adaptation to unusual environments. 

211. Exercise Cardiovascular Physiology. Prerequisite: Physiology 101. Attention to cardiovascular adaptations to acute exercise as well as adaptations associated with regular exercise training. 

212. Cardiovascular Research Techniques. Lecture, one hour; laboratory, four hours. Prerequisites: course 122, consent of instructor. Experience working with experimental animals, in conducting surgery, and in understanding the use of flow meters, radioactive microspheres, pressure transducers, and other techniques commonly used in cardiovascular research. 

221. Underwater Kinesiology. Prerequisites: courses 122 and 124, or consent of instructor. Biomechanical, physiological, methodological, and behavioral limitations to underwater activities. 

223. Human Movement Development. Prerequisites: course 122. Recommended for course 134. Integrated study of electrical and dynamic parameters of muscle action, including topics in length-tension and force-velocity interrelationships; critical analysis of electromyographic and digital computer techniques. 

230B. Musculoskeletal Mechanics. Prerequisites: course 122, Mathematics 3A, 3B. Mechanical parameters of the moving human musculoskeletal system, including the use of cinematographic, force platform, and digital computer techniques. Topics include biomechanics, biodynamics, and empirical data modeling. 


C235A-C235B. Dynamical Systems Modeling (2 units, 4 units). Prerequisite: consent of instructor. Concepts of dynamical systems as applied to systems studied by biomechanics, motor control, and behavioral theories. Six units may be taken for credit; however, only four units may be applied toward the minimum graduate course requirement. 

C240. Signals for Motor Control. Prerequisites: course 140, Psychology 115 (or equivalent). Proprioception, the skeletonmotor and fusimotor systems and their control by spinal reflexes and supraspinal centers, including the cerebellum, basal ganglia, and cerebral cortex. 

C241. Theories of Voluntary Motor Control. Prerequisites: courses 240, 250. Exploration and discussion of neural control system for voluntary movement, including alpha-gamma linkage and closed versus open loop control. Introduction to neural models for motor learning and memory.

M243. Brainstem Control of Rhythmic Movements. (Same as Anatomy M226; lecture is the same as Oral Biology 207, which is two units only.) Lecture, two hours; discussion, two hours. Discussion of models for motor control in the central nervous system and the mechanical and digital computer techniques. Topics include biodynamics and empirical data modeling. 

C250. Behavioral Approach to Motor Control. Prerequisite: course 120, consent of instructor. An analysis of primarily motor skills, such as those applicable to industry, musical performance, and sport. Major topics include methodological considerations, the structure of practice sessions, feedback and knowledge of results, theories of motor learning, and retention of skills. May be concurrently scheduled with course C153.

C255. Motor Behavior and Motor Control. Prerequisite: course 120. An analysis of primarily human movement behavior and control with emphasis on a behavioral level of analysis. Topic areas include methodological considerations, the structure of practice sessions, feedback and knowledge of results, theories of motor learning, and retention of skills. May be concurrently scheduled with course C156.


C262. Movement Disorders in Children. Prerequisite: course 160 or 165 or consent of instructor. Current research in developmental and behavioral aspects of movement disorders in children. Topics include early identification and intervention, perceptual and cognitive relationships, and evaluation of movement training programs.
272. Motivation in Movement Contexts. Prerequisites: course 120, one course in psychology, and/or consent of instructor. Examination of the social, cultural, and psychological antecedents of achievement behavior in movement contexts. Current theories of achievement motivation are related, research, and pertinent issues specific to physical activity; review of methodologies and motivation intervention techniques. Specific attention to sex, age, and environment-related influences on motivation and achievement patterns. Ms. Scanlan

M273. Social Psychological Aspects of Competitive Youth Sport. (Formerly numbered 273.) (Same as Psychology M234.) Prerequisite: course 120 or consent of instructor. Review of research concerning the social psychological aspects of competitive 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 the interactions, predictors of performance, determinants of participation and dropping out, and socialization through sport. Ms. Scanlan

C276. Group Dynamics in Sport. Prerequisite: course 120 or consent of instructor. Examination of group dynamics in sport. Topics include group productivity, group structure, leadership, motivational factors, cohesion, conflict. May be concurrently scheduled with course C178. Mr. Cratty, Ms. Scanlan (F)

290. Research Issues in Kinesiology (2 units). Seminar. Prerequisite: consent of instructor. Discussion of current research issues. Topics selected by participants in the class. Two 290 courses may be used to satisfy one seminar course requirement for the graduate program.

291A-291B-291C. Seminars in Cardiorespiratory Function and Adaptation (2 to 4 units each). Prerequisites: courses 207 and 208, or consent of instructor. Selected topics on cardiorespiratory function and adaptation. Students are required to present a two-hour seminar.

292A-292B-292C. Seminars in Biomechanics (2 to 4 units each). Prerequisites: courses 207 and 208, or consent of instructors. Selected topics in biomechanics of movement. Students are required to present a two-hour seminar.

293A-293B-293C. Seminars in Musculoskeletal Function and Adaptation (2 to 4 units each). Prerequisites: courses 118 and 208, or consent of instructor. Selected topics on the muscular determinants of movement, the metabolic aspects of exercise, and the mechanics of connective tissue. Students are required to present a two-hour seminar.

294A-294B-294C. Seminars in Neural Control of Movement (2 to 4 units each). Prerequisites: courses 140 and either 240 or M243. Selected topics on the neural determinants of movement behavior. Students are required to present a two-hour seminar.

295A-295B-295C. Seminars in Movement Performance and Learning (2 to 4 units each). Prerequisites: courses 250 or C253 and 2526, or consent of instructor. Selected topics on current issues in acquisition and control of movement. Students are required to present a two-hour seminar.

297A-297B-297C. Seminars in Social Psychological Aspects of Human Movement (2 to 4 units each). Prerequisite: course 272 or M273 or consent of instructor. Selected topics on current issues in the social psychological aspects of human movement. Students are required to present a two-hour seminar. Ms. Scanlan

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: prerequisite approval in a teaching assistant, associate, or fellow. Teaching apprenticeship under the 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. In-Service Practicum for Teaching Assistants in Kinesiology (2 units). Prerequisite: consent of instructor. Required of all teaching assistants. Supervised practicum in teaching laboratory courses in kinesiology; material preparation and use of teaching aids. May not be applied toward degree requirements. S/U grading. (F)

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. Course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596. Individual Studies for Graduate Students (2 to 8 units). A petition signed by the faculty sponsor, graduate adviser, and graduate affairs committee chair must be submitted prior to the second week of class. Eight units may be taken for credit; however, only four units may be applied toward the minimum of five graduate courses required for the M.S. Eight units may be applied toward the eight kinesiology courses required for the Ph.D.

597. Preparation for M.S. Comprehensive Examination or Ph.D. Qualifying Examinations (2 to 16 units). To be arranged by the faculty member serving as the student's comprehensive examination chair or doctoral committee chair. Course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

598. Research and/or Preparation of M.S. Thesis (2 to 16 units). To be arranged with faculty member serving as the student's thesis committee chair. Course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. May not be applied toward the M.S. course requirements. May be repeated as necessary. S/U grading.

599. Research for and/or Preparation of Ph.D. Dissertation (2 to 16 units). Course section is identified by a two-letter code using faculty member's initials (see department for code). May not be applied toward the M.S. or Ph.D. course requirements. May be repeated as necessary. S/U grading.

Latin American Studies (Interdepartmental)

10347 Bunche Hall, (213) 206-6571

Professors
Rodolfo Alvarez, Ph.D. (Sociology)
Shirley L. Arora, Ph.D. (Spanish)
Rubén A. Benitez, Ph.D. (Spanish)
Charles F. Bennett, Ph.D. (Geography)
C. Rainer Berger, Ph.D. (Anthropology, Geography, and Geophysics)
Daniel M. Berry, Ph.D. (Computer Science)
William O. Bright, Ph.D. (Computer Science)
E. Bradford Burns, Ph.D. (History), Acting Chair, B.A. Committee
Elia Dunin, M.A. (Dance)
David K. Eiteman, Ph.D. (Management)
Walter A. Fogel, Ph.D. (Management)
Howard E. Freeman, Ph.D. (Sociology)
Ralph R. Freundlich, D.V.M., D.P.H. (Public Health)
John Friedmann, Ph.D. (Architecture and Urban Planning)
Mary Gerla, Ph.D. (Computer Science)
Juan Gómez-Quinones, Ph.D. (History)
Edward Gonzalez, Ph.D. (Political Science)
Patricia M. Greenfield, Ph.D. (Psychology)
John N. Hawkins, Ph.D. (Education)
Claude L. Huet, Ph.D. (Portuguese)
Derrick B. Jelliffe, M.D. (Public Health)
Allen W. Johnson, Ph.D. (Anthropology)
Marvin Kanno, M.D., in Residence (Psychiatry)
John G. Kennedy, Ph.D. (Anthropology and Psychiatry)
David M. Kurzlie, Ph.D. (Art History)
James Lockhart, Ph.D. (History)
O. Raynal Lunt, Ph.D. (Biology)
Gerardo Luzuriaga, Ph.D. (Spanish), Chair, M.A. Committee
Robert Hal Mason, Ph.D. (Management)
Clement W. Meghan, Ph.D. (Anthropology)
Frank G. Mittelbach, M.A. (Management)
Pamela L. Munro, Ph.D. (Linguistics)
Alfred K. Neumann, M.D. (Public Health)
Harry R. Nicholson, M.D., in Residence (Anthropology)
Park S. Nobel, Ph.D. (Biology)
Antony R. Orme, Ph.D. (Geography)
C. P. Otero, Ph.D. (Spanish and Romance Linguistics)
José Miguel Oviedo, Ph.D. (Spanish)
Amado M. Padilla, Ph.D. (Psychology)
Richard L. Penrose, Ph.D. (Civil Engineering)
Jorge R. Preloran, B.A., (Theater, Film, and Television)
Jonathan D. Sauer, Ph.D. (Geography)
Carol Scodhorn, M.A. (Dance)
Alegra Snyder, M.A. (Dance)
Edward W. Soja, Ph.D. (Architecture and Urban Planning)
Robert M. Stevenson, Ph.D. (Music)
Norman J. W. Thrower, Ph.D. (Geography)
Hartmut Walter, Ph.D. (Geography)
Louis Jolyn West, M.D. (Psychiatry)
Johannes Wilber, Ph.D. (Anthropology)
James W. Wilkie, Ph.D. (History)
Telford H. Work, M.D., M.P.H. (Public Health)
Joe Yamasato, M.D., in Residence (Psychiatry)
Maurice Zeitlin, Ph.D. (Sociology)

Emeritus Professors
Lester Breslow, M.D., M.P.H. (Public Health)
Henry J. Brumman, Ph.D. (Geography)
Thomas R. Howell, M.D., M.P.H.
Frederick C. Kintzer, Ed. (Education)
Mildred E. Mathias, Ph.D. (Biology)
Russell R. O'Neill, Ph.D. (Mechanical, Aerospace, and Nuclear Engineering)
Stanley L. Robe, Ph.D. (Spanish)
Milton L. Roemer, M.D., M.P.H. (Public Health)
Charles A. Schroeder, Ph.D. (Biology)
Robert M. Williams, Ph.D. (Management)

Associate Professors
Paul R. Abramson, Ph.D. (Psychology)
Theodore A. Andersen, Ph.D. (Management)
George D. Bedell, Ph.D. (Linguistics)
Albert Chang, M.D., M.P.H. (Public Health)
E. Mayone Dias, Ph.D. (Spanish and Portuguese)
Timothy Earle, Ph.D. (Anthropology)
Sebastian Edwards, Ph.D. (Economics)
Leonardo Estrada, Ph.D. (Architecture and Urban Planning)
Teshome H. Gabriel, Ph.D. (Theater, Film, and Television)
Henry A. Hesperhenne, Ph.D. (Biological)
Robert A. Hill, M.Sc. (History)
Cecilia F. Klein, Ph.D. (Art History)
David E. López, Ph.D. (Sociology)
Alfred E. Osborne, Jr., Ph.D. (Management)
David O'Shea, Ph.D. (Education and Sociology)
Susan Plann, Ph.D. (Psychology)
A. Carlos Quicoli, Ph.D. (Portuguese and Romance Linguistics)
Dwight Read, Ph.D. (Anthropology)
Richard M. Reeves, Ph.D. (Spanish)
Hans Schöllhammer, D.B.A. (Management)
Susan C. Scrimshaw, Ph.D. (Public Health and Anthropology)
A. John Skirius, Ph.D. (Spanish)
Concepción Valadez, Ph.D. (Education)
Simon González, Ed.D., Emeritus (Education)

Assistant Professors
Carole H. Browner, Ph.D., in Residence (Psychiatry)
Donald G. Buth, Ph.D. (Biology)
John W. DuBois, Ph.D. (Linguistics)
Margaret FitzSimmons, Ph.D. (Architecture and Urban Planning)
Jeffry A. Frieden, Ph.D. (Political Science)
Barbara Geddes, M.A., Acting (Political Science)
Rebecca Morales, M.A. (Architecture and Urban Planning)
Sylvia Rodríguez, Ph.D. (Anthropology)
Michael Storper, Ph.D. (Architecture and Urban Planning)

Lecturers
José M. Cruz-Salvadores, M.A. (Spanish)
Ludwig Lauerhass, Ph.D. (History)
Linda Rodríguez, Ph.D. (History)
George L. Hoyt, J.D. (Spanish)

Visiting Associate Professor
Jorge Schement, Ph.D. (Library and Information Science)

Visiting Assistant Professor
Susana B. Hecht, Ph.D. (Architecture and Urban Planning)

Visiting Lecturers
Clifford A. Behrens, Ph.D. (Anthropology)
Jeffrey Bortz, Ph.D. (History)
Emilio Pulido-Huizar, B.A.C. (Dance)
Romulus E. Zamora, M.F.A. (Theater, Film, and Television)

Scope and Objectives
UCLA has been in the forefront of U.S. universities with significant teaching and research interests in Latin American studies for more than 50 years. More than 100 faculty members from 22 departments and professional schools regularly offer a broad range of courses with an emphasis on Latin America. These course offerings in the humanities, social sciences, fine arts, and professional fields provide students a unique opportunity to focus on Latin America, a region of growing importance.

The Latin American Studies Program, 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 study. Cooperative degree programs with the UCLA Schools of Architecture and Urban Planning, Education, Engineering and Applied Science, Library and Information 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 (1) students desiring a general education focused on the Latin American cultural region; (2) students planning to enter business, government, or international agency service; (3) students preparing to teach social science or language; and (4) students preparing for advanced academic study of Latin America.

Preparation for the Major
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 is designed for students with a background in Spanish. An indigenous language of Latin America 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 55 or Music 81K and Dance 73B.

Core Area: Ten upper division courses from the approved list distributed as follows:
(1) Core Concentration: Five courses from literature and folklore or fine arts (art, 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 Elite
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. The Literature of Colonial Spanish America
139. Romanticism and Realism in Spanish-American Literature
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
*103. Introduction to General Phonetics
*110. Introduction to Historical Linguistics
*120A. Linguistic Analysis: Phonology
*120B. Linguistic Analysis: Grammar
*164. Modern Theories of Language
*C165A. Linguistic Theory: Phonology
*C165B. Linguistic Theory: Grammar
*170. Language and Society: Introduction to Sociolinguistics
*199. Special Studies in Linguistics
Portuguese (Spanish and Portuguese) *199. Special Studies
Spanish (Spanish and Portuguese) *199. Special Studies

(4) Electives
Anthropology *M140. Language in Culture
Folklore and Mythology *118. Folk Art and Technology
Latin American Studies 197. Interdisciplinary Topics in Latin American Studies
199. Special Studies in Latin American Studies
Motion Picture/Television (Theater, Film, and Television) 112. Film and Social Change
Music *M154A-M154B. The Afro-American Musical Heritage
Portuguese (Spanish and Portuguese) 140. Portuguese, Brazilian, and African Literature in Translation
Spanish (Spanish and Portuguese) 160B. Hispanic Literatures in Translation: Spanish America and Brazil

*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.

Core Area: Ten upper division courses from the approved list distributed as follows:

(1) Core Concentration: Five courses from anthropology or 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 Middle America (Nahua Sphere)
114Q. Ancient Civilizations of Eastern Middle America (Maya Sphere)
114R. Ancient Civilizations of Andean South America
137P. Cultures of Middle America
173Q. Latin American Communities
174P. Ethnography of South American Indians
*174Q. Ethnology of South American Indians
Sociology 131. Latin American Societies

Theory and Methods
Anthropology *115P. Archaeological Field Training
*115Q. Archaeological Research Techniques
*115R. Strategy of Archaeology
116P. Laboratory Analysis in Archaeology
*M116Q. Dating Techniques in Environmental Sciences and Archaeology
*118A, 118B. Museum Studies
*136P. Ethnology: Field Training
*M136Q. A Laboratory for Naturalistic Observations: Developing Skills and Techniques
*137. Ethnography on Film
*138. Methods and Techniques of Ethnography
*186A-186B. Quantitative Methods and Models in Anthropology
*M199. Special Studies in Anthropology
Sociology *109. Introduction to Sociological Research Methods
*115. Experimentation and Laboratory Methodology in Sociology
*116. Introduction to Mathematical Sociology
*199. Special Studies

(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 Seminar: Applications of Economic Theory
*M135. Economic Models of Public Choice
*199. Special Studies in Economics
Management *197. Special Topics in Management

(3) History
History 165A-165B. Colonial Latin America
165C. Indians of Colonial Mexico
166. Latin America in the 19th Century
167A-167B-167C. Latin America in the 20th Century
168. History of Latin American International Relations
169. Latin American Etiology
170A. Latin American Cultural History
170B. The Classic Travel Accounts of Latin America since 1735
171. The Mexican Revolution since 1910
173. Modern Brazil
174. Brazilian Intellectual History
197. Undergraduate Seminar: Latin America

Theory and Methods
History *101. Introduction to Historical Practice
**Core II: Comparative Politics and International Relations**

**Preparation:**
- Two courses from History 6A, 6B, 6C; Latin American Studies 99 or Geography 5; Mathematics 50; Computer Science 10S.

**Core Area:** Ten upper division courses from the approved list distributed as follows:

1. **Core Concentration:** Five courses from the core area. 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 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**

- **Geography 121:** Conservation of Resources: Underdeveloped World
- **Economics 120:** Introduction to Urban and Regional Economics
- **Anthropology 123:** Personality and Cultural Systems: Enculturation
- **M105:** Economic Models of Public Choice
- **M163:** Women in Culture and Society
- **M166:** Health in Culture and Society
- **M115:** Disease Problems of Socioeconomic and Political Impact in Latin America
- **Public Health M115:** Disease Problems of Socioeconomic and Political Impact in Latin America
- **Public Health M100:** Epidemiology
- **Sociology 110:** Social Change
- **Sociology 120:** Social Stratification
- **Sociology 126:** Social Demography
- **Sociology 140:** Political Sociology
- **Sociology 142:** Population Geography
- **Sociology 148:** Economic Geography
- **Sociology 150:** Urban Geography
- **Sociology 152:** World Cities
- **Sociology 153A-153B:** Production and Exchange in Traditional Societies
- **Sociology 155:** Illness in Non-Western Societies
- **Sociology 157:** Political Geography
- **Sociology 158:** Urban Geography
- **Sociology 159:** World Cities
- **Sociology 161:** Nutrition and Health
- **Sociology 167:** Urban Anthropology
- **Sociology 171:** Quantitative Analysis
- **Sociology 180:** Comparative Economic Systems
- **Sociology 181:** Middle America
- **Sociology 182A:** Spanish South America
- **Sociology 182B:** Brazil
- **Sociology 199:** Special Study
- **Statistics 1:** Biostatistics

**Electives**

- **Anthropology 132:** Technology and Environment
- **Sociology 133:** Comparative Politics and International Relations
- **Sociology 137:** International Relations Theory
- **Sociology 138:** International Research Methods
- **Sociology 139:** Comparative Political Analysis
- **Sociology 143:** Economic Models of Public Choice
- **Sociology 145:** Comparative Political Analysis
- **Sociology 146:** Historical and Cultural Studies
- **Sociology 147:** Political Sociology
- **Sociology 148:** Economic Geography
- **Sociology 150:** Urban Geography
- **Sociology 152:** World Cities
- **Sociology 153A-153B:** Production and Exchange in Traditional Societies
- **Sociology 155:** Illness in Non-Western Societies
- **Sociology 158:** Urban Geography
- **Sociology 159:** World Cities
- **Sociology 161:** Nutrition and Health
- **Sociology 167:** Urban Anthropology
- **Sociology 171:** Quantitative Analysis
- **Sociology 180:** Comparative Economic Systems
- **Sociology 181:** Middle America
- **Sociology 182A:** Spanish South America
- **Sociology 182B:** Brazil
- **Sociology 199:** Special Study

**Admission**

In addition to University minimum requirements, the B.A. degree in Latin American Studies constitutes the normal basis for admission. Applicants with a degree in another field can be admitted but must complete certain undergraduate prerequisites subsequent to admission. Applicants with Latin American field experience or special methodological studies are given special consideration. All applicants should meet minimum requirements in at least one language of Latin America. The following items are required:

1. Three academic letters of recommendation, unless you have been away from school for some time, in which case one of the letters may be from an employer.
2. A minimum of a 3.0 or B average in the junior/senior years of college.
3. A statement of purpose discussing your background in Latin American studies, proposed program of study, and future career plans.
4. A minimum score of 1,000 on the Aptitude Test (combined verbal and quantitative sections) of the Graduate Record Examination (GRE).
5. A resume or curriculum vitae describing academic and Latin American experience.

Students are admitted each quarter. Application deadlines are November 1 for Winter Quarter, February 1 for Spring Quarter, and May 15 (or July 1 by special petition) for Fall Quarter.
Comprehensive Examination Plan
In addition to course requirements, you must prepare a research paper on an approved topic that integrates two of the three fields in which coursework has been undertaken. Your research paper committee must approve your topic in advance and must receive a draft of the paper at least five weeks prior to the end of the quarter in which you plan to graduate. Committee members make recommendations for revision, evaluate the final draft and, if your work meets the University standards of scholarship, recommend the award of the M.A. degree.

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 final drafts of your thesis. Once the final version is approved, the thesis committee recommends the award of the M.A. degree. By the end of the quarter 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 Schools of Education (M.Ed. in Curriculum), Engineering and Applied Science (M.S. in Engineering), Library and Information Science (M.L.S.), and Public Health (M.P.H.); articulation programs do not allow course credit to be applied toward more than one degree. Concurrent degree programs are available with the Graduate Schools of Architecture and Urban Planning (M.A. in Architecture/Urban Planning) and Management (M.A. in Management).

Individual Ph.D. Programs
You may design an individual doctoral program in Latin American studies. An explicit proposal must be submitted to your M.A. committee for analysis and endorsement, and then be submitted to the Graduate Council for approval.

Lower Division Course
99. Introduction to Latin American Problems. Limited to 15 students. An interdisciplinary seminar for lower division students. May be repeated for credit with topic change.

Upper Division Courses
M155. Disease Problems of Socioeconomic and Political Impact in Latin America. (Same as Public Health M115.) Lecture, six hours; discussion, six hours. Prerequisite: consent of instructor. Read knowledge of Spanish is normally required. A seminar devoted to selected topics of an interdisciplinary nature. In Progress grading.

M196. Interdisciplinary Topics in Latin American Studies. Advanced interdisciplinary course for upper division students. May be repeated for credit with topic change.

M201. Statistical Resources for Latin American Research. The contemporary statistical materials important for research in Latin American studies. Discussion on the quantitative and interpretative aspects of the material, especially as it relates to data developed for publication in the Latin American Center's Statistical Abstract of Latin America and its Supplement Series.

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 potential application in Latin American research. Examination of the impact that computers are having in Latin American society.

M250B. Interdisciplinary Seminar in Latin American Studies. Three hours. Prerequisite: consent of instructor. Survey of the literature and research topics related to Latin American studies. May be repeated for credit.

M255. Cooperative Program 2 to 8 units. Prerequisite: consent of instructor. Reading knowledge of Spanish or Portuguese is normally required. A seminar devoted to selected topics of an interdisciplinary nature. In Progress grading.

M268A-M268B. Seminar in Recent Latin American History. Same as History 268A-M268B. Seminar, three hours. Prerequisite: consent of instructor. Reading knowledge of Spanish and Portuguese is normally required. A seminar devoted to selected topics of an interdisciplinary nature. In Progress grading.

M289. Special Studies in Latin American Studies (4 to 8 units). Prerequisite: consent of instructor. Research projects and upper division course in Latin American studies. Social, economic, and political impact of important disease problems in Latin American countries. Mr. Work.

M501. Cooperative Program 2 to 8 units. Prerequisite: consent of UCLA graduate adviser and graduate dean, and host campus instructor, department chair, and graduate dean. Course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

M596. 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 grading.
Approved Graduate Course List

Refer to the Latin American Studies undergraduate section for the lists of approved undergraduate courses.

Fine Arts

Art History (Art, Design, and Art History) *201. Historiography of Art History
200. Oceanic, Pre-Columbian, African, and Native American Art
Dance *280A-280E. Advanced Studies in Dance and Ethnomusicology
Motion Picture/Television (Theater, Film, and Television) *M209C. Ethnographic Film
*298A-298B. Special Studies in Theater Arts
Music *280. Seminar in Ethnomusicology

Languages

Indigenous Languages of the Americas (Linguistics) *18A-18B-18C. 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
*105A. Intermediate Composition
*105B. Advanced Composition

Linguistics

Anthropology 240. Seminar in Language and Culture
Linguistics *210A. Field Methods I
*210B. Field Methods II
*220. Linguistic Areas
*225. Linguistic Structures
M246C. Topics in Linguistic Anthropology
Portuguese (Spanish and Portuguese) *202. Synchronic Morphology and Phonology
*204A-204B. Generative Grammar
*M205A-M205B. The Development of the Portuguese and Spanish Languages
Spanish (Spanish and Portuguese) *202. Phonology and Morphology
*204A-204B. Generative Grammar
*M205A-M205B. The Development of the Portuguese and Spanish Languages
*209. Dialectology
*256A-256B. Studies in Spanish Linguistics
*257. Studies in Dialectology

Literature

Portuguese (Spanish and Portuguese) *M200. Research Resources
C231. Colonial Brazilian Literature
C232. Romanticism in Brazilian Literature
C233. Naturalism, Realism, and Symbolism in 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) *M200. Research Resources
237. Literature of the Spanish Conquest
239. Romanticism and Realism in Spanish-American Literature
*240. Major Currents in Modern Spanish-American Literature
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
*M286A-M286B. Studies in Hispanic Folk Literature

Professional

Architecture and Urban Planning *232A. Introduction to Regional Planning: The Evolution of Regional Planning Doctrines
*232B. Spatial Planning: Regional and International Development
*235A-235B. Urbanization and Rural Development in Third World Countries
*236A. Urban and Regional Economic Development I
*236B. Urban and Regional Economic Development II
239. Special Topics in Urban and Regional Development Policy
246. Housing in Social and Economic Development Policy
253. Social Theory for Planners
Education *203. Educational Anthropology
*204A. Topics and Issues in International and Comparative Education
*204B. Introduction to Comparative Education
*204C. Education and National Development
*204D. Minority Education in Cross-Cultural Perspective
*204E. International Efforts in Education
*204F. Nonformal Education in Comparative Perspective
*207. Politics and Education
*238. Cross-National Analysis of Higher Education
*252B. Seminar: Education and Social Change
*253A. Seminar: Current Problems in Comparative Education
253D. Seminar: Latin American Education
*253F. Seminar: Education in Revolutionary Societies
*253H. Seminar: The Chicano/Hispanic and Education

*596. Directed Independent Study
*597. Preparation for M.A. Comprehensive Examinations or Doctoral Qualifying Examinations
*598. Thesis Research
Engineering *596. Directed Individual or Tutorial Studies (selected from any of the engineering departments)
*597A. Preparation for M.S. Comprehensive Examination (selected from any of the engineering departments)
Law *270. International Law
*271. International Business Transactions
Library and Information Science *207. Seminar on International and Comparative Librarianship
*223. Literature of the Social Sciences
*224. Literature of the Humanities and Fine Arts
M225. Latin American Research Resources
*596. Directed Individual Study or Research Management *205A. International Business Economics
*205B. Comparative Market Structure and Competition
*205C. Business Forecasting for Foreign Economies
*208. Selected Topics in Business Economics
*234A. Multinational Business Finance
*234B. Advanced Studies in International Finance
*261B. International Marketing Management
*296A. International Business Management
*297A. Comparative and International Management
*297B. International Business Policy
*297C. International Business Law
*297D. International Business Negotiations
*298B. Special Topics in International and Comparative Management
Public Health *214. Infectious and Tropical Disease Epidemiology
*216A. Ecology of Exotic Diseases
*221. Seminar in Epidemiology: Methodology
*222. Seminar in Epidemiology: Infectious and Tropical Disease
*240. Health Care Issues in International Perspective
*250E. Advanced Nutrition: Vitamins
*260F. Advanced Nutrition: Proteins
*260G. Advanced Nutrition: Lipids
*260H. Advanced Nutrition: Minerals
*262. Seminar in Nutrition
*270. Maternal and Child Nutrition
*M271. Medical Anthropology
*272. Seminar on Current Issues in Maternal and Child Health
*M274A-M274B. Population Policy and Fertility
*M274C. Seminar in Population Policy and Fertility
*M276. Culture and Human Reproduction
*596. Directed Individual Study or Research

Social Science

Anthropology *212P. Selected Topics in Hunter-Gatherer Archaeology
*214. Selected Topics in Prehistoric Civilizations of the New World
*M216. Dating Techniques in Environmental Sciences and Archaeology
*230P. Ethnology
*232Q. Myth and Ritual
*M232R. South American Folklore and Mythology Studies
233P. Symbolic Anthropology
*239P. Selected Topics in Field Training in Ethnography
*239Q. Analysis of Field Data
**Linguistics**

2113 Campbell Hall, (213) 825-0634

**Professors**

Stephen R. Anderson, Ph.D.
Raimo A. Anttila, Ph.D. (Indo-European and General Linguistics)
William C. Bright, Ph.D.
Victoria A. Fromkin, Ph.D.
Edward L. Keenan, Ph.D.
Mazisi R. Kunene, M.A. (African Languages and Literature)
Peter N. Ladefoged, Ph.D. (Phonetics)
Pamela L. Munro, Ph.D.
Paul M. Schachter, Ph.D., Chair
Russell G. Schuh, Ph.D. (Linguistics and African Languages)
Robert P. Stockwell, Ph.D.
William E. Welmers, Ph.D., Emeritus

**Associate Professors**

George D. Bedell, Ph.D.
Bruce P. Hayes, Ph.D.
Thomas J. Hinnebusch, Ph.D. (Linguistics and African Languages)
Patricia A. Keating, Ph.D.

**Assistant Professors**

John W. Du Bois, Ph.D.
Hilda J. Koopman, Ph.D. (Linguistics and African Languages)
Timothy A. Stowell, Ph.D.
Eric Wehrli, Ph.D.

**Adjunct Associate Professors**

Susan R. Curtiss, Ph.D.
Ian Maddieson, 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 linguistics courses and research publications.

The core areas of linguistic theory are phonology (with its roots in phonetics), syntax, and semantics. A grammar is a system of rules which characterize the phonology, 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 teacher 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, with a C — or better in each, is required for all of the 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: Completion of the equivalent of the sixth quarter in each of two foreign languages or the sixth quarter in one foreign language and the third quarter in each of two other foreign languages. In addition you must take two of the following: Philosophy 31, Psychology 10, one course in cultural anthropology.

The Major

Required: A minimum of 11 upper division or graduate courses, including Linguistics 100, 103, 110, 120A, 120B, and either 164, C165A, or C165B (both C165A and C165B are strongly recommended for students planning linguistics graduate work; course 164 is recommended for students not planning linguistics graduate work). The remaining five courses are electives, three of which must be linguistics courses. The other two 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 advisor); Linguistics C104, 125, 127, 130, C135, 140, M146, M150, 164, C165A, C165B, 170, 175, C180, 185, 195, 199 (if four units), African Languages 190, Anthropology 143A, 143B, Philosophy 127A, 127B, 172, Psychology 122, 123, English 121, 122, or upper division courses in a foreign language beyond the sixth quarter. In addition to the 11 upper division courses, at least three courses (which may be either upper or lower division) are required in a language other than those in the Romance, Slavic, or Germanic families. These courses may be applied toward the foreign language requirement described above under “Preparation for the Major.” 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 100A, you have automatically satisfied the requirement of the sixth quarter of work in one language).

Linguistics 195, or 196A and 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, (2) completing Program in Computing 10A, 10B, 10C, 60, Linguistics C104, C180, 185. You graduate with a bachelor’s degree in your major and a specialization in computing.

Honors in Linguistics

Honors in linguistics are awarded at graduation to those students who have a grade-point average of 3.6 or better in their junior and senior years and who have received a grade of A in Linguistics 195 or 196A/196B. Qualified students may be proposed by any member of the faculty to the faculty as a whole for the award of highest honors on the basis of a piece of research in linguistics completed at UCLA.

Bachelor of Arts in Linguistics and Computer Science

Pre-Linguistics and Computer Science Major

Admission to the major is contingent on passing the following courses, which constitute the linguistics and computer science premajors, with a grade-point average of 3.3 or better and no grade lower than a C: Linguistics 100, Philosophy 31, Program in Computing 10A, 10B, 10C.

Preparation for the Major

Required: Mathematics 31A, 31B, Philosophy 31, Program in Computing 10A, 10B, 10C, 30, completion of the sixth quarter in one foreign language and the third quarter in a second foreign language. Mathematics 31A and 31B must be passed with grades of C or better. Mathematics 61 is strongly recommended.

The Major

Required: Fourteen upper division courses as follows: Linguistics 100, 103, C104, 120A, 120B, either 164, C165A, or C165B (the last of these being most strongly recommended for this major), C180, 185, one upper division elective in linguistics, Computer Science 111 or 181, 131, 132, 141, 163.

Bachelor of Arts in Linguistics and East Asian Languages and Cultures

Preparation for the Major

Required: Completion of the sixth quarter in either Chinese or Japanese; Philosophy 31; one course in cultural anthropology; either East Asian Languages and Cultures 40A or 40B, as appropriate; completion of the sixth quarter in one other foreign language or the third quarter in each of two other foreign languages.

The Major

Bachelor of Arts in Linguistics and English

Preparation for the Major

Required: English 3, 10A, 10B, 10C, Philosophy 31, completion of the sixth quarter in each of two foreign languages or the sixth quarter in one foreign language and the third quarter in each of two other foreign languages.

The Major

Required: Fifteen upper division courses as follows: Linguistics 100, 103, 110, 120A, 120B, either 164, C165A, or C165B, two upper division electives from other linguistics courses; 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 French

Preparation for the Major

Required: French 1, 2, 3, 4, 5, 6, 12, 15, completion of the sixth quarter in one other foreign language or the third quarter in each of two other foreign languages.

The Major

Required: Sixteen upper division courses as follows: Linguistics 100, 103, 110, 120A, 120B, either 164, C165A, or C165B, two upper division electives in linguistics, French 100A, 100B, 100C, 103, 105, 106, and two elective upper division French literature courses.

Bachelor of Arts in Linguistics and Italian

Preparation for the Major

Required: Italian 1, 2, 3, 4, 5, 25, Latin 1, 2, 3, completion of the third quarter in one other foreign language or the sixth quarter in Latin, Philosophy 31, one course in cultural anthropology.

The Major

Required: Thirteen upper division courses as follows: Linguistics 100, 103, 110, 120A, 120B, either 164, C165A, or C165B, two upper division electives in linguistics, Italian 102A, 190, and three additional upper division electives in Italian.

Bachelor of Arts in Linguistics and Philosophy

Preparation for the Major

Required: Philosophy 31, 32, and two courses from 1, 6, 7, 21; completion of the sixth quarter in each of two foreign languages or the sixth quarter in one foreign language and the third quarter in each of two other foreign languages.

The Major

Required: Fourteen upper division courses as follows: Linguistics 100, 103, 120A, 120B, C165B, three upper division electives in linguistics; six upper division courses in philosophy, including at least five from Philosophy 126A through 135, 170, 172, 184, 186, 187, 188, of which at least two must be from 127A, 127B, 172.

Bachelor of Arts in Linguistics and Psychology

Preparation for the Major

Required: Psychology 10, 41, 42, completion of the sixth quarter in one foreign language and the third quarter in a second foreign language. Program in Computing 10A is strongly recommended.

The Major

Required: Fourteen upper division courses as follows: Linguistics 100, 103, 120A, 120B, 130, two upper division electives in linguistics, Psychology 110, 120, 121, 122 or 123, 130, and the remaining elective to be selected from 112A, 112B, 112C, 112E, 115, 116, 124B, 135, 137A. Linguistics 164 and Psychology 115 are strongly recommended.

Bachelor of Arts in Linguistics and 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, 30, completion of the sixth quarter in one other foreign language or the third quarter in each of two other foreign languages.

The Major

Required: Fourteen upper division courses as follows: Linguistics 100, 103, 110, 120A, 120B, either 164, C165A, or C165B, 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: Spanish 1, 2, 3, 4, 5, 25, M42, M44, completion of the sixth quarter in one other foreign language or the third quarter in each of two other foreign languages.

The Major

Required: Fifteen upper division courses as follows: Linguistics 100, 103, 110, 120A, 120B, either 164, C165A, or C165B, two additional upper division courses in linguistics (preferably 130 and 170), Spanish 100A, 100B, 115 or M118A, 119A, 119B, and two additional upper division courses in Spanish.

Bachelor of Arts in African Languages

Preparation for the Major

Required: Nine courses from African Languages 1A through 42C and 199 (six in one language and three in another).

The Major

Required: A minimum of 15 upper division courses, including three courses in an African language: African Languages 150A-150B, 190, 192; Linguistics 100, 103; three courses selected from English 114, Geography 189, History 125A, 125B, 125C, 126A, 126B, 127A, 127B, 128A, 128B, Linguistics 110, 120A, 120B or 127, 140, M146, 170, Music 143A, 143B, Political Science 166A, 166B, 166C. Linguistics 164 and completion of the sixth quarter in one of the following non-African languages are strongly recommended: French, Dutch and Afrikaans, German, Portuguese, Arabic.

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 the Fall Quarter only (exceptions may be made by the chair). The deadline for submission of applications for the Fall Quarter is December 31 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 at least two 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
While not required for admission, Linguistics of writing in linguistics or a closely related field. In addition, applicants must submit a copy of some research paper or other piece of writing in linguistics. The remaining three (of the nine graduate courses required) may be taken in any area of linguistics, generally aiming toward a doctoral specialization. Except for these electives, no specialization is possible at the M.A. level.

**Foreign Language Requirement**
You must demonstrate knowledge of one research language before receiving an 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) an Educational Testing Service (ETS) graduate language examination. 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 unless English was the language of instruction in their elementary and secondary education. 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. The following eight courses are required: Linguistics C165A/C200A, C165B/C200B, 201A, 202, 203, 206A, 206B, 207. One elective is required and must be a graduate linguistics course. Students who enter without deficiencies will already have taken courses C165A and C165B or the equivalent, so they must take three electives in all. The core courses in the relevant areas are normally considered prerequisite to the seminars (courses 251 through 259B), which may be repeated for credit with topic change. No more than four units of course 596A or 596B and no more than eight units of course 501 may be applied toward the required nine courses. Courses in the 260 series may be applied as electives for the M.A. if taken for four units.

The following undergraduate courses or the equivalent are prerequisite to graduate courses in the corresponding areas: Linguistics 100, 103, 110, 120A, 120B, C165A, C165B. Course 103 must have been passed with a grade of B or better as prerequisite to courses 210A and 210B. If course 103 is waived on the basis of training elsewhere, you must pass a departmental examination in practical phonetics. This requirement must be completed before admission into the doctoral program.

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.

**Thesis Plan**
After completing the required courses and the foreign language examination, students selecting 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 quarter. 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 quarter 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 to the evaluation committee a paper equal in depth and scope to a thesis. A committee is appointed and, in either case, once the committee has approved the thesis or paper, it is submitted to the entire faculty who evaluate its quality and your accomplishments and promise.

**Major Fields or Subdisciplines**
You may specialize in syntax, semantics, phonology, phonetics, language change, typology, sociolinguistics, neurolinguistics, and many language areas, notably African languages and American Indian languages. Other specializations may be possible, depending on the availability of faculty expertise.

**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 and 210B, unless they have been used to fulfill the M.A. requirement, and eight units in an area distinct from that of the student’s 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-semester 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 substantive research papers of publishable quality 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 quarters after being admitted to the doctoral program.

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 defense of the dissertation is required, scheduled at a time, and with advance notice, that will enable a substantial number of students and faculty to attend. The defense is not restricted to the doctoral committee.

General Linguistics

Lower Division Courses

1. Introduction to the Study of Language. A summary, for the general undergraduate, of what is known about language, the structure of language, and its functions. The nature and form of grammar. The relationship of cognition to linguistic ability. Concurrently scheduled with course C235.

2. The Structure of English Words. An introductory course to the study of the formation of English words. Course 100. A study of the essential similarities and differences among languages in the grammatical devices they use to signal the following kinds of concepts: relations between nouns and verbs (case and word order), negation, comparison, existence, determination, causation, interrogatives, relativization, attribution (adjectives), time (tense and aspect), and exclusion (subordinating conjunctions). Data from a range of languages presented and analyzed. Ms. Thompson, Mr. Stowell.

3. Child Language Acquisition: Introduction. Prerequisites: courses 100, 120A, and 120B. An introduction to the study of the acquisition of language. Emphasis on linguistic interpretation of existing data, with some attention to relationships with second language learning, cognitive development, and other topics. Courses in linguistics and psychology. Mr. Keenan, Ms. Keating.

4. Theoretical Issues in Disorders of Language Development. (Formerly numbered C135.) Prerequisites: courses 1 or 100, and 130, or consent of instructor. An introduction to the field of language disorders in children. Some clinical syndromes which are associated with delayed or deviant language acquisition: aphasia, autism, mental retardation. Theories regarding etiology and the relationship of these disorders to each other. Some clinical applications of the relationship of cognition to linguistic ability. Concurrently scheduled with course C235.

5. Linguistics in Relation to Language Teaching. Prerequisites: courses 120A, 120B. An introduction to the field of language teaching. Courses in linguistics are not required. Mr. Stockwell

6. Introduction to Computational Linguistics. (Formerly numbered 145.) Prerequisites: courses 120B, 120A. Prior mathematical knowledge is 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 quarter. concurrently scheduled with course C200B. Ms. Keenan

Upper Division Courses

100. Introduction to Linguistics. An introduction to the theory and methods of linguistics: universal properties of human language; phonetic, phonological, morphological, syntactic, and semantic structures and analysis; the nature and form of grammar. Mr. Antilla, Mr. Schuh, Mr. Stockwell

101. Introduction to Historical Linguistics. Prerequisites: courses 100, 120, 120B. The theory and methods of linguistic anthropology to the fields of biological, cultural, and social anthropology, as well as archaeology. Dr. Kroskrity

150. Introduction to Indo-European Linguistics. (Same as Indo-European Studies M150.) Prerequisites: courses 100, 120A, 120B. Principles of linguistic behavior to language; and language and the classification of experience. Mr. Antilla

164. Modern Theories of Language. Prerequisites: courses 120A, 120B. A critical and historical survey of some of the central claims and types of supporting evidence. Discussion of the patterns of variation, and of the form of gram and pronoun agreement. Ms. De Fazio

165A. Linguistic Theory: Phonology. Prerequisite: course 120A. Recommended for students who plan to do graduate work in linguistics. The theory of generative phonology and its application to problems of formal and substantive universals. Ms. Thompson, Mr. Stowell

165B. Linguistic Theory: Grammar. Prerequisite: course 120B. Recommended for students who plan to do graduate work in linguistics. The theory of generative grammar and its application to problems of formal and substantive universals in syntax, relation between syntax and semantics. Ms. Thompson, Mr. Stowell

170. Language and Society: Introduction to Sociolinguistics. Prerequisites: course 100 or consent of instructor. The study of language and society, with emphasis on the relationship of linguistic knowledge to the fields of biological, cultural, and social anthropology, as well as archaeology. Dr. Kroskrity

185. Introduction to Computational Linguistics. (Formerly numbered 145.) Prerequisites: courses 120B, 120A. Prior mathematical knowledge is 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 quarter. Concurrently scheduled with course C200B. Ms. Keenan

M146. Language in Culture. (Same as Anthropology M140.) Prerequisite: upper division standing or consent of instructor. The study of language as an aspect of cultural life and the way in which individual thought and behavior are integrated through language and language and the classification of experience. A holistic approach to the study of language, with emphasis on the relationship of linguistic anthropology to the fields of biological, cultural, and social anthropology, as well as archaeology. Dr. Kroskrity

M150. Introduction to Indo-European Linguistics. (Same as Indo-European Studies M150.) Prerequisites: courses 100, 120A, 120B. Principles of linguistic behavior to language; and language and the classification of experience. Mr. Antilla

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205. Morphological Theory: Current issues. Prerequisites: courses C165A/C200A, C165B/C200B, or equivalent. Survey of current problems in morphology. Nature of morphological structure; derivational and inflectional morphology; relation of morphology to syntax, and the lexicon. Mr. Anderson, Mr. Hayes

206A. Syntactic Theory: Current Issues in Formal Syntax. Prerequisite: course C165B/C200B. Survey of current issues in formal syntactic theory. Mr. Schachter, Mr. Stowell

206B. Syntactic Theory: Current Issues in Functional and Typological Approaches to Syntax. Prerequisite: course C165B/C200B. Survey of current issues in functional and typological approaches to syntax. Mr. Du Bois, Mr. Thompson

207. Semantic Theory. Recommended prerequisite: course 110. Concepts of formal semantics; course C180 or equivalent. Approaches to the study of meaning. Different offerings of the course approach semantics from different theoretical perspectives (e.g., formal semantics, functional semantics, interpretive semantics). May be repeated for credit if theoretical approach is different.

Mr. Do Bois, Mr. Keenan

209. Natural Language Processing. Recommended prerequisites: courses C165B, C180, 185, or equivalent. Computational models of language processing, with emphasis on syntactic processing. Overview of field. Artificial vs. natural language processing techniques. Discussion and evaluation of several syntactic approaches (e.g., linguistic parsing, statistical methods, deterministic parsers, etc.). From computational and psychological points of view.

Mr. Wehrli

210A. Field Methods I (6 units). Prerequisites: courses C165A-C200A, C165B/C200B. Analysis of a language or a language sample from an indigenous language from which some kind of original data elicited from a native speaker of the language. Term papers are relatively full descriptive sketches of the language. May be repeated for credit with topic change.

210B. Field Methods II (6 units). Prerequisite: course 210A in preceding quarter. Because different languages are investigated in different years, course 210B can only be taken as a direct continuation of 210A the same year that field work is being done. Students may take the course more than once. Completion of a term paper is required. May be repeated for credit with topic change.

Mr. Bright, Ms. Munro, Mr. Schachter

220. Linguistic Areas. Prerequisites: courses 120A, and C210A. Phoneticians: courses C165 or 127. Recommended courses C165 or 127, C165B/C200B. An analysis and classification of languages spoken in a particular area (e.g., Africa, the Balkans, South Asia, Southeast Asia, Australia, Abignal North America, Aboriginal Latin America, Far East, etc.). May be repeated for credit with topic change.

Mr. Bright, Ms. Munro, Mr. Schachter

225. Linguistic Structures. Prerequisites: courses 120A, and 120B or 127. Recommended: courses C165A/C200A, C165B/C200B. 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.

C235. Theoretical issues in disorders of Language Development. (Formerly numbered CM235.) Prerequisites: courses 1 or 100, and 130, consent of instructor. Introduction to the field of language disorders of children. Some clinical syndromes which are associated with delayed or deviant language acquisition. Developmental psychology. Theories regarding etiology and the relationship of these disorders to each other. Questions such as the relationship of cognition to linguistic ability. Concurrently scheduled with 210A and 210B. Students are expected to apply more sophisticated knowledge and produce a research paper of greater depth.

M246C. Topics in Linguistic Anthropology. (Same as Anthropology M241.) Prerequisite: consent of instructor. Problems in relations of language, culture, and society. May be repeated for credit.

Proseminars number 251 through 254 may be taken for either two or four units. If a pro-seminar is taken for four units, a paper is required. Proseminars and seminars numbered 251 and above may be repeated for credit, having been approved by the Graduate Council as nonrepetitive in content.

251. Topics in Phonetics and Phonology I: Pro-seminar (2 or 4 units). Prerequisite: course C165A/C200A. Courses 201A and/or 203 may be required. Specialized topics in phonetics and phonology. May not be applied toward the M.A. or Ph.D. degree requirements when taken for units. Meetings may be repeated for credit. S/U (two-unit course) or letter (four-unit course) grading.

252. Topics in Syntax and Semantics: Pro-seminar (2 or 4 units). Prerequisite: course C165B/C200B. Courses 202A and/or 206 may be required. Specialized topics in syntax and semantics. May not be applied toward the M.A. or Ph.D. degree requirements when taken for units. Meetings with course 258A. May be repeated for credit. S/U (two-unit course) or letter (four-unit course) grading.

253. Topics in Language Variation I: Pro-seminar (2 or 4 units). Prerequisite: course 110. Course 202 may be required. Specialized topics in language variation. May not be applied toward the M.A. or Ph.D. degree requirements when taken for units. Meetings with course 258A. May be repeated for credit. S/U (two-unit course) or letter (four-unit course) grading.

254. Topics in Language Variation II: Pro-seminar (2 or 4 units). Prerequisites: courses C165A-C200A, C165B/C200B, consent of instructor. Course 201A, 201B, 202, 203, 206A, 206B, or 207 may be required. Individual prosesminars on topics such as child language, sociolinguistics, history of linguistic theory, neurolinguistics, languages of the world, psycholinguistics, etc. May not be applied toward the M.A. or Ph.D. degree requirements when taken for units. Meets with course 259A. May be repeated for credit. S/U (two-unit course) or letter (four-unit course) grading.

256A. Topics in Phonetics and Phonology II: Pro-seminar. Prerequisite: course C165A/C200A. Courses 201A and/or 203 may be required. Specialized topics in phonetics and phonology. May be repeated for credit. Meets with course 251. In Progress grading (credit to be given only on completion of course 256B).

256B. Topics in Phonetics and Phonology II: Pro-seminar (2 units). Prerequisite: course 256A. Specialized topics in phonetics and phonology. 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.

259A. Topics in Language Variation II: Proseminar. Prerequisite: course 250B. Specialized topics in language variation. May be repeated for credit.

259A. Topics in Linguistics II: Proseminar. Prerequisites: courses C165A/C200A, C165B/C200B, consent of instructor. Course 201A, 201B, 202, 206A, 206B, or 207 may be required. Individual proseminars on topics such as child language, sociolinguistics, history of linguistic theory, neurolinguistics, languages of the world, psycholinguistics, etc. May be repeated for credit. Meets with course 254. In Progress grading (credit to be given only on completion of course 259B).

259B. Topics in Linguistics II: Proseminar (2 units). Prerequisite: course 259A. Individual proseminars on topics such as child language, sociolinguistics, history of linguistic theory, neurolinguistics, languages of the world, psycholinguistics, etc. May be repeated for credit.

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.

260A-260B-260C. Seminar in Phonetics (2 or 4 units). Discussion, three hours. Prerequisite: consent of instructor. Each course may be taken independently for credit. May not be applied toward the M.A. or Ph.D. degree requirements when taken for two units. May be repeated for credit. S/U grading.

261A-261B-261C. Seminar in Phonology (2 or 4 units). Discussion, three hours. Prerequisite: consent of instructor. Each course may be taken independently for credit. May not be applied toward the M.A. or Ph.D. degree requirements when taken for two units. May be repeated for credit. S/U grading.

262A-262B-262C. Seminar in Syntax and Semantics (2 or 4 units). Discussion, three hours. Prerequisite: consent of instructor. Each course may be taken independently for credit. May not be applied toward the M.A. or Ph.D. degree requirements when taken for two units. May be repeated for credit. S/U grading.

263A-263B-263C. Seminar in Language Variation (2 or 4 units). Discussion, three hours. Prerequisite: consent of instructor. Each course may be taken independently for credit. May not be applied toward the M.A. or Ph.D. degree requirements when taken for two units. May be repeated for credit. S/U grading.

264A-264B-264C. Seminar in Special Topics in Linguistic Theory (2 or 4 units). Discussion, three hours. Prerequisite: consent of instructor. Each course may be taken independently for credit. Special topics may include child language, neurolinguistics, psycholinguistics, etc. May not be applied toward the M.A. or Ph.D. degree requirements when taken for two units. May be repeated for credit. S/U grading.

275. Linguistics Colloquium. Prerequisite: completion of the M.A. research seminar and linguistic topics, generally presentations of new research by students, faculty, and visiting scholars. S/U grading.

276. Linguistics Colloquium (No credit). Prerequisite: graduate standing. Same as course 275, but taken without credit by students not presenting a colloquium. S/U grading.

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant. A teaching assistant may take this course under the direction of a faculty member to gain apprentice experience under the 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.

411A-411B-411C. Research Orientation (1 unit each term, Formally numbered 411A-411B.) Prerequisite: graduate standing. Sequence of lectures by all faculty of the department, plus faculty from closely related departments and programs, to acquaint new graduate students with the research directions and resources of the department and elsewhere on campus. May not be applied toward the M.A. or Ph.D. degree requirements. S/U grading.

422. Practicum in Phonetic Data Analysis (2 units). Prerequisite: graduate standing. Workshop in the examination of phonetic data, such as sound spectrograms, oscillographic records, and computer output. May not be applied toward the M.A. or Ph.D. degree requirements. S/U grading.

455. College Teaching of Linguistics (2 units). Prerequisite: graduate standing. Required of all new teaching assistants. Seminars, workshops, and approaches to instruction, including curricular development, various teaching strategies and their effects, teaching evaluation, and other topics on college teaching. Students receive unit credit toward full-time equivalent but not toward any degree 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 home campus instructor. Course is used for enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596A. Directed Studies (1 to 8 units). Prerequisite: consent of instructor. May be repeated for credit. S/U grading.

596B. Directed Linguistic Analysis (1 to 8 units). Prerequisite: graduate standing. Course is used for enrollment of UCLA students in directed research courses. S/U grading.

597. Preparation for M.A. Comprehensive and Ph.D. Qualifying Examinations (1 to 8 units). Prerequisite: at least six graduate courses in linguistics. May be taken only in the quarters in which students expect to take the comprehensive or qualifying examination. May not be applied toward the M.A. course requirements. May be repeated for credit. S/U grading.

598. Research for M.A. Thesis (1 to 8 units). Prerequisite: consent of student. Research and preparation of M.A. thesis. May not be applied toward the M.A. course requirements. May not be repeated for a maximum of eight units. S/U grading.

599. Research for Ph.D. Dissertation (1 to 16 units). Prerequisite: advancement to Ph.D. candidacy. May not be applied toward the Ph.D. course requirements. May be repeated for credit. S/U grading.

African Languages

Lower Division Courses

1A-1B-1C. Elementary Swahili. Lecture, five hours. The major language of East Africa, particularly Tanzania. Mr. Hinnebusch

2A-2B-2C. Intermediate Swahili. Prerequisites: courses 1A-1B-1C or consent of instructor.

7A-7B-7C. Elementary Zulu. Lecture, five hours. The most widely spoken of the Nguni languages of South Africa, mutually intelligible with other members of this group. Mr. Kunene

8A-8B-8C. Intermediate Zulu. Prerequisites: courses 7A-7B-7C or consent of instructor. Mr. Kunene

11A-11B-11C. Elementary Yoruba. Lecture, five hours. Prerequisite: consent of instructor. The major language of Western Nigeria.

12A-12B-12C. Intermediate Yoruba. Prerequisites: courses 11A-11B-11C or consent of instructor.

31A-31B-31C. Elementary Amharic. Lecture, five hours. Prerequisite: consent of instructor. The major language of Ethiopia. P/NP (undergraduates), S/U (graduates), or letter grading.

32A-32B-32C. Intermediate Bambara. Prerequisites: courses 31A-31B-31C or consent of instructor.

41A-41B-41C. Intermediate Hausa. Lecture, five hours. The major language of Northern Nigeria and adjacent areas. Mr. Schuh

42A-42B-42C. Intermediate Hausa. Prerequisites: courses 41A-41B-41C or consent of instructor. Mr. Schuh

51A-51B-51C. Elementary Amharic. Lecture, five hours (15 hours for intensive course). The major language of Ethiopia. P/NP (undergraduates), S/U (graduates), or letter grading.

52A-52B-52C. Intermediate Amharic. Lecture, five hours (15 hours for intensive course). Prerequisites: courses 51A-51B-51C or consent of instructor. P/NP (undergraduates), S/U (graduates), or letter grading.

97. Elementary and Intermediate Studies in African Languages. Prerequisite: consent of instructor. Instruction at an elementary to intermediate level, based on the needs of the students, in any language for which appropriate facilities are available. Those taught in the past included Akan, Efik, Fula, Igbo, Lingala, Luganda, and Xhosa.

Upper Division Courses

103A-103B-103C. Advanced Swahili. Prerequisite: consent of instructor. Readings in Swahili literature and the contemporary press. Discussions mainly in Swahili. Mr. Hinnebusch

123A-123B-123C. Advanced Yoruba. Prerequisites: courses 12A-12B-12C or consent of instructor. Readings in Yoruba literature and the contemporary press. Discussions mainly in Yoruba.


143A-143B-143C. Advanced Hausa. Prerequisites: courses 42A-42B-42C or consent of instructor. Readings in Hausa literature and the contemporary press. Discussions mainly in Hausa.

150A-150B. African Literature in English Translation. (Formerly numbered 150A-150B-150C.) Prerequisite: History 10A or 10B. Course 150A is prerequisite to 150B. Narrative and didactic oral prose and poetry of sub-Saharan Africa and written prose and poetry of South Africa. Mr. Kunene

153A-153B-153C. Advanced Amharic. Lecture, five hours (15 hours for intensive course). Prerequisites: courses 52A-52B-52C or consent of instructor. Readings in Amharic literature and the contemporary press. Discussions mainly in Amharic. P/NP (undergraduates), S/U (graduates), or letter grading.
Dutch and Afrikaans (Germanic Languages) 234. The Structure of Modern Standard Dutch
East Asian Languages and Cultures CM 176. Introduction to the Structure of Japanese
223. Seminar: Linguistic Analysis of Japanese Narratives
English 121. The History of the English Language
122. Introduction to the Structure of Present-Day English
210. History of the English Language
218. Celtic Linguistics
240. Studies in the History of the English Language
241. Studies in the Structure of the English Language
English (ESL) 241K. Contrastive and Error Analysis in the ESL Context
250K. Psycholinguistics and Language Teaching
280K. Language Policy in Developing Countries
Folklore and Mythology 217. Folk Speech
French 204A. Phonology and Morphology from Vulgar Latin to French Classicism
204B. Syntax and Semantics from Vulgar Latin to French Classicism
206. French Linguistics
German (Germanic Languages) 137. Language and Linguistics
217. History of the German Language
230. Survey of Germanic Philology
251. Seminar in Syntax and Phonology of German
252. Seminar in Historical and Comparative German 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. Seminar in Indo-European Linguistics
Italian 259A. History of the Italian Language
259B. The Structure of Modern Italian
259C. Italian Dialectology
Latin (Classics) 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. The History of Portuguese and Spanish: Phonology
M118B. The History of Portuguese and Spanish: Morphology and Syntax
M205A-M205B. The Development of the 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 122. Language and Communication
123. Psycholinguistics
260A-260B. Proseminar in Cognitive Psychology
Russian (Slavic Languages) 121. Russian Phonology
122. Russian Morphology
123. Historical Commentary on Modern Russian
204. Introduction to the History of the Russian Literary Language
241. Topics in Russian Phonology
242. Topics in Russian Morphology
243. Topics in Historical Russian Grammar
253. Russian Dialectology
254. The History of the Russian Literary Language
265. Advanced Russian Syntax
266. Russian Lexicology
Semitics (Near Eastern Languages) 280A-280B-280C. Seminar in 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 in Slavic Linguistics
282. Seminar in Structural Analysis
Slovak (Slavic Languages) 222. The Structure of Slovak
Sociology C144A. Conversational Structures I
266. Selected Problems in the Analysis of Conversation
267. Selected Problems in Communication
Spanish (Spanish and Portuguese) 100A. Introduction to the Study of Spanish Grammar: Phonology and Morphology
100B. Introduction to the Study of Spanish Grammar: Syntax
115. Applied Linguistics
M118A. The History of Portuguese and Spanish: Phonology
M118B. The History of Portuguese and Spanish: Morphology and Syntax
202. Phonology and Morphology
204A-204B. Generative Grammar
M205A-M205B. The Development of the 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
Turkish Languages (Near Eastern Languages) 230A-230B-230C. A Historical and Comparative Survey of the Turkish Languages

Indigenous Languages of the Americas

Lower Division Courses

18A-18B-18C. Elementary Quechua. Lecture, five hours. The language of the Incas and its present-day dialects, as spoken in Andean South America.

Upper Division Courses

119A-119B-119C. Advanced Quechua. Prerequisites: courses 18A-18B-18C or consent of instructor. 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. Four units may be applied toward the M.A. course requirements. May be repeated for credit. S/U grading.

Related Courses in Other Departments (Other than Language Courses)

Anthropology 143A. Field Methods in Linguistic Anthropology: Practical Phonetics
143B. Field Methods in Linguistic Anthropology: Syntax, Semantics, Textual Cohesion
Armenian (Near Eastern Languages) 210. History of the Armenian Language

Graduate Courses

201A-2018. Comparative Niger-Congo. Prerequisites: Linguistics C165A, C165B, 220. Recommended prerequisite: two quarter courses in an African language or course 190. Recommended prerequisite or corequisite: Linguistics 110. Comparison of structural and lexical features of a group of closely related languages, such as Southern Bantu, Southwestem Mande, Akan, or Senflu.

209. Special Studies in African Languages (1 to 6 units). Prerequisite: consent of instructor. Instruction at an advanced level or supervised research, based on the needs of individual students, in any language or group of languages for which appropriate facilities are available.

Mathematics

6363 Math Sciences, (213) 825-4701

Professors

Richard F. Arens, Ph.D.
Donald G. Babbs, Ph.D.
Kirby A. Baker, Ph.D.
Robert J. Blattner, Ph.D.
Robert F. Brown, Ph.D.
David G. Cantor, Ph.D.
Lennart Carleson, Ph.D.
C. C. Chang, Ph.D.
S. Y. Alice Chang, Ph.D.
S. Y. Cheng, Ph.D.
Earl A. Coddington, Ph.D.
Philip C. Curtis, Jr., Ph.D.
Henry A. Dye, Ph.D.
Robert D. Edwards, Ph.D.
Robert D. Edwards, Ph.D.
Edward G. Effros, Ph.D.
Richard S. Elman, Ph.D.
Bjorn E. Engquist, Ph.D.
Gregory L. Esken, Ph.D.
Hector O. Fattorini, Ph.D.
S. Y. Alice Chang, Ph.D.
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Gregory L. Esken, Ph.D.
Hector O. Fattorini, Ph.D.
S. Y. Alice Chang, Ph.D.
S. Y. Cheng, Ph.D.
Scope and Objectives

Gauss has called mathematics the "Queen of the Sciences." It has provided powerful intellectual tools that have made possible tremendous advances in modern science and technology. The Department of Mathematics aims to provide courses of study that will 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

Preliminary Examination in Mathematics

If you wish to enroll in Mathematics A or 1, you are required to take the mathematics section of the Chemistry/Mathematics Preliminary Examination; if you wish to enroll in Mathematics 3A or 31A, you must pass the examination.

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 Tuesday, September 23, 1986, for Fall Quarter 1986; Wednesday, October 29, 1986, for Winter Quarter 1987; and Wednesday, February 4, 1987, for Spring Quarter 1987. For information, contact the Undergraduate Mathematics Office, 6375 Math Sciences (206-6857).

Advanced Placement in Calculus

Students who have taken the Advanced Placement (AP) Calculus AB test and obtained a score of 3 or higher receive five units of credit and Mathematics 31A equivalency. Those who take the BC test and obtain a score of 3 or higher receive 10 units of credit and Mathematics 31A, 31B equivalency.

If you have 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 Undergraduate Mathematics Office for further details.

Credit Limitations

Credit will be given for at most one course in each of the following groups: (1) 3A, 31A; (2) 3B, 31B, 31B; (3) 3C, 3E; (4) 110A, 117, (5) 131C, 131CH, 132; (6) 140A, 141A; (7) 150A, 152A.

Mathematics 2, 38A, 38B, and 50 are not open for credit to students with credit for any course from Mathematics 11OA through 199.

Mathematics 150A-150B and 152A-152B are not open for credit to students with credit for Electrical Engineering 131A (or former course 120A.)

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).

Program in Computing

The Program in Computing is a major, but a supplement to existing Letters and Science majors. The purpose of the program is to offer all students an opportunity to obtain elementary education in computer science.

Program in Computing 1 is designed for students who wish to pursue 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.

The balance of the curriculum is designed for several constituencies:

(1) Letters and Science majors who wish to obtain an extensive education in basic computer science and then apply this knowledge to their discipline should take Program in Computing 10A, 10B, 10C and, depending on the advice of their major department, either course 30 or 60 or both.

(2) Pre-mathematics majors who wish to advance to the mathematics of computation major must take Program in Computing 10A, 10B, 10C or 30, and the related required courses in mathematics and physics.

(3) Physical science students who would like one course in programming should take either Program in Computing 3 (uses FORTRAN) or 10A (uses PASCAL), on the advice of their major department.

Pre-Mathematics Major

All students who wish to enter one of the majors offered by the Mathematics Department must first register as a pre-mathematics major. After completing all required preparation courses for the major of your choice and before accumulating a total of 135 quarter units, you should apply for admission to the major by filling out the application for admission to the major in the Undergraduate Mathematics Office, 6375 Math Sciences. Transfer students must have completed a minimum of three preparation courses for the major and major courses at UCLA before petitioning to enter the major.

Admission requirements for the operations research plan under the mathematics/applied science major differ from those stated above (see "Operations Research Plan" later in this section). Petitions to enter the operations research plan and the mathematics of computa-
tion major are processed once per year and must be submitted by the deadlines indicated in the descriptions of those programs.

Admission Requirements: Students entering UCLA directly from high school who declare themselves as pre-mathematics majors at the time they apply for admission are automatically admitted as such.

UCLA students who wish to enter the pre-mathematics major 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 the pre-mathematics major.

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 the pre-mathematics major.

Undergraduate Majors
The Mathematics Department offers four majors: mathematics, applied mathematics, mathematics of computation, and mathematics/applied science. In addition one program is offered in cooperation with the School of Engineering and Applied Science: the mathematics/computer science major, described following this departmental listing.

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; and the mathematics/applied science major for those with substantial interest in the applications of mathematics to a particular outside field of interest. 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 a letter grade.

If you plan to pursue graduate study in mathematics, you are strongly encouraged to take a three-quarter sequence of graduate-level courses during your senior year.

Bachelor of Science in Mathematics

Preparation for the Major
Students officially admitted to the mathematics major for Fall Quarter 1985 or thereafter must fulfill the following preparation requirements.

Those admitted prior to Fall Quarter 1985 may fulfill the preparation requirements listed in the 1984-85 UCLA General Catalog.

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 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
Students officially admitted to the mathematics major for Fall Quarter 1985 or thereafter and those admitted prior to Fall Quarter 1985 with less than 90 quarter units completed prior to Fall Quarter 1984 must fulfill the following major requirements. Those admitted prior to Fall Quarter 1985 with 90 or more quarter units completed prior to Fall Quarter 1984 may fulfill the major requirements listed in the 1984-85 UCLA General Catalog.

Required: Mathematics 110A, 110B, 115A, 120A, 131A-131B, 131C, and at least five additional courses from 106 through 199. 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 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-quarter sequences from one of the following categories: numerical analysis — courses 140A-140B or 141A-141B, probability and statistics — courses 150A-150B or 152A-152B, differential equations — courses 135A-135B; four additional courses from 110A through 199 (appropriate courses from other departments may be substituted for some of the additional courses provided departmental consent is given before such courses are taken). The 12 courses must be passed with a minimum overall GPA of 2.0.
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 quarter 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. 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 courses, including Mathematics 115A, 140A or 141A, 144, 152A-152B, and two courses from 113, 140B or 141B, 151, 153A; seven outside courses, including Economics 101A, 101B, 102, 147A, 160, and two additional courses from Management 130, 190, English 131A through 131H, Economics 145 through 199.

Mathematics/Economics Plan
Preparation for the Major: Mathematics 31A, 31B, 32A, 32B, 33A, 33B, Economics courses 1, 2, Program in Computing 10A, and one other social science course.

The Major: Seven mathematics courses, including Mathematics 110A or 117, 115A, 131A, 144, 150A or 152A, and two additional courses from 110A through 199; seven economics courses, including Economics 101A, 101B, 102, 144, 145, 147A, and one additional course from 147A through 199.

Operations Research Plan
Enrollment in this plan, designed for students interested in careers and graduate study in operations research and management science, is limited. You must have completed Mathematics 33A and one economics course before the application deadline of April 15, 1987. The admissions committee bases its decisions on your grades in preparation for the major courses, motivation, and intellectual promise. Application forms and further information are available in the department.


The Major: Seven courses in mathematics and seven in economics and management. Consult the department for recommended courses. Programs will be designed so that students in this plan qualify for a specialization in computing.

Specialization in Computing
 Majors in mathematics, applied mathematics, or mathematics/applied science may select a specialization in computing by (1) satisfying all the requirements for a bachelor's degree in the specified major, (2) completing Program in Computing 10A, 10B, 30, 60, and Mathematics 61 with a minimum grade of C in each course, (3) completing at least two courses from Mathematics 141A, 141B, 169, 169HS. You must petition for admission to this program and are advised to do so after you complete Program in Computing 10B (petitions should be filed in the Undergraduate Mathematics Office). You graduate with a bachelor's degree in your major and a specialization in computing.

The Teaching of Mathematics
The department offers a major in the teaching of mathematics. Consult the Mathematics Department for information.

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 (206-1286) for further details.

Honors Program
Students majoring in mathematics, applied mathematics, or mathematics of computation who wish to graduate with departmental honors should apply for admission to the honors program in the Undergraduate Mathematics Office. You may apply any time after completing four courses in 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, 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 advanced calculus, algebra, differential equations, and differential or projective geometry. 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) Aptitude Test and Advanced Test in Mathematics and must submit three letters of recommendation from mathematicians who know your recent work.

Applications and a booklet, Graduate Studies in Mathematics at UCLA, are available from the Graduate Adviser, Department of Mathematics, 6356 Math Sciences, UCLA, Los Angeles, CA 90024.

Master of Arts Degree
You may earn the M.A. degree under the comprehensive examination plan, either in the basic (pure mathematics) program or an interdisciplinary program in applied mathematics.

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. With consent of the graduate vice chair, students in the applied mathematics program 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.

You may enroll in Mathematics 596 any number of times and may apply up to two 596 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
For the basic (pure mathematics) M.A., the comprehensive examination consists of two written four-hour tests, one in algebra and one in analysis. For students in the applied mathematics program, the comprehensive examination consists of a four-hour written test in analysis and a similar test selected from numerical analysis, methods of applied mathematics, or probability/statistics. These tests, prepared by a comprehensive examination committee, are offered earlier in Fall Quarter or 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 quarter of course 596 while fulfilling the essay requirement described below.

Credentiaal 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 credential program in the Graduate School of Education. 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 for a full and up-to-date description of credential requirements and should submit a Graduate School of Education application for admission to the credential program.

At present, no education courses or practice teaching are required for the community college track normally take five 100- or 200-level courses in mathematics. Particularly recommended are Mathematics 105, 110B, 110C, 111A, 111B, 131B, 135A, and 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 370 or for any mathematics core numbered 104 through 109, except course 106. In addition, you may not receive degree credit for more than two quarters of course 596 or for more than two quarters 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 or under an interdisciplinary program in applied mathematics. There are many possible choices of fields within both of these programs, and you are urged to read the booklet, Graduate Studies in Mathematics at UCLA, where the specialties of the faculty and the active research areas in the department are described in some detail.

Foreign Language Requirement
You are required to pass two written departmental language examinations in French, German, or Russian (with the consent of the graduate vice chair, students in the applied program may substitute a computer language project for one of the languages). International students whose principal language of instruction in elementary and secondary education was not English may substitute English for one of the foreign languages, but their other language must be one of French, German, or Russian (even if they are in the applied program). These examinations, offered in the Fall and Spring Quarters, require the translation of material in some basic field of mathematics without the use of a dictionary. They may be retaken any number of times until passed. One of the language examinations must be passed within seven quarters of registered full-time study, the second within 13 quarters. In any event, one examination must be passed before taking the first oral qualifying examination.

Course Requirements
In the pure mathematics program, you must pass (with a grade of A or B) at least 12 courses from Mathematics 205A through 285L, but excluding the basic courses 210A-210B, 245A-245B, and 246A-246B. At most, three of these courses may be in the 285 series. You must also satisfy a seminar participation requirement by participating actively in at least two advanced seminars (normally you lecture twice for a total of 90 minutes). Credit for one seminar must be obtained within three registered quarters after passing the written qualifying examinations, the other within five quarters.

In the applied mathematics program, you must pass (with a grade of A or B) at least 18 approved graduate courses, including at least 12 courses from Mathematics 205A through 285L. At most, three of these may be in the 285 series.

Qualifying Examinations
In the pure mathematics program, you are required to take four written qualifying examinations in the following fields: algebra, real analysis, complex analysis, and one field selected from geometry-topology, statistics-probability, logic, or numerical analysis. The examinations are given in the Fall or Spring Quarter. You must pass two examinations within a period of six registered quarters and all four examinations within a period of nine registered quarters after being admitted to graduate study.

In the applied mathematics program, you must pass four qualifying examinations. The first three consist of one written examination in applied real and complex analysis and two written examinations selected from three areas (applied differential equations, numerical analysis, and probability-statistics). Two of these three examinations are to be completed by the end of six quarters after being admitted to graduate study; the third by the end of nine quarters. The fourth qualifying examination, either written or oral, is in your specialized "outside" field, testing your competence at a research level.

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.

Program in Computing

Lower Division Courses
1. Introduction to Computers and Computing. Lecture, three hours; discussion, one hour; computer terminals, five hours. Not open to students with credit for course 10A or equivalent. Fundamentals of computers and computing: machine organization and computer hardware; algorithm and software development; data representation; social impact of computing; contemporary computer applications.
3. Introductory FORTRAN Programming. Lecture, three hours; discussion, two hours; computer terminals, 10 hours. Students with credit for course 10A will receive only two units of credit for this course. Basic principles of programming, using FORTRAN as the example language. A terminal course intended for physical science and engineering majors who need to use the extensive library of existing FORTRAN programs. Students who wish to take more advanced Program in Computing courses should take course 10B in parallel to this course.

10A. Introduction to Programming. (Formerly numbered 10.) Lecture, three hours; discussion, two hours; computer terminals, 10 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 PASCAL as the example language: algorithmic, procedural problem solving; program design and development; control structures and data structures; human factors in programming and program design.

10B. Intermediate Programming. Lecture, three hours; discussion, two hours. Prerequisite: course 10A. Review of elementary concepts: standard input/output; external mergesorting, binary search trees; hashing; multiway trees; textual analysis; parsing; C language.

30. Machine Organization and Assembly Language Programming. Lecture, three hours; discussion, one hour. Prerequisites: course 100B; sophomore standing; headcount; computer terminals, 15 hours. Prerequisite: course 100B. Not open for credit to students with credit for 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.

60. Data Structures and Algorithms. Lecture, three hours; discussion, one hour; computer terminals, 10 hours. Prerequisites: course 100B, Math 31A, 31B, 61. Review of basic data structures: arrays, stacks, queues, lists, trees. Advanced data structures: priority queues, heaps, balanced trees. Sorting, searching techniques. Corresponding algorithms.

Mathematics

Lower Division Courses

A. Intermediate Algebra (No credit). (Formerly numbered 1A.) Lecture, five hours. Prerequisite: Level I Chemistry/Mathematics Preliminary Examination. Mathematics A displaces four units on the student's Study List but yields no credit toward a 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 a review of elementary and intermediate algebra. Arithmetical operations on the real numbers, algebraic notation, polynomials, rational exponents, linear and quadratic equations and inequalities, coordinate geometry.

1. Precalculus. (Formerly numbered 1B.) Lecture, three hours; discussion, two hours. Prerequisites: course A with a grade of C- or better, or two and one-half years of high school mathematics and successful completion of the Level I Chemistry/Mathematics Preliminary Examination. The function concept. Linear and polynomial functions and their graphs, zeros of polynomials, inverse, exponential, and logarithmic functions. Trigonometric functions.

2. Finite Mathematics for Social Science Students. Lecture, three hours; discussion, one hour. Prerequisite: course 1 or three years of high school mathematics. Not open for credit to students with credit for any course from Mathematics 110A through 199. Functions, elementary logic, sets, combinatorics, probability, vectors, and matrices.

3A. Calculus for Life Science Students. Lecture, three hours; discussion, one hour. Prerequisites: three years of high school mathematics including trigonometry and successful completion of the Level II Chemistry/Mathematics Preliminary Examination, or completion of course 1 with a grade of C- or better. Not open for credit to students with credit for any course from Mathematics 110A through 199.

3B. Calculus for Life Science Students. Prerequisite: course 3A with a grade of C- or better. Techniques and applications of the differential calculus.

3C. Calculus for Life Science Students. Prerequisite: course 3B with a grade of C- or better. Functions of several variables, partial differentiation, and multiple integration.

3E. Calculus for Economics Students. Lecture, three hours; discussion, two hours. Prerequisite: course 104 with a grade of C- or better. Not open for credit to students with credit for course 3C. Functions of several variables; techniques of graphing, partial derivatives, maxima and minima, Lagrange multipliers. Exponential functions.

5. Introduction to Calculus. Lecture, three hours; discussion, one hour. Not open for credit to students with credit for courses 3A, 3E, or 31A. Satisfies the Letters and Science quantitative reasoning requirement.

31A. Calculus and Analytic Geometry. Lecture, three hours; discussion, one hour. Prerequisites: at least three and one-half years of high school mathematics (including some coordinate geometry and trigonometry) and successful completion of the Level II Chemistry/Mathematics Preliminary Examination, or course 104 with a grade of C- or better. Differential calculus and applications; introduction to integration.

31A H-31BH. Calculus and Analytic Geometry (Honors Sequence). Lecture, three hours; discussion, one hour. Prerequisites: successful completion of the Level II Chemistry/Mathematics Preliminary Examination or an additional honors placement examination, consent of instructor; An honors sequence parallel to courses 31A, 31B.

31B. Calculus and Analytic Geometry. Lecture, three hours; discussion, one hour. Prerequisite: course 31A with a grade of C- or better. Transcendental functions; methods and applications of integration.

32A. Calculus of Several Variables. Lecture, three hours; discussion, one hour. Prerequisite: course 31B with a grade of C- or better. Introduction to differential calculus of several variables.

32A H-32BH. Calculus of Several Variables (Honors Sequence). Prerequisites: courses 31BH or 31B with a grade of A and consent of instructor. An honors sequence parallel to courses 32A, 32B.

32B. Calculus of Several Variables. Lecture, three hours; discussion, one hour. Prerequisite: course 32A with a grade of C- or better. Introduction to the integral calculus of several variables.

33A. Matrices and Differential Equations. Prerequisite: course 32A or 32AH. Introduction to matrix theory; introduction to differential equations.

33AH-33BH. Matrices, Differential Equations, and Infinite Series (Honors Sequence). Prerequisites: course 32BH, or 32B with a grade of A and consent of instructor. An honors sequence parallel to courses 33A, 33B.

35. Infinite Series. Prerequisite: course 33A or 33AH. Not open for credit to students with credit for course 32AH or 32B. Infinite series and sequences; complex numbers.

38A. Fundamentals of Arithmetic. Lecture, three hours; discussion, one hour. Prerequisite: sophomore standing. Not open for credit to students with credit for any course from Mathematics 110A through 199. May not be applied toward Letters and Science general education requirements. Courses 38A, 38B, and 104 form a one-year sequence for prospective elementary teachers in the Diversified Liberal Arts Program. Counting numbers and other subsystems of the real numbers; sets; operations, relations, algorithms; applications and problem solving. Emphasis on understanding arithmetic procedures.

38B. Fundamentals of Arithmetic. Lecture, three hours; discussion, one hour. Laboratory, one hour. Prerequisite: course 38A. Not open for credit to students with credit for any course from Mathematics 110A through 199. May not be applied toward Letters and Science general education requirements. A continuation of course 38A. Elementary number theory; probability and statistics; the microcomputer and simple instructional programs; meaningful measurement and approximation; coordinate geometry. Other topics appropriate for the elementary classroom.

50. Elementary Statistics. (Formerly numbered 50A-50B.) Lecture, three hours; discussion, one hour. Prerequisite: three years of high school mathematics or course 1 or consent of instructor. Not open for credit to students with credit for any course from Mathematics 110A through 199 or Economics 40. Descriptive statistics, elementary probability, random variables, and probability distributions. Large and small sample inference concerning means.

61. Introduction to Discrete Structures. Lecture, three hours; discussion, one hour. Prerequisites: courses 31A, 31B, and Program in Computing 10A or 3 or equivalent. Not open for credit to 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 110A, 115A, 117, 120A, 131A, 131B, 144, 152A, and 152B are offered each quarter. 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 Undergraduate Mathematics Office in February.

General and Teacher Training

104. Fundamental Concepts of Geometry. Lecture, three hours; discussion, one hour. Prerequisite: two years of high school mathematics including geometry. Designed for prospective elementary teachers (also see Mathematics 38A, 38B). The following topics may be included: the number lattice and Pick's theorem; the Pythagorean theorem in the Cartesian plane, including examples with a finite field; an introduction to the theory of area, volume, and similarity in the plane and in the space; polygons, regular tilings of the plane; enumerative and counting problems, including some in spaces of four or more dimensions; selected topics in topology such as the Euler characteristic of the plane; and an introduction to symmetry in the plane. Although the primary emphasis is on the subject itself, rather than its social setting, in recent years the course has illustrated a number of class-tested teaching strategies that have been successful with school-age children.
106. History of Mathematics. Prerequisite: course 32A. Topics in the history of mathematics, with emphasis on the development of modern mathematics.

Algebra, Number Theory, and Logic

110A-110B-110C. Algebra. Lecture, three hours; discussion, one hour. Prerequisite: course 115A or consent of instructor. 110A. Not open for credit to students with credit for course 117 or former courses 101A-101B. The ring of integers, integral domains, fields, polynomial domains, unique factorization. 110B. Groups, structure of finite groups. 110C. Further topics in ring theory; field extensions, Galois theory, applications to geometric constructions, and solvability by radicals.

110A-110B-110C. Algebra (Honors Sequence). Prerequisite: consent of instructor. An 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 the theory of primes, algebraic number theory, Diophantine equations.

112A-112B-112C. Set Theory and Logic. Lecture, three hours; discussion, one hour. Prerequisites: courses 32B, 33B. Informal axiom set theory presented as a foundation for modern mathematics. 112A. Logic: formal systems; Gödel's completeness and incompleteness theorems.

113. Combinatorics. Lecture, three hours; discussion, one hour. Prerequisites: courses 32B, 33B. Permutations, combinations, counting principles, recurrence relations and generating functions. Combinatorial designs, graphs and trees, with applications including games of complete information. Combinatorial existence theorems, Ramsey's theorem.

114A-114B-114C. Computation Theory and Logic. (Formerly numbered 114A-114B.) Lecture, three hours; discussion, one hour. Prerequisites: courses 33B, 61, 115A (latter may be taken concurrently with course 114A). Formal automata: Turing machines and other models of computation; recursive functions; Church's thesis; Gödel numbering of computations; universal machines; unsolvability results. Recursive and recursively enumerable sets; reducibilities; relative recursive functions; Post's problem; constructive 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 Godel, Tarski, Church. Complexity of computations; time and space limitations; nondeterministic machines; the polynomial classes P and NP; complete problems; measures of complexity; speed-up and gap theorems; lengths of proofs.

115A. Linear Algebra. (Formerly numbered 115.) Lecture, three hours; discussion, one hour. Prerequisite: course 33A. Abstract vector spaces; linear transformations and matrices; determinants; inner product spaces; low dimension eigenvector theory.

115B. Linear Algebra. Lecture, three hours; discussion, one hour. Prerequisite: course 115A. Linear transformations, conjugate spaces, duality, the 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 or former course 101A. Integers, congruences, fields, applications of finite fields; polynomials; permutations, introduction to graphs.

118A-118B-118C. Combinatorial Algorithms. (Formerly numbered 118.) 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, used in scientific and engineering fields. Topics include asymptotic analysis, arithmetic algorithms, computer-oriented algorithms, graphs and matroids, coding theory and designs.

Geometry and Topology


121. Introduction to Topology. Prerequisite: course 131A. Metric and topological spaces, topological properties, completeness, mappings and homeomorphisms, the metrization problem.

122. Projective Geometry. Lecture, three hours; discussion, one hour. Prerequisites: courses 110A-110B, 115A. Projective spaces, especially lines and planes; homogeneous coordinates; the principles of duality; projectivities, the fundamental theorem, and the theorems of Desargues, Pappus, Steiner, and Pascal.

123. Foundations of Geometry. Lecture, three hours; discussion, one hour. Prerequisite: course 115A. Axioms and models, Euclid's geometry, Hilbert's axioms, neutral (absolute) geometry, hyperbolic geometry, Pincare's model, independence of the parallel postulate.

Analysis

131A-131B. Analysis. Lecture, three hours; discussion, one hour. Prerequisites: courses 32B, 33B, 115A. Advanced calculus; improper integrals, infinite series, uniform convergence. Functions of one complex variable. Power series, Laurent series, residues, steepest descent. Functions of many variables, implicit functions, multivariable differential calculus, implicit and inverse function theorems, extremum problems. 131A-131B. Analysis (Honors Sequence). Lecture, three hours; discussion, one hour. Prerequisite: course 131A or consent of instructor. An honors sequence parallel to courses 131A-131B. Functions of several variables, multivariable differential calculus, implicit and inverse function theorems, extremum problems.

131A-131B-131C. Analysis (Honors Sequence). (Formerly numbered 131A.) Lecture, three hours; discussion, one hour. Prerequisite: course 131B or consent of instructor. An honors sequence parallel to courses 131A-131B. Functions of several variables, multivariable differential calculus, implicit and inverse function theorems, extremum problems.

131C. Complex Analysis. Lecture, three hours; discussion, one hour. Prerequisite: course 131A. Not open for credit to students with credit for course 142A. Riemann mapping theorem, Cauchy's integral formula, power series expansion, contour integrals, residue calculus.

131CH. Complex Analysis (Honors). (Formerly numbered 132H.) Lecture, three hours; discussion, one hour. Prerequisites: course 131BH, consent of instructor. An honors sequence parallel to course 131C. Courses 131A-131B and 131CH form a full honors sequence in analysis.

132. Complex Analysis for Applications. Lecture, three hours; discussion, one hour. Prerequisites: courses 33B, 131A. Not open for credit to students with credit for course 131A. Introduction to the basic formulas and calculation procedures of complex analysis of one variable relevant to applications. Topics include Cauchy-Riemann equations, Cauchy integral formula, power series expansion, contour integrals, residue calculus.

133. 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. An 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. (Formerly numbered 135C.) Lecture, three hours; discussion, one hour. Prerequisites: courses 131A-131B. Linear and nonlinear partial differential equations, particularly of the second order: the wave equation, the heat equation, and Laplace's 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 courses 140A, 141A, 141B, Electrical Engineering 103 (or former course 124A). Emphasis on both theory, with error analysis, and applications. Analysis of numerical methods for the following areas: 140A. Nonlinear equations, systems of linear equations, ordinary differential equations, 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 32B, 33B, 115A, and Program in Computing 3 or 10A or equivalent. Not normally open for credit to students with credit for courses 141A, 141B, Electrical Engineering 103 (or former course 124A). Emphasis on both theory, with error analysis, and applications. Analysis of numerical methods for the following areas: 141A. Nonlinear equations, systems of linear equations, optimization, interpolation, differentiation, and integration. 141B. Differential equations, least-squares approximation, Modeling and methods, problems in which mathematical models are constructed for physical problems. Illustrations from many fields of endeavor (e.g., physical science, biology, economics, traffic dynamical systems).

142. Mathematical Modeling. Lecture, three hours; discussion, one hour. Prerequisites: courses 32B and 33B, or consent of instructor. An introduction to the fundamental principles and the spirit of applied mathematics, with particular emphasis on which areas in which the mathematical models are constructed for physical problems. Illustrations from many fields of endeavor (e.g., physical science, biology, economics, traffic dynamical systems).

143. Analytic Mechanics. Lecture, three hours; discussion, one hour. Prerequisites: courses 32B, 33B. Foundations of Newtonian mechanics, kinematics and dynamics of a rigid body, variational principles and Lagrange's 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 141A or 141B, Electrical Engineering 103 (or former course 124A). Principles of linear programming, the duality theorem, the simplex method; applications to industrial and business problems. Additional topics such as sensitivity analysis, integer programming, distribution and transportation algorithms, and applications to game theory.

145. Fourier Methods for Differential Equations. (Formerly numbered 145A.) Lecture, three hours; discussion, one hour. Prerequisite: course 115A or consent of instructor. Not open for credit to students with credit for course 141A or 141B, Electrical Engineering 103 (or former course 124A). Principles of linear programming, the duality theorem, the simplex method; applications to industrial and business problems. Additional topics such as sensitivity analysis, integer programming, distribution and transportation algorithms, and applications to game theory.
146. Methods of Applied Mathematics. (Formerly numbered 145B.) Lecture, three hours; discussion, one hour. Prerequisite: course 33B. Integral equations, Green's function, and calculus of variations. Selected applications from control theory, optics, dynamic programming, and other engineering problems.

147. Game Theory. Lecture, three hours; discussion, one hour. Prerequisite: course 115A or 144 or consent of instructor. Principles and techniques of game theory. Games in extensive form. Matrix games. The minimax theorem and calculation of convex strategies. Stochastic games. Cooperative and noncooperative solutions of bimatrix games. Coalitional games and applications. Additional topics such as combinatorial games, recursive games, and Lemke-Howes algorithm, assignment games and the marriage problem, economic markets, cost allocation, measurement of voting power.

Probability and Statistics

150A-150B-150C. Probability and Statistics. Lecture, four hours; discussion, one hour. Prerequisites: courses 32B, 33B, 115A. Not open to students with credit for courses 152A, 152B, Electrical Engineering 131A (or former course 120A). A basic course in probability and statistics emphasizing theory and applications aimed at a general audience. Prepares students to understand probability and statistical models in their own field as well as to pursue more advanced topics in either subject. Course 150A and the second half of 150B are devoted to probability, the remainder to statistics.

151. Stochastic Processes. Lecture, three hours; discussion, one hour. Prerequisites: courses 150A-150B or consent of instructor. An introduction to the theory and application of stochastic models, emphasizing Markov chains and pure jump processes; illustrations from queueing systems, point processes, birth and death processes, renewal theory; Poisson processes, Brownian motion.

152A-152B. Statistics. Lecture, three hours; discussion, one hour. Prerequisite: for course 152A: course 32B (recommended: course 33B); for course 152B: courses 115A and 152A, or consent of instructor. Not open to students with credit for courses 150A, 150B, 150C, Electrical Engineering 131A (or former course 120A). An introductory course in the theory and application of statistics. Condenses courses 150A-150B-150C into two quarters mainly by omitting topics, especially in probability.

153A-153B, Introduction to Computational Statistics. (Formerly numbered M153.) Lecture, three hours; discussion, one hour. Prerequisites: courses 115A, and 150B or 152B. Linear and nonlinear regression analysis, computer package programs. Emphasis on the relation between statistical theory, numerical results, and the analysis of data. 153A. BMDP, SAS, and SPSS regression programs; general linear model theory; linear regression analysis; transforming and weighting; regression diagnostics; model building. 153B. Analysis of variance and covariance; nonlinear regression programs, analysis, and applications; maximum likelihood analysis; robust regression.

169. 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 the PASCAL or C language. Study of homogeneous coordinates, projective transformations, interoptimating and approximating curves, representation of surfaces, and other mathematical topics useful for computer graphics.

169HS. Honors Seminar in Mathematics of Computer Graphics. Lecture, three hours. Prerequisites: course 169, consent of instructor. Limited enrollment (admission to be based on performance in course 169). Includes project work (not for honors program). A participating seminar on topics not covered in course 169. Each student prepares a substantial course project and presents it to the class.

Special Studies

190. Honors Mathematics Seminar. Prerequisites: honors program standing, consent of instructor. A participating seminar on advanced topics in mathematics.

191. Upper Division Seminars (2 to 4 units). Prerequisites: courses 32A, 32B, 33A, 33B, consent of instructor. Limited to 15 students. Each quarter the department offers a limited number of seminars in various branches of mathematics. Substantial student participation. May be repeated for credit.

199. Special Studies in Mathematics (1 to 4 units). Prerequisite: consent of department chair and instructor. Among the offerings are seminars on the 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 but no more than one 199 course may be applied. The upper division seminars are required for a major offered by the Mathematics Department.

Graduate Courses

Teacher Preparation

201A-201B-201C. Topics in Algebra and Analysis. Prerequisite: B.A. degree in Mathematics or equivalent. Designed for students in the mathematics-education program. Important ideas of algebra, geometry, and calculus leading effectively from elementary to modern mathematics. Approaches to the number system, point sets, geometric interpretations of algebra and analysis, integration, differentiation, series and analytic functions. May not be applied toward the M.A. degree requirements.

201A-202B. Mathematical Models and Applications. Prerequisite: B.A. degree in Mathematics or equivalent. Designed for students in the mathematics-education program. A 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 the M.A. degree requirements.

Number Theory

205A-205B-205C. Number Theory. Prerequisites: courses 210A and 246A, or consent of instructor. Topics from analytic algebraic and geometric number theory, including distribution of primes and factorization in algebraic number fields. Selected topics from additive number theory, Diophantine approximation, partitions, class-field theory, lattice point problems, valuation theory, etc.


Algebra

210A-210B-210C. Algebra. Prerequisites: courses 110A-110B-110C or consent of instructor. Students with credit for courses 110B and 110C will not receive M.A. degree credit for courses 210B and/or 210C; Group theory, including the theorems of Sylow and Jordan-Holder-Schreier; rings and ideals, factorization theory in integral domains, modules over principal ideal rings, Galois theory of fields, Lie algebras, structure of algebras.

211. Structure of Rings. Prerequisite: course 210A or consent of instructor. The radical, irreducible modules and primitive rings, rings and algebras with minimum condition.

212. Homological Algebra. Prerequisite: course 210A or consent of instructor. Modules over a ring, homology and cohomology, the derived functors and derived functors, homological dimension of rings and modules.

213A-213B. Theory of Groups. Prerequisite: course 210A or consent of instructor. Topics include representation theory, character theory, infinite Abelian groups, free products and presentations of groups, solvable and nilpotent groups, classical groups, algebraic groups.

214A-214B. Algebraic Geometry. Prerequisite: course 210A or consent of instructor. Focuses from the theory of commutative rings and algebras. Theory of algebraic varieties. Topics include plane curves, resolution of singularities, invariant theory, intersection theory, divisors and linear systems.

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, the Serre conjecture, regular local rings.

Logic and Foundations

220A-220B-220C. Mathematical Logic and Set Theory. Prerequisites: courses 112A-112B-112C or equivalent. Model theory: compactness theorem, Lowenheim-Skolem theorems; definability; ultraproducts; preservation theorems; interpolation theorems. Recursion function theory: Church's thesis; recursively enumerable sets; hierarchies; degrees. Formal properties of completeness and incompleteness theorems, decidable and undecidable theorems; 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, lattice theory, completeness, incompleteness, interaction with combinatorics, topology, and logic; algebraic systems, congruence lattices, subdirect decomposition, congruence laws, equational bases, applications to lattices.

233A. Model Theoretic Logic. Prerequisites: courses 220A-220B-220C. Topics include ultraproducts, interpolation theorems, saturated models, omitting types, categoricity, two cardinal theorems, enriched languages, soft model theory, and applications.

233B. Set Theory. Prerequisites: courses 220A-220B-220C. Topics include constructibility theory, Cohen extensions, large cardinals, and combinatorial set theory.

233C. Recursion Theory. Prerequisites: courses 220A-220B-220C. Topics include degrees of unsolvability, recursively enumerable sets, undecidable theorems, inductive definitions, admissible sets and ordinals, and recursion in higher types.


Geometry

226A-226B-226C. Differential Geometry. Prerequisites: course 210A or consent of instructor. Manifold theory; connections, curvature, torsion, and parallelism. Riemannian manifolds; completeness, submanifolds, constant curvature. Geodesics; conjugate points, variational methods, Myers theorem, nonposi- tive curvature. Further topics such as pinched manifolds, integral geometry, Kahler manifolds, symmetric spaces.
228. Convex Sets. Prerequisite: course 121 or 245A or consent of instructor. Basic concepts for convex sets in topological linear spaces; separation theorems and support functions; local convexity; convex functions; Helly type theorems; duality.


230. General Topology. Prerequisites: courses 131A-131B or consent of instructor. Students with credit for course 121 will not receive M.A. degree credit for this course. Topological spaces and maps, products, quotient spaces, connectedness and compactness, separation properties, local properties, completeness. Homotopy and the fundamental group.

231A. Manifold Theory. Prerequisites: courses 121 and 131A-131B, or consent of instructor. Manifolds, tangent spaces, vector fields, Lie brackets, flows, integral curves, Lie groups, differential forms and exterior derivative, Stokes’ theorem on manifolds.

231B. Introduction to Homology Theory. Prerequisite: course 231A or consent of instructor. Elementary concepts of homology theory. Singular chains and the boundary operator, definition of homology. Mayer-Vietoris sequence, calculation of homology of standard spaces.

231C. Further Topics in Geometry and Algebraic Topology. Prerequisites: courses 231A and 231B, or consent of instructor. Topics may include cohomology and duality theorems, de Rahm’s theorem, cup products, and transversality intersection theory of submanifolds. Additional topics as time permits.

232A-232B-232C. Algebraic Topology. Prerequisite: course 121 or 230 or consent of instructor. Fundamental group; homotopy theory, singular theory, cellular theory, computation of homology groups; cohomology theory, cup and cap products; duality; homotopy theory, fiber spaces, Hurewicz theorem, obstruction theory.

236. Advanced Topics in Geometric Topology. Prerequisites: courses 231A and 231B, or consent of instructor. Handel’s theorem, Nielsen’s fixed point theorem, PL topology; surgery. Topics vary from year to year.

237. Advanced Topics in Algebraic Topology. Prerequisites: courses 232A-232B-232C or consent of instructor. K-theory; fixed-point theory; extraordinary cohomology theories. Topics vary from year to year.

Analysis and Differential Equations

240. Methods of Set Theory. Lecture, three hours. Prerequisites: courses 110A-110B, 121 or equivalent, 131A-131B. Naive, axiomatic set theory, the axiom of choice and its equivalents, well-orderings, transfinite induction, ordinal and cardinal arithmetic. Applications to algebra: Hamel bases, the Stone representation theorem. Applications to analysis and topology: the Cantor-Bendixson theorem, counterexamples in measure theory, Borel and analytic sets, Choquet’s theorem.

245A-245B-245C. Real Analysis. Prerequisites: courses 121, 131A-131B, or equivalent (course 230 may be taken concurrently). Students with credit for course 134 will not receive M.A. degree credit for course 245A. Basic measure theory, Measure theory on locally compact spaces. Fubini theorem. Elementary aspects of Banach and Hilbert spaces and linear operators. Function spaces. Radon-Nikodym theorem. Fourier transform and Plancherel on R^n and T^n.


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, examples of distributional approximations of solutions, and Volterra equations.

251A. Introductory Partial Differential Equations. Prerequisite: consent of instructor. Classical theory of heat, wave, and potential equations; fundamental solutions; characteristics and Huygens principle; properties of harmonic functions. Classification of second-order differential operators. Maximum principles, energy methods, uniqueness theorems. Additional topics as time permits.

251B-251C. Topics in Partial Differential Equations. Prerequisite: consent of instructor. An in-depth introduction to topics of current interest in partial differential equations or their applications.

252A-252B-252C. Advanced Topics in Complex Analysis. Prerequisites: courses 245A-245B-245C and 246A-246B-246C, or consent of instructor. Potential theory, subharmonic functions, harmonic measures; Hardy spaces; entire functions; univalent functions; Riemann surfaces; extremal length, variational methods, quasiconformal mappings. Topics vary from year to year.

253A-253B. Several Complex Variables. Prerequisites: courses 245A-245B-245C and 246A-246B-246C, or consent of instructor. Introduction to analytic functions of several complex variables. The z^p problem, Cousin problems, domains of holomorphy, complex manifolds.


255A-255B. Real Analysis for Applications. Prerequisites: courses 131A-131B or consent of instructor. Not open for credit to students with credit for courses 245A-245B-245C. Lebesgue measure and integration on the real line, absolutely continuous functions, functions of bounded variation, L^1 and L^2 spaces. Fourier series. General measure and integrals. Fourier and Fourier-Nikodym theorems, representation of functionals, Fourier integrals.


255B-255C. Topics in Functional Analysis. Prerequisites: course 255A. Topics include Banach algebras, operators on Banach spaces and Hilbert space, semigroups of operators, linear topological vector spaces, and nonreflexive Banach spaces, duality.

258A-258B. 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. The 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; congestion games; kernel and nucleolus; multilinear extension and the Shapley value; fixed-point theorems; Nash equilibrium; nontransferable utility; lambda-transform method. Applications to markets, cost allocation, assignment and marriage problems, voting power.

263. Hydrodynamic Instabilities and Turbulence. (Same as Earth and Space Sciences M211.) Lecture, three hours. An introduction to the theories of hydrodynamic instability and the nonstatistical description of turbulence; stability bounds by the energy method; linear theory of instability; finite amplitude theories of post-instability flows; bounds on properties of turbulent flows by statistical techniques.

264. Applied Complex Analysis. Prerequisite: course 246A or consent of instructor. Topics include contour integration conformal mapping, differential equations, analytic functions, complex analysis, asymptotic series, Fourier and Laplace transforms, integral inequalities.

265A-265B. Real Analysis for Applications. Prerequisites: courses 131A-131B or consent of instructor. Not open for credit to students with credit for courses 245A-245B-245C. Lebesgue measure and integration on the real line, absolutely continuous functions, functions of bounded variation, L^1 and L^2 spaces. Fourier series. General measure and integrals. Fourier and Fourier-Nikodym theorems, representation of functionals, Fourier integrals.

Probability and Statistics

275A-275B. Probability Theory. Prerequisite: course 245A or 265A. Connection between probability theory and real analysis. Weak and strong laws of large numbers, central limit theorem, conditioning, ergodic theory, martingale theory.

275C. Stochastic Processes. Prerequisites: courses 275A-275B. Selected topics such as Brownian motion and potential theory. Markov processes, infinite particle systems, Gaussian processes. Content varies from year to year. May be repeated for credit.

276A-276B. Mathematical Statistics. Prerequisites: courses 150A-150B-150C or 150A-152B and 131A-131B. 276A. Bayes decision rules; sufficiency and completeness; uniformly most powerful tests. 276B. Fisher information; Cramer-Rao inequality; asymptotic properties of tests and estimators; maximum likelihood estimators; likelihood ratio and chi-square tests of hypotheses.

276C. Statistical Decision Theory. Prerequisite: course 276A. Invariant estimates and tests; best unbiased and locally best tests; multiple decision problems. Application to the general linear model; other topics.

277. Sequential Analysis. Prerequisite: course 276A. Bayes sequential decision rules, stopping rule problems, optimality of the sequential probability ratio test, sequential estimation.


279B. Computational Fluid Dynamics. Basic concepts, finite difference, finite element, pseudo-spectral, and vortex methods; stability, accuracy, shock capturing, and boundary approach.

285A-285B-285C. Applied Statistics. Prerequisite: consent of instructor. Topics in statistical computing and who wish to prepare them- selves for advanced professional work or graduate study in certain areas of computer sci- ence or mathematics. The program concentrates on fundamental concepts and is not intended to be a general undergraduate data processing major for those interested in application fields (in fact, no such major is offered at UCLA).
This major is a cooperative program offered jointly by the Department of Computer Science in the School of Engineering and Applied Science, and the Department of Mathematics. The program, administered by the Mathematics Department, leads to the Bachelor of Science degree.

Bachelor of Science Degree

Admission
Because of limited facilities (staff, laboratories, computing resources) and the expansion of programs in the Computer Science and Mathematics Departments, this interdepartmental major may soon be discontinued. Students admitted to the university for Fall Quarter 1986 and thereafter may not have the option of entering this major but will have an opportunity to pursue one of the alternate programs available to students with an interest in computing (see the mathematics of computation major and the specialization in computing under the Mathematics Department section).

Students admitted to the pre-mathematics/computer science major prior to Fall Quarter 1986 can apply for admission to the mathematics/computer science major or to one of the alternate programs. All pre-mathematics/computer science majors applying for admission to the major are subject to the minimum entrance requirements listed in the 1985-86 UCLA General Catalog.

Preparation for the Major

Required: Mathematics 31A, 31B, 32A, 32B, 33A, 33B, 61, Program in Computing 10A, 10B, 10C, 30, Physics 8A, 8C.

The Major

Required: Fourteen courses, seven in mathematics and seven in computer science, distributed as follows: (1) Mathematics 110A or 117, 115A, 150B or 152A, and four additional courses from 110A through 199 (suggested: 113, 114A, 118A, 140A, 140B, 140C, 141A, 141B, 142, 144, 150A or 152B, 153A); (2) Computer Science 131, 141, 151A, 151B, 152A, 152B, 181, and one additional course from Electrical Engineering 102, 103, Mechanical, Aerospace, and Nuclear Engineering 194A, 194B, or Computer Science 111 through 199 (courses 152A and 152B are laboratory courses; each is to be taken concurrently with its mate). Credit may not be applied toward the degree for more than one of Mathematics 140A, 141A, Electrical Engineering 103.

Minimum Standards

A minimum grade of C is required in each preparation for the major course; a minimum grade of C— is required in all major courses. In addition, you must maintain a GPA of 2.0 or better in upper division mathematics courses and a GPA of 2.0 or better in upper division computer science and electrical engineering courses in the major.

If you do not earn the specified minimum grade in a particular course, you must repeat that course. If you fail to earn the minimum grade for the repeated course, you may not remain in the premajor or major.

Credit Limitations

The credit limitation rules that apply to mathematics majors also apply to mathematics/computer science majors.

Honors Program

Majors who wish to graduate with honors should apply for admission to the honors program. You may enter the program after completing two upper division mathematics courses and eight upper division units in computer science or electrical engineering courses in the major with an overall GPA of 3.6. The program consists of completing a suitable special project or participating seminar, earning a 3.6 GPA in upper division mathematics courses, and a 3.6 GPA in upper division computer science and electrical engineering courses in the major.

If you complete the program, you are awarded honors at graduation; if you demonstrate exceptional achievement, you are awarded highest honors.

Microbiology

5304 Life Sciences, (213) 825-8482

Professors
Frederick A. Eiserling, Ph.D., Chair
C. Fred Fox, Ph.D.
June Lascelles, Ph.D.
Rafael J. Martinez, Ph.D.
Donald P. Nierlich, Ph.D.
M. J. Pickett, Ph.D.
Sydney C. Ritterberg, Ph.D.
William R. Romig, Ph.D.
Eli E. Sercarz, Ph.D.
Anthony J. Salle, Ph.D., Emeritus

Associate Professors
Arnold J. Berk, M.D.
Aldons J. Lusis, Ph.D. (Medicine)
Mary C. Terrio, M.D. (Medicine)
Bernadine J. Wniesiuk, Ph.D.
Owen N. Witte, M.D.

Assistant Professors
Robert P. Gualsatus, Ph.D.
Joan E. McGowan, Ph.D.
Robert W. Simons, Ph.D.

Adjunct Professors
Keichi Itakura, Ph.D.
John H. Stilker, Ph.D.
Gary Wilcox, Ph.D.

Adjunct Lecturer
Laurel G. Heffernan, Ph.D.

Scope and Objectives

Microbiology at UCLA is a diverse science that includes bacteriology, virology, and the study of single mammalian 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 prepare for careers in medicine or dentistry, medical technology, industrial microbiology (including biotechnology and genetic engineering), 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 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 the graduate microbiologist.

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 fundamentally disease-oriented approach to microbiology, see the Microbiology and Immunology Department description in Chapter 15.

Bachelor of Science Degree

Pre-Microbiology Major

Students (new, transfer, or change of major) who wish to major in microbiology first register as pre-microbiology students. After completing the preparation for the major courses with an overall C— grade-point average and Microbiology 101 with a grade of C or better, you should petition to enter the major in the Undergraduate Office, 5205 Life Sciences. All preparation courses must be taken for a letter grade. Whenever possible, Microbiology 7 should be taken in place of Biology 7. If you enter with 80 or more units of credit, in order to specify pre-microbiology as your major, you must have completed one year of general chemistry; Biology 5, 7, or equivalent; one of the following: organic chemistry with laboratory (two courses), calculus-based physics, calculus (one year).
Preparation for the Major

Required: Microbiology 7 (or Biology 7); Biology 5, 8; Chemistry 11A, 11B/11BL, 11C/11CL, 21, 23, 25; Mathematics 3A, 3B, 3C (or 31A, 31B, 32A); Physics 6A, 6B, 6C (or 8A/8AL, 8B/8BL, 8C/8CL, 8D/8DL).

The Major

Required: A total of 40 upper division units, including Microbiology 101, 102, C103A or C103B or 110, 119, M185; Chemistry 152; four additional upper division courses from the departmental list or from related departments selected with approval of the faculty adviser. All major courses must be taken for a letter grade, with a minimum overall 2.0 GPA. A maximum of four units of Microbiology 199 may be applied toward the major. Credit for 199 courses from other departments may not be applied. In addition, you must earn a C or better in courses 101 and 102 before continuing with further departmental upper division work. If you repeat one of these courses, you must earn a grade of B or better to remain in the major.

Honors Program

An overall grade-point average of 3.2 and a 3.5 in the premajor and major are required for graduation with honors in microbiology. Junior standing and the sponsorship of a faculty adviser are also required. For further information, contact the Undergraduate Office.

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. Information is available from the Graduate Adviser, Department of Microbiology, S304 Life Sciences, UCLA, Los Angeles, CA 90024.

The department accepts relatively few students whose objective is a master's degree; applicants should contact a potential faculty sponsor at the time of application.

Ph.D. Degree

Admission

For admission, you must have completed an undergraduate major in bacteriology, microbiology, or a related field with superior scholastic achievement. You should have preparation in calculus, physics, biology, genetics, organic and biological chemistry, and microbiology. Physical chemistry is strongly recommended. You may be admitted with background deficiencies to be remedied prior to or concurrent with graduate studies. Submit scores of the Graduate Record Examination (GRE) Aptitude Test directly to the department. The Advanced

Test in Biology or Chemistry is strongly recommended. Evidence (via letters of recommendation, interviews, or direct knowledge) of your research potential and motivation is also required. Completion of a master's degree is not normally required.

Course Requirements

Formal Lecture/Laboratory Courses

Biochemistry: Chemistry M253 (six units; offered only in the Fall Quarter; to be completed during the first year) and Microbiology 225/225L or M239/M239L (lecture and laboratory; eight units each; offered in the Winter and Spring Quarters respectively; to be completed during the first year) are required.

Genetics and Regulation: One 200-level, four-unit course to be selected from the current course listings maintained in the Graduate Office.

A total of eight additional units of 200-level coursework is required. This requirement can be waived on the basis of work done before entering UCLA.

Student-Participation Seminar Courses

Each quarter, seminar courses in which students read and report on current scientific research literature are organized. You must enroll in five such courses (10 units), including two offerings in the C204 series, during your first two years in residence.

Laboratories

During your first 15 months in residence, you rotate for one quarter each through three laboratories within the department (outside laboratories are permissible with consent of the advisory committee). You normally enroll in Microbiology 596 for four units of credit for each laboratory.

First-Year Proposal

By June 30 of your first year of study you must submit an original research proposal of approximately five pages. The topic may be based on a subject presented in a departmental professional seminar or on material from one of the seminar courses. Suggestions and evaluations are returned to you and used by 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 other formal teaching capacity for three quarters.

Prior experience at another institution is acceptable when approved by the departmental graduate adviser.

Qualifying Examinations

The written examination must be taken within 24 months of entry into graduate school and must be passed, if required, no later than 27 months from the date of entry. (These periods may be extended with the written consent of the departmental graduate adviser 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 examination, you prepare and defend a written research proposal. Before presentation to the doctoral committee, you are encouraged to present the proposal before a student seminar group.

The University Oral Qualifying Examination covers both your proposal and general scientific background. It is not restricted to the topics of the proposal. The committee may arrange alternate ways to assess your preparation and qualifications.

Final Oral Examination

A dissertation on a subject of your choice selected in consultation with the major professor is required. The final oral examination, administered by the doctoral committee, is a defense of the completed dissertation, presented as a professional seminar and open in part to the public.

Lower Division Courses

6. Introduction to Microbiology. Lecture, three hours. Not open for credit to students with credit for courses 7, 10, 101, Biology 5, 6, 7, 8, or equivalent courses taken elsewhere. Designed for the nontechnical student; an introduction to the biology of microorganisms (bacteria, viruses, protozoa, algae, fungi), their significance as model systems for understanding fundamental cellular processes, and their role in human affairs. F, W, Sp

7. The New Cell Biology. Lecture, three hours; laboratory, two hours. Prerequisites: Biology 5, Chemistry 11A. Designed for undergraduate students intending to major in microbiology and others as interested. Lecture and laboratory sessions to give students basic elements of scientific observation using prokaryotic and eukaryotic cell structure and cellular interactions. Extensive training in use of light microscope techniques. Actual on-hand training in microscopic techniques using video microscope, slides, and demonstrations. Extensive exposure to landmark observations and experiments in development of modern cell biology and structure. Mr. Fox, Mr. Witte (W)

10. General Microbiology. Lecture, three hours; laboratory, six hours. Prerequisites: course 7 or (Biology 7). Biology 5, Chemistry 11A, 15. Designed for health sciences students. Not open for credit to students with credit for Microbiology 101; does not substitute for course 101 in the major. An introduction to the biology of bacteria and their role in diseases of man. Ms. Wisnieski (Sp)
Upper Division Courses

101. Fundamentals of Bacteriology. Lecture, three hours; laboratory, six hours. Prerequisites: course 7 (or Biology 7), Biology 5, Chemistry 21, 23, 25. The historical foundations of the science; introduction to bacterial structure, physiology, biochemistry, genetics, and ecology. Mr. Gunalsus (Sp).

Ms. Lascelles (F), Ms. McEwen (Sp), Mr. Romig (F)

102. Introductory Virology. Lecture, three hours; laboratory, four hours. Prerequisite: course 101. Biological properties of bacteriophage and animal viruses; replication; methods of detection; interactions with host cells and multicellular hosts. Mr. Berk, Mr. Romig (W)

C103A. Biochemistry and Biology of Bacterial Infection. (Formerly numbered 103.) Lecture, three hours. Prerequisites: course 101, Chemistry 152. The biochemical properties of bacteria which afford the potential for pathogenicity. The epidemiology and transmission of disease; chemotherapy and drug resistance. Concurrently scheduled with course C203A.

Mr. Martinez (W)

C103B. Biochemistry of Host Defense Mechanisms. Lecture, three hours. Prerequisites: courses 101, M185, Chemistry 152. The biochemical basis of host defense mechanisms, with emphasis on the role of immunoglobulins in combating microbial invasion; the biology and biochemistry of phagocytic cells and constative mechanisms of host defense. Concurrently scheduled with course C203A.

Ms. Martinez (Sp)

C104A. Molecular Biology of Bacterial Growth (2 units). Lecture, three hours. Prerequisites: course 101, Biology 8, or equivalent, or consent of instructor. The concepts and mechanisms of bacterial growth; role of cyclic AMP and other regulatory factors, cloning and genetic engineering. May be concurrently scheduled with course C204A.

Mr. Nierlich (Sp, five weeks)

C104B. Biochemical Genetics of Eukaryotic Cells (2 units). Lecture, three hours. Prerequisites: prerequisite: gree background in biochemistry and genetics. Concepts in biochemical genetics, illustrated with recent research papers dealing with genetic analysis in yeast, drosophila, and mammalian systems. Topics include somatic cell genetics, gene mapping, mitochondrial genetics, homeotic genes, transposable elements, gene amplification, and other diseases. May be concurrently scheduled with course C204B.

Mr. Luis (F, second five weeks)

C104C. The Mammalian Cell as a Microorganism (2 units). Lecture, three hours. Prerequisites: Chemistry 152, consent of instructor. The cultured mammalian cell as an experimental system for the 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 the study of normal growth and development, disease mechanisms and cancer. May be concurrently scheduled with course C204C.

Mr. Fox (F, first five weeks)

C104E. RNA Tumor Viruses (2 units). Lecture, three hours. Prerequisites: Chemistry 152, consent of instructor. The interactions of RNA tumor viruses with differentiating tissues, such as the immune system and erythroid development. May be concurrently scheduled with course C204E.

Mr. Wite (Sp, five weeks)

105AH-105BH-105CH. Honors Laboratory in Bacterial Pathogenesis. Laboratory, 12 hours. Prerequisites: honors standing, consent of instructor. Highly recommended; course C103A. Limited enrollment. Current research projects on the biochemistry and genetics of bacterial and eukaryotic host pathogen interactions. Direct supervision of instructor. 105AH. The pathogen's genetic component, focusing on plasmid encoded functions. 105BH. Effects of genetic alterations on the pathogen's proteins and LPS. 105CH. Examination of the interaction of genetically modified pathogens with the host and host-denied components.

Mr. Martinez (F), 105BH; W, 105BH; Sp, 105CH

108. Hematology (2 units). Prerequisites: senior standing, consent of department. Diagnostic procedures used for the study of normal and pathological blood cells.

Ms. Ternio (Sp)

110. The Microbiology of Infection. Lecture, three hours; laboratory, six hours. Prerequisites: courses 101, 102, Chemistry 152, or consent of instructor. The salient characteristics of bacteria, rickettsiae, and viruses, both pathogenic and adventitious, associated with diseases of man.

Mr. Fickett (F)

C111. Biology of the Prokaryotic Cell. (Formerly numbered 111.) Lecture, three hours; discussion, one hour. Prerequisites: course 101 and Chemistry 152, or consent of instructor. An review of current knowledge of the structural organization of prokaryotic cells. Emphasis on bacterial growth, cell cycle, and genetic processes. Structure, synthesis, and assembly of subcellular components, including membranes, wall, flagella, ribosomes, and viruses. Concurrently scheduled with course C211.

113. Bacterial Metabolism. Lecture, three hours. Prerequisites: course 101 and Chemistry 152, or consent of instructor. Aspects of energy generation and biosynthesis in relation to bacterial growth in pure culture and natural environment. Selected topics on readings from the current literature.

Ms. Lascelles (W)

119. Microbial Genetics and Genetic Engineering. Lecture, three hours; discussion, one hour. Prerequisites: course 101 and Biology 8, or consent of instructor. The concepts and mechanisms of bacterial growth; role of cyclic AMP and other regulatory factors, cloning and genetic engineering. May be concurrently scheduled with course C204A.

Mr. Nierlich (Sp, five weeks)

151. Principles of Food Microbiology. Lecture, three hours. Prerequisite: course 101 (or equivalent) with consent of instructor). Fundamental principles of food microbiology. Emphasis on basic microbiological principles as applied to foods and processing. May be concurrently scheduled with another microbiology oriented. Readings in past and current research literature in food microbiology. Mr. Silliker (W)

M155. Immunology. (Same as Biology M155 and Microbiology and Immunology M155.) Lecture, three hours; discussion, one hour. Prerequisites: Biology, Chemistry 23, 25. Recommended corequisite: Chemistry 152 or 156. Introduction to experimental microbiology and immunobiology; cellular and molecular aspects of humoral and cell mediated immunity. May be concurrently scheduled with course C204A.

Mr. Clark, Mr. Sercarz (F)

M186. Experimental Design in Immunology. (Same as Biology M186 and Microbiology and Immunology M186.) Laboratory, 12 hours. Prerequisites: course M185, consent of instructor. Corequisite: course C211. Emphasis on the formulation of testable hypotheses designed to train the student in organizing and evaluating immunological laboratory experiments.

Mr. Clark, Mr. Sercarz (W)

189. Immunological Methods. Lecture, two hours; laboratory, four hours. Prerequisite: course M185. Immunological and immunotechnical techniques used in the modern research and clinical laboratory.

Mr. Luis (F, second five weeks)

199H. Honors Thesis (4 or 8 units). Prerequisite: honors program standing. Directed individual research for departmental honors; students must have a faculty sponsor. Three sequential 199 units are required. A report of the research must be submitted to the department, outlining the work of the first term. A report of each subsequent term, with the honors thesis submitted at the end of the final quarter. A maximum of four units may be applied toward the major; the balance applied toward the B.S. degree requirements.

Graduate Courses

C203A. Biochemistry and Biology of Bacterial Infection. Lecture, three hours. The biochemical properties of bacteria which afford the potential for pathogenicity. The epidemiology and transmission of disease; chemotherapy and drug resistance. Concurrently scheduled with course C103A. Graduate term paper on a topic approved by the instructor is required at the end of the quarter. Mr. Martinez (W)

C203B. Biochemistry of Host Defense Mechanisms. Lecture, three hours. The biochemical basis of host defense mechanisms, with emphasis on the role of immunoglobulins in combating microbial invasion; the biology and biochemistry of phagocytic cells and constitutive mechanisms of host defense. Concurrently scheduled with course C103B. Graduate term paper on a topic approved by the instructor is required at the end of the quarter. Mr. Martinez (Sp)

C204A. Molecular Biology of Bacterial Growth (2 units). Lecture, three hours; discussion, one hour. Prerequisites: course 101, Biology 8, and Chemistry 25, or equivalent, or consent of instructor. Introduction to bacterial physiology with lectures stressing its experimental foundation. Topics include chromosome replication, gene expression, control of growth rate and cell division, role of cyclic AMP and other regulatory factors, cloning and genetic engineering. May be concurrently scheduled with course C204B.

Mr. Luis (F, second five weeks)

C204B. Biochemical Genetics of Eukaryotic Cells (2 units). Lecture, three hours; discussion, one hour. Prerequisites: course 101, Biology 8, and Chemistry 25, or equivalent, or consent of instructor. Introduction to bacterial physiology with lectures stressing its experimental foundation. Topics include chromosome replication, gene expression, control of growth rate and cell division, role of cyclic AMP and other regulatory factors, cloning and genetic engineering. May be concurrently scheduled with course C104A. Includes an additional discussion section for graduate students on the research literature and methodology. S/U or letter grading. Mr. Nierlich (Sp, five weeks)

C204C. The Mammalian Cell as a Microorganism (2 units). Lecture, three hours; discussion, one hour. Prerequisites: prerequisite: gree background in biochemistry and genetics. Concepts in biochemical genetics, illustrated with recent research papers dealing with genetic analysis in yeast, drosophila, and mammalian systems. Topics include somatic cell genetics, gene mapping, mitochondrial genetics, homeotic genes, transposable elements, gene amplification, and other diseases. May be concurrently scheduled with course C204A.

Mr. Fox (F, first five weeks)

C104E. RNA Tumor Viruses (2 units). Lecture, three hours. Prerequisites: Chemistry 152, consent of instructor. The interactions of RNA tumor viruses with differentiating tissues, such as the immune system and erythroid development. May be concurrently scheduled with course C204E.

Mr. Wite (Sp, five weeks)

Mr. Clark, Mr. Sercarz (W)
C204. The Mammalian Cell as a Microorganism (2 units). Lecture, three hours; discussion, one hour. Prerequisites: Chemistry 152, consent of instructor. The cultured mammalian cell as an experimental system for the study of normal regulatory processes and diseased mechanisms. Emphasis on the isolation and regulation of cell growth in chemically defined medium; establishment, cloning, and characterization of cell lines, cultured cells as model systems in the study of normal growth and development, disease mechanisms and cancer. May be counted toward graduation credit for the course C104C. Includes an additional discussion section for graduate students on the research literature and methodological S/U or letter grading.

C204E. RNA Tumor Viruses (2 units). Lecture, three hours; discussion, one hour. Prerequisites: Chemistry 152, consent of instructor. The interactions of RNA tumor viruses with differentiating tissues, such as the interphase mammalian cell, will be studied. May be concurrently scheduled with course C104E. Includes an additional discussion section for graduate students on the research literature and methodological S/U or letter grading.

Mr. Fox (F, first five weeks)

C205. Seminar and Symposium on Molecular Biology (2 units). Lecture, three hours; discussion, one hour. Prerequisites: course 101 and Chemistry 152, or consent of instructor. A review of current knowledge of the structural organization of prokaryotic cells. Emphasis on isolating and characterizing cell membranes and component molecules. Basic and advanced techniques of membrane biochemistry and biophysics. Ms. Wisnieski (W, alternate years)

211U-221Z. Seminars and Symposia on Molecular Biology (2 units each). Lecture, two hours; discussion, three hours. Prerequisites: consent of instructor. Seminar courses which integrate topically with seminars and symposia organized and sponsored by the Molecular Biology Institute. These international symposia feature the leading researchers in their areas of molecular biology. Students receive an abstract booklet for concurrent study. May be concurrently scheduled with course C104C. Prerequisite: consent of instructor.

Mr. Wisnieski (W, alternate years)

M223. Membrane Research Seminar (2 units). (Same as Microbiology and Immunology M223.) Prerequisite: consent of instructor. Critical discussions of the current literature in membrane research, with emphasis on the relationship between structure and function in lipid bilayers. May be repeated for credit.

Mr. Brammall, Ms. Wisnieski

225. Biochemical Methods in Microbial and Cell Biology (2 units). Prerequisite: consent of instructor. Emphasis on techniques for purification and characterization of proteins, growth media and, cell culture, column chromatography, gel electrophoresis, ultracentrifugation, various optical methods, and use of radioisotopes.

Mr. Luus (W, alternate years)

225L. Laboratory in Biochemical Methods in Microbial and Cell Biology (6 units). (Formerly numbered 225.) Laboratory, 12 hours. Prerequisite: consent of instructor. Corequisite: course 225. Laboratory techniques for purification and characterization of proteins, growth media, and cell culture. Column chromatography, gel electrophoresis, ultracentrifugation, various optical methods, and use of radioisotopes.

Mr. Luus (W, alternate years)

M230A. Structural Molecular Biology (5 units). (Same as Biology M230A and Chemistry M230A.) Lecture, two hours; discussion, one hour. Prerequisite: consent of instructor based on a written research proposal. Fundamentals of electron microscopy of macromolecules and supramolecular structures, emphasizing quantitative microscopy, high resolution techniques, nucleic acid analysis, and studies on viruses and protein crystals.

Mr. Eiserling, Mr. Fox (alternate years)

M230B. Molecular Biology Laboratory. (Same as Biology M230C and Chemistry M230C.) Laboratory, 10 hours. Prerequisite: consent of instructor based on a written research proposal. Practical experience with electron microscopy of macromolecules and supramolecular structures, emphasizing quantitative microscopy, high resolution techniques, nucleic acid analysis, and studies on viruses and protein crystals.

Mr. Eiserling, Ms. Kasamatsu (F, alternate years)

235. Synthesis and Application of Oligonucleotides (2 units). Prerequisite: consent of instructor. Chemical methods for the synthesis of oligonucleotides and use of them for studies of molecular biology, including cloning, expression, and characterization of cell lines, cultured cells as model systems, emphasizing synthetic chemistry, and enzyme and phosphotase method for site specific mutation experiments.

Mr. Schumaker, Ms. Wisnieski (W, alternate years)

235L. Laboratory Synthesis and Application of Oligonucleotides (6 units). Laboratory, 12 hours. Corequisites: course 235, consent of instructor. Laboratory in advanced methods in oligonucleotide synthesis and application. Oligonucleotides of synthesized chemical, enzymatic, and chemical modification by restriction mapping and blot hybridization. Cloning in bacterial and plasmid vectors, sequence determination by the dyeode technique, computer analysis of sequences.

Mr. Nierlich, Mr. Simpson (Sp, alternate years)

M239L. Laboratory in Nucleic Acid Research (6 units). (Formerly numbered M239.) (Same as Biology M239L.) Lecture, 12 hours. Corequisites: course 239L. Laboratory in nucleic acid research methods in characterization of genes including sequence determination, isolation of nucleic acids by centrifugation, chromatography, electrophoresis methods and their characterization by restriction mapping and blot hybridization. Cloning in bacterial and plasmid vectors, sequence determination by the dyeode technique, computer analysis of sequences.

Mr. Nierlich, Mr. Simpson (Sp, alternate years)

M246. Computer Analysis of Genetic Organization. (Same as Biology M246.) Lecture, two hours; laboratory, six hours. Prerequisites: course 119 or Biology 144 or equivalent, and Biology 8. Lectures and laboratory instruction in contemporary procedures for the analysis of nucleic acid and protein sequence data with the computer. No prior computer experience is necessary; students gain both general and specialized facility with IBM PC and Digital VAX computers.

Mr. Nierlich, Mr. Simpson (Sp, alternate years)

250. Seminar in Microbial Metabolism (2 units). Prerequisite: consent of instructor. Discussion and student presentations of recent work in the areas of genetic regulation and physiology of bacterial metabolism. Prerequisite: either course 325 or Biology 104.

Mr. Nierlich, Mr. Simpson (Sp, alternate years)

251. Seminar in Regulation and Differentiation (2 units). S/U grading.

Mr. Gunisalu, Mr. Nierlich (F)

253. Seminar in Biochemistry of Host Defense Mechanisms (2 units). Lecture/discussion, one hour; laboratory, six hours. Prerequisite: consent of instructor based on a written research proposal. Fundamentals of the literature dealing with host defense mechanisms. The biochemical mechanisms of action of host defense. S/U or letter grading. Prerequisite: course 101 and consent of instructor.

Mr. Martinez (F)

255. Seminar in Microbial Cell Biology (2 units). Prerequisite: consent of instructor. Student presentations and critical discussion of current literature on various aspects of prokaryotic and eukaryotic cell biology and morphogenesis. May be repeated for credit.

256. Seminar in Microbial Genetics (2 units). Mr. Eiserling, Mr. Romig (F,W,Sp)

M258A. Molecular Genetics of the Immune System (2 units). (Same as Biology M250A and Microbiology and Immunology M258A.) Lecture, two hours; discussion, two hours. Prerequisite: course 118 and either course M181 or consent of instructor. Reading and discussion of current research articles on immunoglobulin I and II, oncogenes of the immune system, T cell antigen receptor, and low affinity antigen. May be repeated for credit.

Mr. Wall and the Staff (W, five weeks)

M258B. T and B Cell Function (2 units). (Same as Biology M250B and Microbiology and Immunology M258B.) Lecture, two hours; discussion, two hours. Prerequisite: course M185 or Microbiology and Immunology 202A or equivalent or consent of instructor. Reading and discussion of current research articles on antibody and antigen and effector function of T and B cells.

Mr. Bonavida and the Staff (W, five weeks)

M258C. Major Histocompatibility Complexes (2 units). (Same as Biology M250C and Microbiology and Immunology M258C.) Lecture, two hours; discussion, two hours. Prerequisite: course M185 or Microbiology and Immunology 202A or equivalent or consent of instructor. Reading and discussion of current research articles on the structure of human and murine MHC chromosomal regions and genes. MHC polymorphism and identity of MHC haplotypes, MHC-linked genes, MHC disease and immunological nonfunction of MHC. S/U or letter grading.

Mr. Clark, Ms. Stockfield (Sp, five weeks)

M258D. Immunopathology (2 units). (Same as Biology M250D and Immunology M258D.) Lecture, two hours; discussion, two hours. Prerequisite: course M185 or Microbiology and Immunology 202A or equivalent or consent of instructor. Reading and discussion of current research articles on tolerance and autoimmunity, autoimmune disease models, immune complex disease, immediate hypersensitivity and its cellular basis, and natural and acquired immune deficiency disease. S/U or letter grading.

M258E. Immunoregulation (2 units). (Same as Biology M250E and Microbiology and Immunology M258E.) Lecture, two hours; discussion, two hours. Prerequisite: course M185 or Microbiology and Immunology 202A or equivalent or consent of instructor. Reading and discussion of current research articles on idiotypic interactions, suppressor T cells, tolerance at T and B cell levels, and Ig gene control. S/U or letter grading.

Mr. Sercarz (F, five weeks)

M258F. Immunocompetency (2 units). (Same as Biology M250F and Microbiology and Immunology M258F.) Lecture, two hours; discussion, two hours. Prerequisite: course M185 or Microbiology and Immunology 202A or equivalent or consent of instructor. Reading and discussion of current research articles on the immunocompetency of antibodies, antigens, and complement, antigenic recognition, antibody restriction, and idiotypic networks.

Mr. Schumaker, Ms. Wisnieski (F or Sp, five weeks)

M260. Immunology Forum (2 units). (Same as Microbiology and Immunology M260.) Prerequisite: course M185. A broad range of current topics in immunology presented at an advanced frontier level. A continuing UCLA-wide, general graduate-level seminar involving faculty, postdoctoral immunologists, and graduate students from diverse departments. S/U or letter grading.

Mr. Sercarz (F, W, Sp)

M263. Cellular Immunology Seminar (2 units). (Same as Microbiology and Immunology M263.) Prerequisite: consent of instructor. Critical discussions of the current literature in T and B cell immunology, with emphasis on molecular mechanisms.

Mr. Sercarz (F, W, Sp)
Molecular Biology (Interdepartmental)

168 Molecular Biology Institute, (213) 825-1018

Professors
Daniel E. Atkinson, Ph.D. (Biochemistry)
Marcel A. Bakula, Ph.D. (Physiology)
Paul D. Boyer, Ph.D. (Biochemistry)
William R. Clark, Ph.D. (Biology/Immunology)
Edward M. De Robertis, M.D., Ph.D. (Biological Chemistry)
Richard E. Dickerson, Ph.D. (Biochemistry and Geophysics), Director
David S. Eisenberg, Ph.D. (Chemistry and Molecular Biology)
Frederick A. Eisensting, Ph.D. (Microbiology)
John H. Fessler, Ph.D. (Biology and Molecular Biology)
C Fred Fox, Ph.D. (Microbiology and Molecular Biology)
John G. Glitz, Ph.D. (Biological Chemistry)
Robert Goldberg, Ph.D. (Biology)
Michael Grunstein, Ph.D. (Biological and Molecular Biology)
Isaac M. Harary, Ph.D. (Biological Chemistry)
Harvey R. Herschman, Ph.D. (Biological Chemistry)
Wayne L. Hubbell, Ph.D. (Ophthalmology and Chemistry)
Harumi Kasamatsu, Ph.D. (Biology)
James A. Lake, Ph.D. (Biology and Molecular Biology)
George G. Laties, Ph.D. (Biology)
Jeffrey Miller, Ph.D. (Biology)
Elizabeth F. Neufeld, Ph.D. (Biological Chemistry)

Scope and Objectives
The Ph.D. in Molecular Biology is offered under the supervision of an interdepartmental committee. The Molecular Biology Institute serves this committee and the various departments concerned in support of faculty research and teaching associated with the Ph.D. program. Staff members are drawn from participating departments and from the Molecular Biology Institute. Areas for study include structure and function of macromolecules, molecular genetics, and virology; bioenergetics, catalysis, and control; molecular basis of chromosome replication and gene expression and of cancer and its control.

Ph.D. Degree
Admission
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 quarters 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. In addition to University requirements, six quarters of Molecular Biology M298 are required.

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. Copies of materials sent to the Graduate Admissions Office should also be sent directly to the Graduate Office, Molecular Biology Program, 168 MBI, UCLA, Los Angeles, CA 90024.

Course Requirements
The usual program is two regular courses per quarter in addition to laboratory research, or the equivalent of 12 quarter units of upper division or graduate work. Six quarters of Molecular Biology M298 are required.

Teaching Experience
Teaching experience is encouraged, although it is not a requirement for the degree.

Qualifying Examinations
Examinations are given in Molecular Biology M298, and four must be passed. The Universi- ty Oral Qualifying Examination on original research proposed by the candidate independently of the Ph.D. adviser and on a topic distinct and separate from 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 on 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. committee. Each student conducts or participates in discussions on assigned topics. May be repeated for credit. S/U grading.

(F,W,Sp)
Near Eastern Languages and Cultures

376 Kinsey Hall, (213) 825-4165

Professors
Amin Banani, Ph.D. (Persian and History)
Arnold J. Band, Ph.D. (Hebrew)
Andras Bodrogi, Ph.D. (Turkish and Iranian)
Seager A. Bonebakker, Ph.D. (Arabic)
Giorgio Buccellati, Ph.D. (Ancient Near East and History)
John Callender, Ph.D. (Egyptology)
Herbert A. Davidson, Ph.D. (Hebrew)
Ismael Poonawala, Ph.D. (Arabic)
Yona Sabar, Ph.D. (Hebrew)
Awedis K. Sanjian, Ph.D. (Narekatsi Professor of Armenian Studies)
Hanns-Peter Schmidt, Ph.D. (Indo-Iranian)
Stanislav Segert, Ph.D. (Biblical Studies and Northwest Semitics)
Wolf Leslau, Docteur es Lettres, Emeritus
Moshe Perlmans, Ph.D., Emeritus

Associate Professors
Elizabeth Carter, Ph.D. (Near Eastern Archaeology)
Lev Hakak, Ph.D. (Hebrew)
Thomas Penchoen, Ph.D. (Berber and Arabic)

Lecturers
Shimeon Bismar (Hebrew)
David L. Lieber, D.H.L. (Hebrew)

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, and Jewish studies. Masters 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 four fields: (1) Ancient Near Eastern Civilizations, (2) Arabic, (3) Hebrew, and (4) 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.

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, 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 4 are required to take 14 courses as follows: three quarters of Hebrew 1A-1B-1C, 150A-150B, or equivalent. The following courses may be included in the program.

- Microbiology 250, 251, 253, 256, M258A, M258B, M260, M263, 270, 298
- Microbiology and Immunology 208, 250, 254, M256, M258A, M258B, 261, 262, 265, M282, M293, M298

Bachelor of Arts in Arabic
Students majoring in Arabic may combine the major with the interdepartmental Program 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, 150A-150B.

The Major

Bachelor of Arts in Hebrew

Preparation for the Major
Required: Hebrew 1A-1B-1C, 102A-102B-102C, Jewish Studies M150A-150B, or equivalent.

The Major
Required: Sixteen courses, including Hebrew 103A-103B-103C, three quarters of Hebrew 120; two courses from Hebrew 130, 135; two courses from Hebrew 140, 160; Hebrew 190A-190B; two additional courses in Hebrew or Aramaic to be approved by the adviser; two courses from History M191A, M191B, 192A, 192B.

Bachelor of Arts in Jewish Studies

Preparation for the Major
Required: Hebrew 1A-1B-1C, History M191A-M191B, or equivalent.
The Major
Required: Sixteen courses, including Hebrew 102A-102B-102C, 103A-103B-103C, Jewish Studies M150A-150B, 151A-151B, 199, and five other upper division courses. At least two of the five must be courses in the areas of Hebrew, Jewish history, or Yiddish. The remaining three may be selected either from those areas or from courses with Jewish content given in other departments and approved by the adviser.

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) Aptitude 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 will not be 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.

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 case of the ancient Near Eastern field, you may concentrate on a combination of both language and literature with Near Eastern archaeology.

Foreign Language Requirement
You are required to pass an examination in one major modern European language other than English by the end of your third quarter 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) Educational Testing Service (ETS) examination 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 on the graduate level. All candidates are required to take one quarter of Near Eastern Languages 200.

Students in ancient Near Eastern civilizations are required to study two ancient languages of the ancient Near East (Ancient Egyptian, Akkadian, Aramaic, or Hebrew) and the history and archaeology of the related area. The area of concentration may be either the linguistic, literary, or archaeological aspect of the discipline.

Students in Hebrew are required to study Hebrew and another Semitic language; in Semitics, three Semitic languages; in Turkish, two Turkic languages; in Arabic, Armenian, and Iranian, the major language and one culturally related Near Eastern language.

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
After completion of course requirements and the foreign language examination, you are required to take a written comprehensive final examination in your major and related fields.

Ph.D. Degree
Admission
In addition to the regular University requirements, an M.A. or equivalent in your field, the Graduate Record Examination (GRE) Aptitude 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 will not be 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.

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 all areas of specialization, your program of study is selected in consultation with your adviser.

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 options: (1) passing the Educational Testing Service (ETS) examination 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 quarter in residence and the second language no later than the beginning of the fourth quarter.

Course Requirements
If you are specializing in the languages of the Near East, you are expected to take the equivalent of one year of general linguistics and one year of grammar in your field of concentration (e.g., Semitics or Turkic). You must also achieve competence in three culturally related languages within your field of concentration, with particular emphasis on two. You are also advised to acquaint yourself with the historical, literary, religious, and social background of the various language areas selected.

If you are specializing in the literatures of the Near East, you are required to achieve competence in two languages; your second language must be a literary language from the cultural area related to the first (e.g., a Hebraist can choose Akkadian, Arabic, Aramaic, or Yiddish; an Arabist can choose Persian or Turkish, and so on). You must also be familiar with the history of literary criticism and methods of literary research. This requirement may be fulfilled by taking courses offered by various departments at UCLA, particularly the course in literary criticism offered by the English Department or the course in the methodology of comparative literature.

If you are specializing in ancient Near Eastern civilizations, you are required to achieve competence in two ancient languages. You may concentrate in either the linguistic, literary, or archaeological aspect of the discipline.

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 lan-
guages, with emphasis on one of them. Candidates in ancient Near Eastern civilizations 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 Ugaritic 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. The political and cultural institutions of ancient Egypt and the 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. Mr. Callender (alternate years)

120A-120B-120C. Elementary Ancient Egyptian. Lecture, three hours; laboratory, two hours. Prerequisite: consent of instructor. Grammar and texts. Mr. Callender

121A-121B-121C. Intermediate Ancient Egyptian. Lecture, three hours. Prerequisites: courses 120A-120B-120C. Readings in ancient Egyptian literature. Mr. Callender

123A-123B. Coptic. Lecture, three hours. Prerequisite: consent of instructor. An introduction to Coptic grammar and reading of Coptic texts. Mr. Callender

124. Middle Egyptian Technical Literature. Prerequisite: course 121C. Reading of Middle Egyptian technical literature in hieroglyphic transcription. Medical, veterinary, mathematical, and astronomical texts included. Mr. Callender

130. Ancient Egyptian Religion. Lecture, three hours. An introductory survey of various ancient Egyptian religious beliefs and practices, their origin, and development. Discussions of religio-political institutions such as divine kingship and pious foundations. Mr. Callender

140A-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. Mr. Callender

142. Sumerian Literary Texts. Lecture, three hours. Prerequisites: courses 140A-140B or consent of instructor. Reading and interpretation of selected Sumerian literary texts.

150A-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. Callender, Mr. Segert

160A-160B. Introduction to Near Eastern Archaeology. Lecture, three hours. Terminology, geography, principles, strategy of research, bibliography, and a general survey of Near Eastern archaeology. Ms. Carter (alternate years)

161A-161B-161C. Archaeology of Mesopotamia. Prerequisite: consent of instructor. Survey of the main archaeological periods in Mesopotamia, with special emphasis on late prehistoric and early historical periods and with reference to neighboring cultural areas. Each course may be taken independently for credit. Mr. Segert

162. Archaeology of Palestine. Lecture, three hours. A survey of the archaeology of Palestine and the Sinai Peninsula from the Bronze Age to the destruction of Jerusalem in A.D. 70, with emphasis on the geographic setting and relationships to the other cultures of the Near East. Mr. Segert (alternate years)

163A-163B. Archaeology of Iran. Lecture, three hours. Designed to introduce students to Iranian archaeology from prehistoric through Achaemenid times. 163A. The prehistoric and protohistoric phases of Iranian archaeology. 163B. The archaeology of Elam, the Iron Age, and the Achaemenid Empire. Ms. Carter

164A-164B-164C. The Archaeology of the Historic Periods in Mesopotamia. Prerequisites: courses 161A-161B-161C and History 105, or consent of instructor. Survey of the main archaeological periods in Mesopotamia, with special emphasis on the historic periods and with reference to neighboring cultural areas. Each course may be taken independently for credit. Ms. Carter

170. Introduction to Biblical Studies. Lecture, two hours. Knowledge of original languages is not required. The Bible (Old and New Testaments). Texts, a book. Canon, text, and versions. Linguistic, literary, historical, and religious approaches to Bible study. Survey of history of interpretation from antiquity to the present. Mr. Segert

199. Special Studies in the Ancient Near East (2 to 8 units). Prerequisite: consent of instructor.

Graduate Courses

210. Late Egyptian. Lecture, three hours. Prerequisites: courses 121A-121B-121C, consent of instructor. Late Egyptian grammar and reading of both hieroglyphic and hieratic texts. May be repeated for credit. Mr. Callender

211A-211B. Texts of the Greco-Roman Period. Prerequisite: course 121C. Introduction to the grammar and orthography of hieroglyphic texts from Greco-Roman temples. Text readings and translation of various textual types. Mr. Callender

220. Seminar in Ancient Egypt. Seminar, three hours. Prerequisite: consent of instructor. May be repeated for credit. Mr. Callender

221A-221B. Demotic. Prerequisite: course 121C. Introduction to Demotic grammar and orthography. Reading of texts from various genres. Mr. Callender

240-240B-240C. Seminar in 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. Mr. Callender

M250. Seminar in Ancient Mesopotamia. (Same as History M207.) Seminar, three hours. Selected topics on the political, social, and intellectual background of ancient Mesopotamia. May be repeated for credit. Mr. Buccellati

250X. Seminar in Ancient Mesopotamia (1 unit). Prerequisite: consent of instructor. Selected topics on the political, social, and intellectual history of ancient Mesopotamia. A course given irregularly in class meetings but without the homework required in course M250. May be repeated for credit. S/U grading. Mr. Buccellati

280. Seminar in Ancient Near Eastern Archaeology. Lecture, two hours. Prerequisite: consent of instructor. May be repeated for credit.

281. 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 supervision of the staff. May be repeated. Mr. Buccellati, Ms. Carter

282. Seminar in Object Archaeology. Discussion, two hours; laboratory, one hour. Prerequisite: consent of instructor. Selected topics in the analysis and interpretation of Near Eastern archaeological finds in museum collections. Students work with objects in the Heeramanek Collection of the Los Angeles County Museum of Art. Ms. Carter


596. Directed Individual Study (2 to 8 units). May be repeated for credit.

597. Examination Preparation (2 to 8 units).

598. Ph.D. Dissertation Research and Preparation (2 to 8 units).

Related Courses in Other Departments


Arabic

Lower Division Courses

1A-1B-1C. Elementary Literary Arabic. Lecture, six hours. Basic grammar and syntax.

Upper Division Courses

102A-102B-102C. Intermediate Literary Arabic. Lecture, four hours; discussion, one hour. Prerequisites: courses 1A-1B-1C or consent of instructor. Grammar and syntax; readings of excerpts from literary texts; composition.

111A-111B-111C. Elementary Spoken Egyptian Arabic. Lecture, three hours. Prerequisites: courses 1A-1B-1C or consent of instructor. Basic grammar and syntax of Egyptian colloquial Arabic.

112A-112B-112C. Advanced Spoken Egyptian Arabic. (Formerly numbered 112.) Lecture, three hours. Prerequisites: courses 111A-111B-111C or consent of instructor. Grammar and syntax: excerpts from literary texts using colloquial Arabic.

114A-114B-114C. Spoken Moroccan Arabic. Lecture, three hours; laboratory, one hour. Introduction to the spoken Arabic dialect of Morocco. Phonology, morphology, and syntax. Emphasis on developing oral communication skills.

120. Islamic Texts. Prerequisite: course 102C or equivalent. Readings from Koran, Tafsir, Hadith, Figh. May be repeated for credit. Mr. Poonawala

130. Classical Arabic Texts. (Formerly numbered 130A-130B-130C.) Lecture, three hours. Prerequisite: course 102C or equivalent. Readings from medi eval literary texts, with grammatical and syntactical analysis. May be repeated for credit. Mr. Bonebakker
Armenian and conversation. Mr. Sanjian

Prerequisites: courses 101A-101B-101C or consent of instructor. Readings in medieval Armenian texts. May be repeated for credit.

Mr. Davidson

140. Modern Arabic Texts. (Formerly numbered 140A-140B-140C.) Lecture, three hours. Prerequisite: course 102A or equivalent. Readings in contemporary Arabic texts, including newspapers and journals. May be repeated for credit.

Mr. Poonawala

141. Modern Arabic Literature. Lecture, three hours. Prerequisites: two quarters of course 140 or consent of instructor. Readings in selected texts representing the most important trends in contemporary Arabic literature, with an outline of literary history from the beginning of the 19th century to the present. Conducted in Arabic. May be repeated for credit.

150A-150B. Survey of Arabic Literature in English. Lecture, three hours. Knowledge of Arabic is not required. Survey of Arabic literature from its beginnings to the present, with selected readings in translation. Each course may be taken independently for credit.

Mr. Bonebakker (F,W)

199. Special Studies in Arabic (2 to 8 units). Prerequisite: consent of instructor.

Graduate Courses

220. Seminar in Islamic Texts. (Formerly numbered 220A-220B-220C.) Lecture, three hours. Prerequisite: consent of instructor. Doctrines and hermeneutics of various schools of thought in Islam, with selected readings from major works. May be repeated for a maximum of 24 units.

Mr. Poonawala (F,W,S, alternate years)

230. Medieval Literary Texts. (Formerly numbered 220A-220B-220C.) Lecture, two hours. Prerequisite: consent of instructor. Readings in Arabic prose and poetry, survey of prosody. May be repeated for a maximum of 24 units.

Mr. Bonebakker (F,W,Sp)

240. Seminar in Arab Historians and Geographers. (Formerly numbered 220A-220B-220C.) Lecture, three hours. Prerequisite: consent of instructor. Selected readings from the works of major historians, geographers, and travelers. May be repeated for a maximum of 24 units.

Mr. Poonawala (F,W,S, alternate years)

250. Seminar in Arabic Literature. (Formerly numbered 250A-250B-250C.) Lecture, two hours. Prerequisite: consent of instructor. Selected topics from Arabic literature. Readings of texts from manuscript. May be repeated for a maximum of 24 units.

Mr. Bonebakker (F,W,Sp)

596. Directed Individual Study (2 to 8 units). May be repeated for credit.

597. Examination Preparation (2 to 8 units).

599. Ph.D. Dissertation Research and Preparation (2 to 8 units).

Related Courses in Another Department

History 106A-106B-106C. Survey of the Middle East from 500 to the Present

204A-204B. Seminar in Near and Middle Eastern History

Armenian

Upper Division Courses


Mr. Sanjian


Mr. Sanjian

103. Advanced Modern Armenian. (Formerly numbered 103A-103B-103C.) Lecture, three hours. Prerequisites: courses 102A-102B-102C or equivalent. Readings in advanced modern Armenian texts. May be repeated twice for credit.

Mr. Sanjian

130A-130B. Elementary Classical Armenian. Lecture, three hours. Grammar of the classical Armenian language and readings of selected texts.

Mr. Sanjian

131A-131B. Intermediate Classical Armenian. Lecture, three hours. Prerequisites: courses 130A-130B or equivalent. Reading of selected texts in classical Armenian.

Mr. Sanjian


Mr. Sanjian

150A-150B. Survey of Armenian Literature in English. Lecture, three hours. Knowledge of Armenian is not required. Each course may be taken independently for credit.

Mr. Sanjian

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 the context of the Armenian cultural renaissance.

Mr. Sanjian

199. Special Studies in Armenian Language and Literature (2 to 8 units). Prerequisite: consent of instructor.

Mr. Sanjian

Graduate Courses

207. Armenian Intellectual History. Lecture, three hours. Intellectual and cultural trends reflected in Armenian literature, historiography, religious and philosophical thought.

Mr. Sanjian

210. History of the Armenian Language. Lecture, three hours. Prerequisite: consent of instructor. The development of the Armenian language in its various stages: classical, middle, and modern.

Mr. Sanjian

220. Armenian Literature of the Golden Age (A.D. 5th Century). 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.

Mr. Sanjian

250A-250B. Seminar in Armenian Literature. Seminar, three hours. Prerequisite: consent of instructor. Selected topics from various periods of Armenian literature. May be repeated for credit.

Mr. Sanjian

290. Seminar in Armenian Paleography. Seminar, three hours. Prerequisite: consent of instructor. Discussion of a variety of Armenian scripts and training in the use of manuscripts.

Mr. Sanjian

596. Directed Individual Study (2 to 8 units). May be repeated for credit.

597. Examination Preparation (2 to 8 units).

599. Ph.D. Dissertation Research and Preparation (2 to 8 units).

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. Structural principles of grammar. Students should have prior knowledge of reading and some vocabulary are advised to take courses 1A, 1B, and 1C. Students with credit for course 1A will not receive credit for 1B and 1C.

Mr. Sabar (F,W)

10A-10B-10C. Accelerated Elementary Hebrew. Lecture, five hours. Open to students who wish to cover the equivalent of two years of college Hebrew in one academic year. Designed for students who have previously studied the rudiments of Hebrew. Students with credit for course 1A will not receive credit for 1B; those with credit for course 1B will not receive credit for 1B and 1C.

Mr. Sabar (F,W,S)

Upper Division Courses

102A-102B-102C. Intermediate Hebrew. Lecture, five hours. Prerequisites: courses 1A-1B-1C or equivalent. Amplification of grammar; reading of vocalized texts from modern, biblical, and medieval rabbinic literature. Section 1 is for students with strong grammatical background; section 2, for students with strong conversational background. The two sections should be equal in both language skills by the end of Winter Quarter.

Mr. Sabar (F,W,S)

103A-103B-103C. Advanced Hebrew. Lecture, three hours; conversation, two hours. Prerequisites: courses 102A-102B-102C or equivalent. Introduction to modern Hebrew literary texts.

Mr. Hakak (F,W)

120. Biblical Texts. Lecture, three hours. Prerequisites: courses 102A-102B-102C or equivalent. Translations and analysis of Old Testament texts, with special attention to texts of primary literary and historical importance. May be repeated for credit.

Mr. Lieber (F,W)

130. Rabbinic Texts. Lecture, three hours. Prerequisites: courses 103A-103B-103C or consent of instructor. Readings in Mishnah, Talmud, and Midrash. May be repeated for credit.

Mr. Davidson

Berber

Upper Division Courses

101A-101B-101C. Elementary Berber. Lecture, three hours; laboratory, two hours. Development of oral proficiency and analysis of basic grammatical structure.

Mr. Penchoen (F,W,S)

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,W,S)

130. The Berbers. Examination of the main features of Berber societies and cultures, with particular attention to social structures and institutions on the one hand, and to customs, values, and beliefs on the other. Presentation of a broad framework within which the 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. Study based on the requirements of the individual student.

Mr. Penchoen
135. Medieval Hebrew Texts. Lecture, three hours. Prerequisites: courses 103A-103B-103C or consent of instructor. Reading in medieval Hebrew prose and poetry. May be repeated for a maximum of 16 units. Mr. Davidson

140. Modern Hebrew Poetry and Prose. Lecture, three hours. Prerequisites: courses 103A-103B-103C, consent of instructor. A study of the major Hebrew writers of the past one hundred years: prose — Mendele, Ahad Ha'am, Agnon, Yizhar; poetry — Bialik, Tchernichovsky, Greenberg, Shlonsky, Alatman, Amihai. May be repeated for credit. Mr. Hakak

160. The Hebrew Essay. Lecture, three hours. Prerequisites: courses 103A-103B-103C or consent of instructor. The Hebrew essay from its rise in Europe in the late 18th century to the contemporary Israeli essay. Study of literary, political, philosophical, and scholarly essay. May be repeated for credit. Mr. Hakak


division Courses

210. History of the Hebrew Language. Prerequisites: courses 103A-103B-103C or consent of instructor. The development of the Hebrew language in its various stages: biblical, Mishnaic, medieval, modern, and contemporary. Structure and usage; analysis of vocabulary, morphology, syntax, and the influence of other languages; problems of language expansion in Israel's Hebrew. Mr. Sabar (Sp, alternate years)

220. Studies in Hebrew Biblical Literature. Lecture, three hours. A critical study of the Hebrew text in relation to the major versions; philological, comparative, literary, and historical study of various biblical books. May be repeated for credit. Mr. Segert

230. Seminar in Medieval Hebrew Literature. Seminar, three hours. May be repeated for credit. Mr. Davidson (F,W)

231. Texts in Judeo-Arabic. Prerequisite: reading knowledge of Hebrew and Arabic. Reading of philological texts in Judeo-Arabic. Mr. Davidson

241. Studies in Modern Hebrew Prose Fiction. Studies in specific problems and trends in Hebrew prose fiction of the last two centuries. May be repeated for credit. Mr. Band (W,Sp)


596. Directed Individual Study (2 to 8 units). May be repeated for credit.

597. Examination Preparation (2 to 8 units).

Graduate Courses

101A-101B-101C. Elementary Persian. Lecture, four hours; laboratory, two hours. Mrs. Milani

102A-102B-102C. Intermediate Persian. Lecture, three hours; laboratory, two hours. Prerequisites: courses 101A-101B-101C or equivalent. Mrs. Milani

103A-103B-103C. Advanced Persian. Lecture, three hours. Prerequisites: courses 102A-102B-102C or equivalent. Mrs. Milani

140. Contemporary Persian Belle Lettres. Lecture, three hours. Prerequisites: courses 103A-103B-103C or equivalent, consent of instructor. A study of the major Persian poets and prose writers of the 20th century: prose — Jamalzadeh, Hedayat, Chubuk, Al Ahmad, Sa'adi, Golestan; poetry — Nima, Shamlu, Farrokhzad, Akhavan. Mr. Banani

141. Contemporary Persian Analytical Prose. Lecture, three hours. Prerequisites: courses 102A-102B-102C or equivalent, consent of instructor. A study of selected modern Persian analytical and expository prose, with emphasis on social sciences, literary criticism, and history. Mr. Banani

150A-150B. Survey of Persian Literature in English. Lecture, three hours. Knowledge of Persian is not required. Each course may be taken independently for credit.

159. Civilization of Pre-Islamic Iran. A survey of Iranian culture from the beginnings through the Sasanian period. Mr. Schmidt

170. Religion in Ancient Iran. History of religion in Iran from the beginning to the Mohammedan conquest; Indo-Iranian background, Zoroastrianism, Manicheaicism, Mazdaism. Mr. Schmidt


199. Special Studies in Iran (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. Band

221. Rumi, the Mystic Poet of Islam. Seminar, three hours. Prerequisites: course 220A or 220B or equivalent, consent of instructor. A study of the life and works of Rumi in the context of interaction of Sufism and poetic creativity. May be repeated twice for credit. Mr. Band

M222A-M222B. Vedic. (Same as East Asian Languages and Cultures M222A-M222B.) Prerequisites: knowledge of Sanskrit equivalent to East Asian Languages and Cultures 162, consent of instructor. Characteristics of the Vedic dialect and readings in the Rig-Vedic hymns. Only course M222B may be repeated for credit. Mr. Schmidt

230A-230B. Old Iranian. Prerequisite: consent of instructor. Studies in the 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 the grammars and texts of such Middle Iranian languages as best serve the student's needs (e.g., Pahlavi, Sogdian, Sakaian). Only course 231B may be repeated for credit. Mr. Schmidt

250. Seminar in Classical Persian Literature. Seminar, three hours. Prerequisites: courses 103A-103B-103C and 199, or consent of instructor. May be repeated twice for credit. Mr. Band

251. Seminar in 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. Band

596. Directed Individual Study (2 to 8 units). May be repeated for credit.

597. Examination Preparation (2 to 8 units).

Ph.D. Dissertation Research and Preparation (2 to 8 units).

Related Courses in Other Departments

Art History (Art. Design, and Art History) 104A. Western Islamic Art

104B. Eastern Islamic Art

C104C. Problems in Islamic Art

213. Problems in Islamic Art

East Asian Languages and Cultures 160. Elementary Sanskrit

161. Intermediate Sanskrit

162. Advanced Sanskrit

History 9D. Introduction to Asian Civilizations: History of the Near and Middle East

106A-106B-106C. Survey of the Middle East from 500 to the Present

110A-110B. Iranian History

Indo-European Studies 210. Indo-European Linguistics: Advanced Course

280A-280B. Seminar in Indo-European Linguistics

Music 81L. Music of Persia

91L. Music of Persia

Islamic

Upper Division Course

110. Introduction to Islam. Lecture, three hours. The genealogy of Islam, its doctrines, and practices, with readings from the Qur'an and hadith; schools of law and theology; piety and Sufism; reform and modernism. Mr. Poornawala

Graduate Courses

596. Directed Individual Study (2 to 8 units). May be repeated for credit.

597. Examination Preparation (2 to 8 units).

598. M.A. Thesis Research and Preparation (2 to 8 units).

599. Ph.D. Dissertation Research and Preparation (2 to 8 units).

Related Courses in Another Department

History 107A-107B. Islamic Civilization

Jewish Studies

Upper Division Courses

110. Social, Cultural, and Religious Institutions of Judaism. Judaism's basic beliefs, institutions, and practices. Topics include the development of biblical and rabbinic Judaism; the concepts of god, sin, repentance, prayer, and the messiah; the history of the Talmud and the synagogues; the evolution of folk beliefs and yearcycle and lifecycle practices. (F,Sp)
Near Eastern Languages

Graduate Courses

200. Bibliography and Method of Near Eastern Languages and Literatures. Lecture, two hours. Prerequisite: consent of instructor. Required for the M.A. degree. Introduction to bibliographical resources and training in methods of research in various areas of specialization offered by the department. May be repeated for credit.

210. Survey of Afro-Asiatic Languages. Lecture, three hours. Prerequisite: consent of instructor. A survey of the structures of a number of the representative languages from various major branches of the Hamito-Semitic (Afro-Semitic) language family.

M241. Folklore and Mythology of the Near East. (Same as Folklore M241.) Prerequisite: Folklore 101 or equivalent.

290. Seminar in Paleography. Seminar, three hours. Provides students with the ability to cope with varieties of manuscripts.

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personal employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the 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.

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. Course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596. Directed Individual Study (2 to 8 units). May be repeated for credit.

597. Examination Preparation (2 to 8 units).

599. Ph.D. Dissertation Research and Preparation (2 to 8 units).

Semitics

Upper Division Courses

110. Neo-Aramaic. Lecture, three hours. Grammar and reading of selected texts (folktales, homilies, songs) in the modern Aramaic dialects of the Jews and Christians of Kurdistan.

130. Biblical Aramaic. Lecture, three hours. Prerequisites: Hebrew 102A-102B-102C or consent of instructor. Grammar of biblical Aramaic and reading of texts.

140A-140B. Elementary Akkadian. Lecture, three hours. Elementary grammar and reading of texts in standard Babylonian.

141. Advanced Akkadian. Lecture, three hours. Prerequisite: consent of instructor. Old Babylonian syntax; reading of basic Old Babylonian texts.

142. Akkadian Literary Texts. Lecture, three hours. Prerequisite: consent of instructor. Selected readings from Akkadian myths and epics, with an introduction to the historical tradition of the works and their literary structure.

199. Special Studies in Semitics (2 to 8 units). Prerequisite: consent of instructor.

Graduate Courses

210. Ancient Aramaic. Lecture, two hours. Prerequisite: course 130 or consent of instructor. Reading of the surviving inscriptions and papyri. May be repeated for credit.

M111E. Ethnic Groups and Their Bibliographies: Jewish History and Culture. (Same as Library and Information Science M111E.) Basic reference sources on specific topics on Judaism, ranging from biblical studies to the Holocaust to Jewish life in the United States. Mr. Stern

130. Modern Jewish Religious and National Movements. Lecture, three hours. Study of the evolution of modern Jewish national movements, with particular emphasis on the history of Zionism and Diaspora nationalism to 1948. (W)

140A-140B. American Jewish History. Lecture, three hours. An examination of the social and cultural history of the American Jewish community from its inception to the present, with emphasis on the integration of successive immigrants and the development of institutions. 140A. 1654 to 1914; 140B. 1914 to the Present. (W-140B)

141. Modern Anti-Semitism. Lecture, three hours. An examination of modern anti-Semitism from the 19th century to the present; a comparison of modern racist ideologies with premodern theories; case studies (e.g., the Dreyfus affair, the Belliss Trail, the Holocaust); Jewish reactions to these phenomena.

142. The History and Institutions of the State of Israel. Lecture, three hours. A study of the social and cultural development of the State of Israel from its pre-state institutional structures to the present, with emphasis on major trends, personalities, and ideologies, and the state's position in the wider framework of modern Jewish history.

M143. Introduction to Jewish Folklore. (Same as Folklore M142.) The nature of Jewish folklore; narrative, folk song, folk art, folk religion, and the methods and perspectives used in their analysis.

150A-150B. Hebrew Literature in English. Lecture, three hours. Each course may be taken independently for credit.

150A. The Literary Traditions of Ancient Israel: Bible and Apocrypha. (Formerly numbered 150A.) (Same as Humanities M106.) A study of the literary culture of ancient Israel through an examination of the principal compositional strategies of the Hebrew Bible and the Apocrypha (read in translation).

M150B. Rabbinic and Medieval Literature. Mr. Band

151A-151B. Modern Jewish Literature in English. Lecture, three hours. Each course may be taken independently for credit. 151A. Diaspora Literature; 151B. Israeli Literature. Mr. Band, Mr. Hakak (F, 151A; W, 151B)

190. Undergraduate Seminar in Jewish Studies. Examination of a single topic in depth with the object of encouraging and guiding students' research in the 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 hours. A survey of social, political, and religious developments. M191A. From Biblical Times to the End of the Middle Ages; M191B. From the End of the Middle Ages to the Present. Mr. Funkenstein

M191C-M191D. Focal Themes in Jewish History. (Same as History M191C-M191D.) Lecture, three hours. Treatment in depth of one major theme in Jewish history (such as the history of Messianic Movement, the structure of the Jewish communities) through the ages. Mr. Funkenstein

199. Special Studies in Jewish Studies (2 to 8 units). Limited to Jewish studies majors.

Related Courses in Another Department

History 192A-192B. Jewish Intellectual History

215A-215B. Syriac. Lecture, two hours. Morphology and syntax of the Syriac language; readings in the Syriac translation of the Bible and Syriac literature. Only course 215B may be repeated for credit.

220A-220B. Ugartic. Lecture, two hours. Prerequisites: Hebrew 102A-102B-102C or consent of instructor. Study of the Ugartic language and literature. Only course 220B may be repeated for credit.

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 in Northwest Semitic Languages and Literatures. Seminar, two hours. Prerequisite: consent of instructor. May be repeated for credit.

240. Seminar in Akkadian Language. Seminar, two hours. Prerequisite: consent of instructor. Readings of texts from various dialects of Akkadian; selected problems in the linguistic analysis of Akkadian dialects. May be repeated for credit. Mr. Buccellati

240X. Seminar in Akkadian Language (1 unit). Seminar, two hours. Prerequisite: consent of instructor. Readings of texts from various dialects of Akkadian; selected problems in the linguistic analysis of Akkadian dialects. A 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. Mr. Buccellati

241. Seminar in 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. A 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. Mr. Buccellati

280A-280B-280C. Seminar in Comparative Semitics. Seminar, two hours.

596. Directed Individual Study (2 to 8 units). May be repeated for credit.

597. Examination Preparation (2 to 8 units).

599. Ph.D. Dissertation Research and Preparation (2 to 8 units).

Turkish Languages

Upper Division Courses


102A-102B-102C. Advanced Turkish. (Formerly numbered 102B-103B.) Lecture, five hours. Prerequisites: courses 101A-101B-101C or equivalent. Continuing study of grammar, conversation, and composition. Readings in modern literature and social science texts. Mr. Jaeckel

111C. Elementary Uzbek. Lecture, three hours; laboratory, two hours. Prerequisite: consent of instructor. Elementary grammar, reading, and composition exercises; elementary conversation.

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. Bodrogilge
Near Eastern Languages and Cultures / COLLEGE OF LETTERS AND SCIENCE

114A-114B-114C. Beshkirt. Lecture, three hours. Prerequisite: course 102A or consent of instructor. Grammar, reading of literary and folkloric texts. Mr. Bodrogligeti

160. Cultural History of the Turks. (Formerly numbered 160A-160B.) Lecture, three hours. Prerequisite: consent of instructor. A survey of the cultural history of the Turks, as seen primarily through their literature, from their early history to the present. Mr. Bodrogligeti


180. Modern Turkic Languages and Peoples. (Formerly numbered 180A-180B-180C.) Lecture, three hours. Prerequisite: consent of instructor. Required of students in the Turkic program and recommended for students in Soviet studies. An ethnic 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. Introduction to the literary language of the Ottoman Empire from its foundation in the 14th century to its overthrow in the 20th century for students of the history, literature, and religion of the Balkans, the Near East, and Central Asia. Topics include the Arabic 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. Organization and contents of the Ottoman archives; reading and discussion of documents and registers. Introduction to the use of Ottoman archive materials as a source for historical research. Mr. Shaw

220A-220B-220C. Chagatay. Lecture, three hours. Prerequisites: courses 101A-101B or 112A-112B-112C or 114A-114B-114C or consent of instructor. Introduction to Chagatay: descriptive grammar; Arabic, Persian, and Tajik elements in grammar and vocabulary. Readings and composition drills. Mr. Bodrogligeti

225A-225B-225C. Old Turkic: Turk and Uyghur. Lecture, three hours. Prerequisites: course 100, consent of instructor. Textual and linguistic analysis of Turk and Old Uyghur documents: inscriptions, Manichean and Buddhist literary works. Mr. Bodrogligeti (alternate years)

230A-230B-230C. A Historical and Comparative Survey of the Turkic Languages. Lecture, three hours. Prerequisite: course 180. Extinct and living Turkic languages. The history of Turkic: developments in the phonemic, grammatical, and lexical systems from the 8th to the 20th century. Structural analysis of the Turkish languages on a comparative basis. Mr. Bodrogligeti

235A-235B. Middle Turkic: Karakhanid, Khorazmian, Mamluk-Kipchak, and Old Anatolian. Lecture, three hours. Prerequisites: course 180, consent of instructor. A survey of Middle Turkic documents. Textual and linguistic analysis of Middle Turkic 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 the different genres of Ottoman writing (billes lettres as well as various types of state documents) in the elaborate high style of the classical Ottoman period (15th to 19th century). Selections are read in manuscript to prepare students to read works in the form in which they are likely to encounter them in their research. Mr. Bodrogligeti, Mr. Jaeckel (F, W, Sp)

250A-250B-250C. Islamic Texts in Chagatay. Lecture, three hours. Prerequisites: courses 220A-220B-220C or consent of instructor. A philological and linguistic survey of the basic Islamic source material written in the Chagatay literary language. Reading and discussion of Chagatay texts on Islamic topics. Mr. Bodrogligeti

280A-280B. Seminar in Modern Turkish Literature. Seminar, two hours. Prerequisites: course 102B or equivalent, consent of instructor. Specific issues and trends in the development of Turkish literature from the middle of the 19th century to the present. Mr. Jaeckel

290A-290B. Seminar in Classical Turkic Literature: Ottoman, Chagatay, and Azeri. Lecture, two hours. Prerequisites: courses 210A-210B-210C and/or 220A-220B-220C, consent of instructor. Survey of the Islamic literatures of the Turks in the classical period. Readings of Ottoman, Chagatay, and Azeri texts from various literary genres. Discussion of stylistic, prosodic, and linguistic characteristics. Mr. Bodrogligeti

596. Directed Individual Study (2 to 8 units). May be repeated for credit.

597. Examination Preparation (2 to 8 units).

599. Ph.D. Dissertation Research and Preparation (2 to 8 units).

Bachelor of Arts Degree

Preparation for the Major

Required: The first-year course in Arabic, Armenian, Hebrew, Persian, or Turkish. You must also obtain a 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, Mathematics 50, Political Science 6, Psychology 41, or Sociology 18, plus one course from Economics 141, Geography 171, Political Science 102, Psychology M142, or Sociology 116. Also required are History 9D and four courses from History 1A, 1B, 1C, Anthropology 5, 6, 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, 176, Art History 102, 104A, 104B, C104C, Economics 110, 111, 112, 190, Geography 187, 188, Political Science 132A, 132B, 164, 165, Sociology 132, 133. This program may be modified in exceptional cases with consent of the adviser.

If you are interested in doing graduate work in this field, see the M.A. and Ph.D. programs offered under "Islamic Studies" earlier in this chapter.

For further information, contact Professor Stanford J. Shaw at the program address.

Oriental Languages

See East Asian Languages and Cultures

Philosophy

321 Dodd Hall, (213) 825-4641

Professors
Marilyn Adams, Ph.D., Chair
Robert Merritw Adams, Ph.D.
Rogers Abbrtnon, Ph.D.
Tyler Burge, Ph.D.
Alonzo Church, Ph.D., in Residence (Fint Professor of Philosophy)
Courses listed under “Special Studies” may be applied toward the major but not toward a group requirement. A maximum of eight units of Philosophy 199 may be applied toward the major but not toward a group requirement. No course used to satisfy the major or preparation requirements may be taken on a P/NP basis.

Students intending to do graduate work in philosophy should consult both the graduate and undergraduate advisers.

Honors at Graduation
On the 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 (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 a reading knowledge of French, German, Latin, or Greek. (When relevant to your research, another language may be substituted with the consent of the department.) This requirement can be satisfied by passing, with a score of at least 500, the Educational Testing Service (ETS) Graduate School Foreign Language Test in an approved language. Alternatively, it can be satisfied in either of the ways in which the Ph.D. language requirement can be satisfied.

Course Requirements
You must complete at least nine upper division or graduate courses (36 units), excluding Philosophy 198, of which five courses (20 units) must be in the 500 series. 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 (see the “Ph.D. Degree”). In case of failure, the examination may be repeated.

Ph.D. Degree
Admission
Admission to UCLA as a graduate student in philosophy requires approval by both the Graduate Division and by the Department of Philosophy. The University application and one official transcript from each institution attended should be sent directly to Graduate Admissions; the departmental application, three letters of recommendation (on the official forms), a statement of purpose, a sample of your written work, official scores from the Graduate Record Examination (GRE) Aptitude Test (the Advanced Test in Philosophy is not required), official Test of English as a Foreign Language (TOEFL) scores for applicants whose native language is not English, and one official transcript from each institution attended should be sent to the department graduate counselor. Departmental information and applications can be obtained by writing to the Graduate Counselor, Department of Philosophy, 321 Dodd Hall, UCLA, Los Angeles, CA 90024.

Admission to graduate study in philosophy is not probationary. At the end of your first year of study, the department conducts a review of your work; results are discussed in a meeting between you and your graduate adviser.

Foreign Language Requirement
You must demonstrate a reading knowledge of French, German, Latin, or Greek. (Another language may be substituted with the consent of the department, if it is used in the 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 approved 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 nine additional upper division and graduate courses in philosophy (not including individual studies courses), distributed as follows:

- Logic: Two upper division or graduate courses in logic in either the Philosophy or Mathematics Department (approved by your adviser).
- History of Philosophy: Two graduate-level courses.
- Ethics and Value Theory: One graduate-level course.
- Metaphysics and Epistemology: One graduate-level course.
- Electives: Three upper division or graduate-level courses of your choice.

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 five quarters as a teaching assistant at UCLA.

Qualifying Examinations
The master’s comprehensive examination consists of four different examinations. One is in logic on the materials covered in Philosophy 31 and 32. Consult the Manual for Graduate Students in Philosophy for further information about this examination.

There are also examinations on each of the three first-year seminars. These examinations last two hours and each occurs soon after the completion of the seminar to which it applies. The examination is passed or failed as a whole, which does not necessarily require passing of all four parts.

In the second and third years, you must write two papers, prepared in accordance with a specific format, called "propositions." One must be on a topic in metaphysics or epistemology and the other on a topic in ethics or value theory.

The first proposition should be submitted before the end of the second year; the second, before the end of the third year. Both propositions must be accepted by the department before you can take the University Oral Qualifying Examination. Consult the Manual for Graduate Students in Philosophy for further details.

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 will be 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. The Beginnings of Western Philosophy. Lecture, three hours; discussion, one hour. The origins of Greek cosmology and philosophy, the beginnings of systematic thought and scientific investigation concerning such questions as the origin and nature of the material world, the concept of laws of nature, the possibility and extent of knowledge. Concentration on the pre-Socratic philosophers, particularly Anaximander, Heracleitus, the Pythagoreans, Parmenides, Empedocles, and the Greek atomists, during the first two thirds of the course and on Socrates and some earlier works of Plato in the last few weeks.
   Mr. Albritton, Mr. Furth
2. Introduction to the Philosophy of Religion. Lecture, three hours; discussion, one hour. An introductory study of such topics as the nature and grounds of religious belief, the relation between religion and ethics, the nature and existence of God, the problem of evil, and what can be learned from religious experience.
   Mr. Adams, Mrs. Adams
3. Personal and Social Ideals. Lecture, three hours; discussion, one hour. A study of various conceptions of perfection and social utopias. Readings from such authors as Freud, Thomas More, Marx, B.F. Skinner, and Sartre.
4. Philosophical Analysis of Contemporary Moral Issues. Lecture, three hours; discussion, one hour. A critical study of principles and arguments advanced in discussion of current moral issues. Possible topics include revolutionary violence, rules of warfare, sexual morality, the right of privacy, punishment, nuclear warfare and deterrence, abortion and mercy killing, experimentation with human subjects, rights of women.
   Ms. Hampton, Mr. Quinn
5A. Philosophy in Literature. Lecture, three hours; discussion, one hour. A philosophical inquiry into such themes as freedom, responsibility, guilt, love, self-knowledge and self-deception, death, and the meaning of life through examination of great literary works in the Western tradition.
   Ms. Morris, Mr. Nelson
6. Historical Introduction to Moral and Political Philosophy. Lecture, three hours; discussion, one hour. A study of some classic works in moral and political philosophy. Questions that may be discussed include What is justice? Why is moral? Why obey the law? Which form of government is best? How much personal freedom should be allowed in society?
   Ms. Hampton
7. Introduction to the Philosophy of Mind. Lecture, three hours; discussion, one hour. An introductory study of the history of the philosophical questions about the nature of the mind and its relation to the body, including materialism, functionalism, behaviorism, determinism and free will, the nature of psychological knowledge.
   Mr. Burge, Mr. Healey
8. Introduction to the Philosophy of Science. Lecture, three hours; discussion, one hour. An introduction to philosophical questions about the nature of science, drawing examples from specific scientific theories and controversies that can be understood without much mathematical or technical background. What role do observation and explanation play in building and evaluating scientific theories? How should we view the relation between science and common sense?
   Mr. Healey
9. Principles of Critical Reasoning. The nature of arguments: how to analyze them and assess the 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 the use of language in argumentation to arouse emotions as contrasted with conveying thoughts, the 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. Kaplan
10. Virtues and Vices. Lecture, three hours; discussion, one hour. A study of the traditional theory of the virtues and vices, and an inquiry into its truth. Readings in Aristotle, Aquinas, and contemporary authors; discussion of concepts such as courage, wisdom, and justice. Should we accept the traditional list of the virtues and vices, or should it be revised?
   Mrs. Foot
21. Skepticism and Rationality. Lecture, three hours; discussion, one hour. Recommended or required for many upper division courses in Group III. A systematic introduction to ethical theory, including discussion of egoism, utilitarianism, justice, responsibility, the meaning of ethical terms, relativism, etc.
   Mr. Quinn
31. 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 quantification; terms of reasoning and structure of language.
   Mr. Almog, Mr. Burge, Mr. Kalish, Mr. Kaplan, Mr. Nelson
32. Logic, Second Course. Lecture, three hours; discussion, one hour. Prerequisite: course 31 (preferably in the preceding quarter). Symbolic logic: extension of systematic development of course 31. Quantifiers, identities, definite descriptions.
   Mr. Almog, Mr. Burge, Mr. Kalish, Mr. Kaplan
97. Freshman Seminar. Prerequisite: consent of instructor. Variable topics; consult Schedule of Classes or "Department Announcements" for current topic. May be repeated for credit with consent of instructor.

Upper Division Courses
Group I: History of Philosophy
100A. History of Greek Philosophy. Lecture, three hours; discussion, one hour. Prerequisite: one course in philosophy or consent of instructor. Survey of Greek philosophy, with emphasis on the metaphysics and epistemology of Plato and Aristotle.
   Mr. Albritton, Mr. Furth
100B. Medieval and Early Modern Philosophy. Lecture, three hours; discussion, one hour. Prerequisite: one course in philosophy or consent of instructor. Survey of the development and transformation of Greek metaphysics and epistemology within the context of philosophical theology, and the transition from the medieval to the early modern period. Special emphasis on Augustine, Aquinas, Descartes.
   Mrs. Adams
100C. History of Modern Philosophy, 1650-1800. Lecture, three hours; discussion, one hour. Prerequisite: one course in philosophy. Survey of the development of metaphysics and the theory of knowledge from 1650 to 1800, including Locke and Berkeley, Malebranche and/or Leibniz, and culminating in Hume and Kant. Topics may include the views of these (and perhaps other) philosophers of the period on mind and body, causality, mind-body interaction, universals, the limits of human knowledge, and the philosophical foundations of modern science.
   Mrs. Adams
101A. Plato — Earlier Dialogues. Lecture, three hours; discussion, one hour. Prerequisite: one course in philosophy or consent of instructor. A study of selected topics in the early and middle dialogues of Plato.
   Mr. Furth
108. Plato — Later Dialogues. Lecture, three hours; discussion, one hour. Prerequisite: course 101A. A study of selected topics in the middle and later dialogues of Plato. Mr. Furth, Mr. Quinn

109. Aristotle. Lecture, three hours; discussion, one hour. Prerequisite: one course in philosophy or consent of instructor. A study of selected works of Aristotle. Mr. Furth

110. Topics in Islamic Philosophy. Lecture, three hours; discussion, one hour. Prerequisite: one course in philosophy or consent of instructor. A discussion of selected topics in the work of one or more of the following philosophers: Al-Kindi, Fereydun, Husser, Meineich, G. Moore, the early Russell, and Wittgenstein. May be repeated for credit with consent of instructor. Mr. Almog, Mr. Burge

Group II: Logic, Semantics, and Philosophy of Science

112A. Philosophy of Science. Lecture, three hours; discussion, one hour. Prerequisite: one course in philosophy or consent of instructor. A study of the philosophical implications of the articles of modern science have been thought to bear. Topics may include the nature of causation, the reality and direction of time, time-travel, backwards causation, realism, etc. May be repeated for credit with consent of instructor. Mr. Healey

113. 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. Martin

114. Introduction to Set Theory. Prerequisite: course 32 or upper-division standing in mathematics. A discussion of the set theory; sets, natural numbers, relations, functions, cardinality, infinity. Mr. Kalish, Mr. Martin

115. Introduction to Metamathematics. Prerequisite: course 32. Recommended: course 134 or equivalent. Models, satisfactions, truth, definability; logical truth and logical consequence; consistency and completeness. Mr. Church, Mr. Kalish, Mr. Kaplan, Mr. Martin

116. 19th-Century Philosophy. Lecture, three hours; discussion, one hour. Prerequisite: one course in philosophy or consent of instructor. A study of topics in 19th-century thought. Mr. Healey, Mr. Nelson

117. Late 19th- and Early 20th-Century Philosophy. Lecture, three hours; discussion, one hour. Prerequisite: one course in philosophy or consent of instructor. A study of topics in the work of one or more of the following philosophers: Bolzano, Frege, Husserl, Meinong, G. Moore, the early Russell, and Wittgenstein. May be repeated for credit with consent of instructor. Mr. Almog, Mr. Burge

Group III: Ethics and Value Theory

119. Ethics. Lecture, three hours; discussion, one hour. Prerequisite: two courses in philosophy or consent of instructor. Course 151A is not prerequisite to 151B. 151A. Selected Classics in Ancient Ethical Theories: Plato, Aristotle; 151B. Selected Classics in Modern Ethical Theories: Hobbes, Hume, Kant, Mill, etc. Mr. Quinn

120A. Ethics and Political Philosophy. Lecture, three hours; discussion, one hour. Prerequisite: two courses in philosophy or consent of instructor. Modern topics in normative ethical theory; topics concerning the nature of moral obligations, moral virtue, and moral vice; principles of culpability and praiseworthiness (the criteria of right action). May be repeated once for credit with consent of instructor. Mr. Quinn

120B. Ethics and Political Philosophy. Lecture, three hours; discussion, one hour. Prerequisite: two courses in philosophy or consent of instructor. A study of selected topics in political philosophy. Topics may include the analysis of moral language, the justification of moral beliefs, moral realism, skepticism, etc. May be repeated once for credit with consent of instructor. Mr. Quinn

121. Medical Ethics. An examination of the philosophical issues raised by problems of medical ethics, such as abortion, euthanasia, and medical experimentation. Mr. Foot

122. Political Philosophy. Lecture, three hours; discussion, one hour. Prerequisite: two courses in philosophy or consent of instructor. A study of selected topics in political philosophy. Topics may include the analysis of moral language, the justification of moral beliefs, moral realism, skepticism, etc. May be repeated once for credit with consent of instructor. Mr. Quinn

123. Science and Metaphysics. Lecture, three hours; discussion, one hour. Prerequisite: two courses in philosophy or consent of instructor. An intensive study of one or two metaphysical topics on which the results of modern science have been thought to bear. Topics may include the nature of causation, the reality and direction of time, time-travel, backwards causation, realism, etc. May be repeated for credit with consent of instructor. Mr. Healey

124. Introduction to Set Theory. Prerequisite: course 32 or upper-division standing in mathematics. A discussion of the set theory; sets, natural numbers, relations, functions, cardinality, infinity. Mr. Kalish, Mr. Martin

125. Introduction to Metamathematics. Prerequisite: course 32. Recommended: course 134 or equivalent. Models, satisfactions, truth, definability; logical truth and logical consequence; consistency and completeness. Mr. Church, Mr. Kalish, Mr. Kaplan, Mr. Martin

126. Philosophy of Language. Lecture, three hours; discussion, one hour. Prerequisite: one course 127A or 126A or consent of instructor. An introduction to contem- porary philosophy of language, focusing on problems of central importance. Mr. Healey, Mr. Nelson

127A. Philosophy of Language. Lecture, three hours; discussion, one hour. Prerequisite: one course 127A or 126A or consent of instructor. An introduction to contemporary philosophy of language, focusing on problems of central importance. Mr. Healey, Mr. Nelson

127B. Philosophy of Language. Lecture, three hours; discussion, one hour. Prerequisite: one course 127A or 126A or consent of instructor. A discussion of topics in the philosophy of social science (e.g., the methods of the social sciences in relation to the physical sciences, value-bias in social inquiry, concept formation, theory construction, explanation and prediction, the nature of social laws). Mr. Nelson

128A. Philosophy of Mathematics. Prerequisites: courses 31, 32, and preferably one additional course in logic. The philosophy of mathematics; logism of Frege and Russell, arithmetical logic; rami- fied and intuitionistic definitions, relations, and denotation, synonymy and analyticity, modalities and tenses, indirect discourse, indexical terms, semantical paradoxes. May be repeated for credit with consent of instructor.

128B. Philosophy of Mathematics. Prerequisite: course 128A 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 specialized level. Mr. Church, Mr. Kaplan

128C. 128A. Philosophy of Mathematics. Mr. Church

128D. Philosophy of Mathematics. Mr. Burge, Mr. Church, Mr. Kaplan

128E. Philosophy of Mathematics. Mr. Burge, Mr. Church

129. Philosophy of Psychology. Lecture, three hours; discussion, one hour. Prerequisite: one course in psychology or consent of instructor. Intuitionism of Brouwer, Heyting, and the later Weyl; proof theory of Hilbert. Mr. Church

130. Philosophy of Space and Time. Lecture, three hours; discussion, one hour. Prerequisite: one course in philosophy or consent of instructor. A study of the philosophy of space and time, philosophical implications of space-time theories, such as those of Newton and Einstein. Topics may include the nature of geometry, conventionalism, absolutist versus relativist views of space and time, philosophical impact of relativity theory. Mr. Burge

131. Science and Metaphysics. Lecture, three hours; discussion, one hour. Prerequisite: two courses in philosophy or consent of instructor. An intensive study of one or two metaphysical topics on which the results of modern science have been thought to bear. Topics may include the nature of causation, the reality and direction of time, time-travel, backwards causation, realism, etc. May be repeated for credit with consent of instructor. Mr. Healey

132. 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. Martin

133. Introduction to Metamathematics. Prerequisite: course 32. Recommended: course 134 or equivalent. Models, satisfactions, truth, definability; logical truth and logical consequence; consistency and completeness. Mr. Church, Mr. Kalish, Mr. Kaplan, Mr. Martin

134. Introduction to Set Theory. Prerequisite: course 32 or upper-division standing in mathematics. A discussion of the set theory; sets, natural numbers, relations, functions, cardinality, infinity. Mr. Kalish, Mr. Martin

135. Introduction to Metamathematics. Prerequisite: course 32. Recommended: course 134 or equivalent. Models, satisfactions, truth, definability; logical truth and logical consequence; consistency and completeness. Mr. Church, Mr. Kalish, Mr. Kaplan, Mr. Martin

136. Modal Logic. Prerequisites: courses 31, 32. The first course in a two-quarter 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; quantification extension. Mr. Kaplan, Mr. Martin (W)
161. Topics in Aesthetic Theory. Lecture, three hours; discussion, one hour. Prerequisite: one course in philosophy or consent of instructor. Philosophical theories about the nature and importance of art and art criticism, aesthetic experience, and aesthetic values. May be repeated for credit with consent of instructor.

Mr. Quinn

166. Introduction to Legal Philosophy. Prerequisite: one course in philosophy or consent of instructor. An examination, through the study of recent philosophical writings, of the relation of law and morality, the relationship of law and morals, legal reasoning, punishment, and the obligation to obey the law.

Ms. Hampton, Mr. Morris

Group IV: Metaphysics and Epistemology

170. Philosophy of Mind. Lecture, three hours; discussion, one hour. Prerequisites: two relevant courses in philosophy or consent of instructor. Examination of various problems concerning the nature of mind and mental phenomena, such as the relation between the mind and the body, and our knowledge of other minds. May be repeated once for credit with consent of instructor.

Mr. Donnellan

172. Philosophy of Language and Communication. Prerequisites: two relevant courses in philosophy or linguistics or consent of instructor. Theories of meaning in language and contemporary theories of reference. Limits of meaningfulness; analysis of speech acts; relation of everyday language to scientific discoveries.

Mr. Donnellan

175. Topics in Philosophy of Religion. Lecture, three hours; discussion, one hour. Prerequisite: one course in philosophy or consent of instructor. An intensive investigation of one or two topics in the philosophy of religion, such as the attributes of God, arguments for or against the existence of God, or the relation between religion and ethics. Topics announced each quarter. May be repeated for credit with consent of instructor.

Mr. Adams, Mrs. Adams, Mr. Albritton

176. Metaphysics of Modality. Prerequisites: courses 31, 32, 136, or equivalent. The second course in a two-quarter sequence (also see course 136). Metaphysical foundations of modal logic and the philosophical basis of the model theory of modal logic. What are "possible worlds"? What is the "accessibility" relation? Is modal logic a logic or a theory? Is it possible to have modal objects or worlds in the theory of knowledge, such as a priori knowledge, the problem of induction, memory, knowledge as justified true belief. Topics announced each quarter. May be repeated for credit with consent of instructor.

Mr. Adams

177A. Existentialism. Lecture, three hours; discussion, one hour. Prerequisite: one course in philosophy or consent of instructor. Analysis of the methods, problems, and views of some of the following: Kierkegaard, Nietzsche, Heidegger, Jaspers, Sartre, Marit, and Camus. Possible topics include metaphysical foundations, nature of mind, freedom, problem of the self, other people, ethics, existential psychoanalysis.

Mr. Albritton

177B. Historical Studies in Existentialism. Prerequisite: one course in philosophy or consent of instructor. A study of the central philosophical texts of one of the following: Kierkegaard, Nietzsche, Heidegger, Jaspers, Husserl, Sartre, Meleau-Ponty, Ricouer. Topics include ontology, epistemology, and particularly philosophy of mind.

Mr. Adams

179. Oriental Philosophy: Buddhism. An examination of the central concepts and arguments in Buddhist philosophy, with emphasis on the school of Mahayana Buddhism. Appropriate parallels to social concepts in the Western tradition.

Mr. Quinn

182. Elements of Metaphysics. Lecture, three hours; discussion, one hour. Prerequisite: course 21 or consent of instructor. Study of basic metaphysical questions; nature of the physical world, of minds, and of universals; and the answers provided by alternative systems (e.g., phenomenalism, materialism, dualism).

Mr. Yost

183. Theory of Knowledge. Prerequisite: course 21 or consent of instructor. An analysis of the concept of empirical knowledge.

Mr. Nelson, Mr. Yost

184. Topics in Metaphysics. Prerequisite: course 21 or consent of instructor. An intensive investigation of one or two topics or works in metaphysics, such as personal identity, the nature of dispositions, possibility and necessity, universals and particulars, causality. Topics announced each quarter. May be repeated for credit with consent of instructor.

Mr. Albrighton, Mr. Donnellan, Mr. Healey

186. Topics in the Theory of Knowledge. Prerequisite: course 182 or 183 or consent of instructor. An intensive investigation of one or two selected topics or works in the theory of knowledge, such as a priori knowledge, the problem of induction, memory, knowledge as justified true belief. Topics announced each quarter. May be repeated for credit with consent of instructor.

Mr. Albrighton

187. Philosophy of Action. Prerequisites: two courses in philosophy or consent of instructor. A study of various concepts employed in the understanding of human action. Topics may include rational choice, desire, intention, knowledge of will, and self-deception.

Mr. Albrighton, Mr. Burge, Mr. Donnellan

188. Philosophy of Perception. Prerequisites: two courses in philosophy or consent of instructor. A critical study of the main philosophical theories of perception and the arguments used to establish them.

Mr. Yost

189. Major Philosophers of the 20th Century. Prerequisites: two courses in philosophy or consent of instructor. A study of the writings of one or more major modern philosophers (e.g., Russell, Moore, Wittgenstein, Carnap, Quine), May be repeated for credit with consent of instructor.

Mr. Albrighton, Mr. Burge, Mr. Donnellan

Special Studies

192. Philosophical Analysis of Issues in Women's Liberation. Prerequisite: one course in philosophy or consent of instructor. A study of the writings of one or more major modern philosophers (e.g., Russell, Moore, Wittgenstein, Carnap, Quine), May be repeated for credit with consent of instructor.

Mr. Yost

193. Christian Ethical Thought. Lecture, three hours; discussion, one hour. Reading of selected classic and contemporary authors in the Christian ethical tradition, with emphasis on the assessment of their views on morality and the religious life.

Mr. Adams

195. 19th- and 20th-Century Religious Thought. Lecture, three hours; discussion, one hour. A philosophical approach to Western religious thought of the last 200 years, through study of selected works by such authors as Kant, Schleiermacher, Kierkegaard, Buber, Camus, and Tillich.

Mr. Adams

196. Undergraduate Seminar in Philosophy. Lecture, one hour; discussion, three hours. Selected topics: consent of instructor. Variable topics; consult Schedule of Classes or "Department Announcements" for current topic. May be repeated for credit with consent of instructor.

Mr. Adams

197. Reading and Writing Philosophy. Prerequisites: two lower or upper division courses in philosophy. Designed to help philosophy students improve their ability to read philosophical texts and write philosophical essays. Selected texts used to illustrate problems in reading and writing; students are required to do and redo written work.

Mr. Quinn

199. Special Studies (2 to 8 units). Prerequisite: consent of instructor. Eight units may be applied toward the degree requirements, but course cannot be substituted for a course in one of the four groups on the basis of similarity of subject matter.

Graduate Courses

200A-200B-200C. Seminar for 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. A study of the dialogues of Plato through class discussions.

Mr. Adams

202. Aristotle. Prerequisite: consent of instructor. Analysis of major problems in Aristotle's philosophy based on the reading, exposition, and critical discussion of relevant texts in English translation.

Mr. Furth

203. Seminar: History of Ancient Philosophy. Prerequisite: consent of instructor. Selected problems and philosophers. May be repeated for credit with consent of instructor.

Mr. Furth

206. Topics in Medieval Philosophy. Prerequisite: consent of instructor. Study of the philosophy of one or several medieval philosophers such as Augustine, Anselm, Abelard, Aquinas, Scotus, or Ockham or the study of a single area such as logic or theory of knowledge in seven medieval philosophers. Topics announced each quarter. May be repeated for credit with consent of instructor.

Ms. Adams

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.

Ms. Adams

208. Hobbes. Prerequisite: consent of instructor. A study of the works of Hobbes, especially his Leviathan and its relevance to contemporary political philosophy.

Ms. Hampton

209. Descartes. Prerequisite: consent of instructor. A study of the works of Descartes, with emphasis on the Meditations. Issues such as the problem of skepticism, the foundations of knowledge, the existence of God, the relation between mind and body. May be concurrently scheduled with course C109.

Mr. Burge, Mr. Nelson

210. Spinoza. Prerequisite: consent of instructor. Selected topics in the 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 a longer term paper for graduate students.

Mr. Adams

211. Leibniz. Prerequisite: consent of instructor. Selected topics in the 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 a longer term paper for graduate students.

Mr. Adams, Mr. Nelson

212. Locke and Berkeley. Prerequisite: consent of instructor. Selected topics in the philosophy of Locke and Berkeley. May be repeated for credit with consent of instructor. May be concurrently scheduled with course C112.

Mr. Donnellan

214. Hume. Prerequisite: consent of instructor. Selected topics in the philosophy of Hume. May be repeated for credit with consent of instructor. May be concurrently scheduled with course C114.

Mr. Donnellan
Group II. Logic, Semantics, and Philosophy of Science

221A. Topics in Set Theory. Prerequisite: Mathematics 112A or consent of instructor. Selected problems and philosophers may be repeated for credit with consent of instructor. Mr. Kalish, Mr. Kaplan, Mr. Martin

221B. Non-Neumannian Set Theory. Prerequisite: course 221A or consent of instructor. Standard (so-called Z-F) set theory relies on a principle of limitations of size as a means of avoiding antinomy. As this principle was first formulated explicitly as an axiom of set theory by von Neumann, set theories in which it fails may appropriately be spoken of as non-Neumannian. Possibilities in regard to non-Neumannian set theories explored; proposed axiomatizations and relative consistency proofs based on the assumed consistency of Z-F set theory or of ZF set plus a strong axiom of infinity. Mr. Kalish, Mr. Martin

221C. History of Set Theory. Prerequisite: consent of instructor. The development of the concept of set and axiomatic set theory by examining selected writings of Frege, Cantor, Russell, Zermelo, Gödel, and several others. The origins and significance of certain key ideas, such as the theory of types, axiomatic set theory as a reaction to the paradoxes, formal first-order axiomatic set theory as opposed to informal axiomatics, type theory and the rank hierarchy, ramification and predicativity, proper classes and sets as small classes, and the particular Zermelo-Fraenkel axiomatic set theory. Emphasis on the actual expressed ideas and views of various influential authors. Mr. Martin

222-222B-222C. Gödel Theory. Prerequisite: several courses in logic, preferably including course 135. First in a series of three courses leading to Gödel’s incompleteness theorem and Tarski’s definition of truth.

222B. Prerequisite: course 222A. Second-order arithmetic. Second in series of three courses leading to Gödel’s incompleteness theorem and Tarski’s definition of truth.

222C. Prerequisite: course 222B. Gödel numbering and Gödel theory. Final course in the Gödel theory series.

224. Philosophy of Physics. Prerequisite: consent of instructor. Selected philosophical topics related to physical theory, depending on interests and background of the participants, including space and time; observables in quantum mechanics; quantum mechanics and statistical mechanics. May be repeated for credit with consent of instructor. Mr. Healey

225. Probability and Inductive Logic. Prerequisite: course 134 or Mathematics 112A-112B or consent of instructor.

226. Topics in Mathematical Logic. Prerequisite: consent of instructor. Content varies from quarter to quarter. May be repeated for credit with consent of instructor. Mr. Kalish, Mr. Kaplan, Mr. Martin

227. Philosophy of Social Sciences. Prerequisite: consent of instructor. An examination of philosophical problems concerning methods and concepts used in the social sciences. Topics may include the relation between social processes and individual psychology; the logic of explanation in the social sciences; determinism and spontaneity in history; the interpretation of cultures radically different from one’s own. Students with a primary interest and advanced preparation in a social science are encouraged to enroll. May be repeated for credit with consent of instructor. Mr. Nelson

230. Seminar: Logic. Prerequisite: consent of instructor. May be repeated for credit with consent of instructor. Mr. Church, Mr. Kaplan, Mr. Martin

231. Seminar: Intensional Logic. Prerequisite: consent of instructor. Topics may include the logic of sense and denotation, modal logic, the logic of demonstratives, epistemic logic, the intensional logic of Principia Mathematica, possible worlds semantics. May be repeated for credit with consent of instructor. Mr. Church, Mr. Kaplan, Mr. Martin

232. Philosophy of Science. Prerequisite: consent of instructor. Selected topics in the philosophy of science. May be repeated for credit with consent of instructor. Mr. Church, Mr. Kaplan, Mr. Martin

233. Seminar: Philosophy of Physics. Prerequisite: consent of instructor. May be repeated for credit with consent of instructor. Mr. Healey

Group III. Ethics and Value Theory

241. Topics in Political Philosophy. Prerequisites: course 150, 156, 157A, or 157B or any two courses in philosophy or consent of instructor. An 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. Mr. Segal, Mr. Kaplan, Mr. Martin

245. Seminar: History of Ethics. Prerequisite: consent of instructor. Selected topics. May be repeated for credit with consent of instructor.

246. Seminar: Ethical Theory. Prerequisite: consent of instructor. Selected topics. Content varies from quarter to quarter. May be repeated for credit with consent of instructor.

247. Seminar: Political Theory. Prerequisite: consent of instructor. May be repeated for credit with consent of instructor. Mr. Segal

248. Problems in Moral Philosophy. Prerequisite: consent of instructor. An intensive study of some leading current problems in moral philosophy. May be repeated for credit with consent of instructor. Mrs. Foot

255. Seminar: Aesthetic Theory. Prerequisite: consent of instructor. Selected topics. May be repeated for credit with consent of instructor. Mr. Quinn

256. Topics in Legal Philosophy. (Same as Law M217.) Lecture, three hours. Prerequisite: consent of instructor. An examination of topics such as the concept of law, the nature of justice, problems of punishment, legal reasoning, and the obligation to obey the law. May be repeated for credit with consent of instructor. Mr. Quinn

257. Seminar: Philosophy of Law. (Same as Law M524.) Lecture, three hours. Prerequisite: consent of instructor. Selected topics in the philosophy of law. May be repeated for credit with consent of instructor. Mr. Morris

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. Mr. Albritton, Mr. Nelson

275. Human Action. Prerequisites: two upper division philosophy courses or consent of instructor. An examination of theories, concepts, and problems concerning human actions. Topics may include analysis of intentional actions; determinism and freedom; the nature of explanations of intentional actions. May be repeated for credit with consent of instructor. Mr. Albritton, Mr. Donnellan

280. 20th-Century Continental Philosophy. Prerequisite: consent of instructor. Selected topics in 20th-century continental European philosophy. May be repeated for credit with consent of instructor. Mr. Albritton, Mr. Donnellan

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.

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. Mr. Burge

285. Philosophy of Psychoanalysis. Prerequisite: consent of instructor. An examination of topics such as the nature and validity of psychoanalytic explanations and interpretations, psychoanalysis and language, metapsychological concepts such as the unconscious, the ego, id, superego, defense mechanisms, and the psychoanalytic conception of human nature. Mr. Morris

286. Philosophy of Psychology. Relevance of computer simulation to accounts of thinking and meaning; relations between semantical theory and learning theory, psychological aspects of the theory of syntax; behaviorism, functionalism, and alternatives; physiology 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. Furth

288. Seminar: Wittgenstein. Prerequisite: consent of instructor. Mr. Albritton

289. Seminar: Philosophy of Religion. Prerequisite: consent of instructor. May be repeated for credit with consent of instructor. Mr. Adams, Mrs. Adams

Special Studies

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit with S/U grading.

495. Teaching of College Philosophy (2 to 4 units). Prerequisite: consent of instructor. Seminars, workshops, and apprentice teaching. Selected topics, including evaluation scales, various teaching strategies and their effects, and other topics in college teaching. May be repeated for credit. S/U grading.

596A-596B. Directed Individual Studies (2 to 8 units). Properly qualified graduate students who wish to pursue a problem through reading or advanced study may do so if their proposed project is acceptable to a staff member. May be repeated for credit. S/U (course 596B) and letter (course 596A) grading.

597. Directed Studies for Graduate Examinations (2 to 8 units). Preparation for M.A. comprehensive examination or oral or written examinations. S/U grading.

599. Research for Ph.D. Dissertation (2 to 8 units). Prerequisite: advancement to Ph.D. candidacy. May be repeated for credit. S/U grading.
Physics

3-174 Knudsen Hall, (213) 825-3224

Professors
Maha Abdalla, Ph.D.
Ernest S. Abres, Ph.D.
Rubin Braunstein, Ph.D.
Charles D. Buchanan, Ph.D.
Nina Byers, Ph.D.
Marvin Chester, Ph.D.
W. Gilbert Clark, Ph.D.
John M. Cornwall, Ph.D.
Ferdinand V. Coronti, Ph.D.
John M. Dawson, Ph.D.
Seth J. Putterman, Ph.D.
Marvin Chester, Ph.D.
Alfredo Banos, Jr., Dr.Eng., Ph.D.
Ernest S. Abres, Ph.D.

Adjunct and Visiting Lecturers
Hans-Uro Bensigson, Ph.D., Adjunct
S. Merton Burkhald, M.S., Visiting
John Cooper, Ph.D., Adjunct
Barry Dorfman, Ph.D., Adjunct
Luciano Girardello, Ph.D., Adjunct
Thomas Hijmans, Ph.D., Adjunct
Arthur H. Huffman, Ph.D., Adjunct
Antu Ijoza, Ph.D., Adjunct
Julian S. Schwinger, Ph.D., Emeritus Professor

Scope and 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 primarily directed at providing a basic foundation for students who intend to go on to graduate school in physics or related fields such as engineering or other physical sciences. However, for many this is a terminal degree preparatory to working 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. The department offers a comprehensive graduate program leading to the Master of Science degree, the Master of Arts in Teaching (M.A.T.), and the Ph.D., which is offered in theoretical or experimental work in a choice of subfields.

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, 8B/8BL, 8C/8CL, 8D/8DL, 8E; Chemistry 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 in the Undergraduate Physics Office.

The Major
Required: Physics 105A, 105B, 110A, 110B, 112, 115A, 115B, 131, three courses from the 180 series; three additional upper division lecture courses selected from 108, 114, M122, 123, 124, 126, 132, 140. An upper division course in mathematics may be substituted for Physics 132 with consent of an adviser. A C average is required in the above courses. Reading knowledge of Russian, German, or French is recommended.

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.

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, 8B/8BL, 8C/8CL, 8D/8DL, 8E; Chemistry 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 in the Undergraduate Physics 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 190), and five upper division courses in no more than two other UCLA departments. A C average in the upper division physics courses is required.

Teaching Credentials
You may earn credentials for teaching physical sciences and other subjects in California elementary and secondary schools. Completion of the Teacher Credential Program in the Teacher Education Laboratory is required. Consult the Graduate School of Education (201 Moore Hall) for information.
Graduate Study

The Department of Physics offers opportunities for graduate study leading to the M.S., M.A.T. (Master of Arts in Teaching), and Ph.D. degrees. Special emphasis is given to preparation in the following fields of physics: acoustics/low-temperature, elementary particles, intermediate energy and nuclear physics, plasma and astrophysics, solid-state and condensed matter, spectroscopy.

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) Advanced Test in Physics and to submit three letters of recommendation. International applicants who are applying for financial support should have a letter of recommendation (including 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, 3-145G Knudsen Hall, UCLA, Los Angeles, CA 90024.

Master of Science Degree

Major Fields or Subdisciplines

It is not required to designate an area of specialization for a terminal master's degree.

Course Requirements

The University requires a total of nine courses 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 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 courses may be from Physics 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. It is recommended that the examination be taken during the first year by UCLA graduates in physics and must be taken no later than the fourth quarter in residence by other students. 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 is willing to undertake the guidance of your work. You must petition the departmental committee of graduate advisors for permission to pursue the thesis plan. The comprehensive examination requirement is waived if the petition is approved.

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 leads to qualification for teaching credentials at the secondary school or junior college level. Five graduate courses, five professional (300 series) courses, and 12 1/2 total courses are required.

1. The five graduate physics courses must include Physics 370 and four courses from 210A, 210B, 215A, 221A, 221B.


Courses in the 500 series may not be applied toward the M.A.T. degree.

Teaching Experience

Teaching experience is required as 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 repeat the examination a second time. Permission to repeat it a third time may be granted only under exceptional circumstances.

Ph.D. Degree

Major Fields or Subdisciplines

Ph.D. degrees are granted in the following fields of specialization: elementary particles, intermediate energy and nuclear physics, low-temperature/acoustics, plasma and astrophysics, solid-state and condensed matter, and spectroscopy.

Course Requirements

Before the formation of a doctoral committee, you must satisfy the core course requirements by taking Physics 210A, 210B, 215A, 221A, 221B. Course examinations are graded on both a letter and an S/U basis. All students seeking candidacy for the Ph.D. degree must pass with a grade of S the final examination in four of the five courses. In case of failure, you may petition to repeat the examination in question. The five examinations should be completed by your fifth quarter in residence. In addition to the five required courses, you must fulfill a breadth requirement by passing one of the following courses with a B or better: Physics 220, 221C, 231A (course 132 is the mathematics prerequisite to graduate classes; if you have not taken this course or its equivalent as an undergraduate, you must do so at the beginning of your graduate career).

Qualifying Examinations

All departmental graduate students (master's and Ph.D.) take the same 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.

All students in the Ph.D. program must pass the examination at the Ph.D. level of achievement. Permission to take it a second time may be granted only under exceptional circumstances. You may arrange for the comprehensive oral examination (departmental field oral) only after completing the core course requirements and passing the comprehensive written examination at the Ph.D. level. The departmental oral may encompass material covered in all graduate courses but with special emphasis on your field of specialization. The examination, if failed, may be repeated on the recommendation of your committee to the graduate affairs officer. All students are expected to complete the examination by the eighth quarter in residence.

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. At least two members from the Physics Department and at least one outside member must act in this capacity. 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
Physics 10Q is intended for entering freshman physics majors and normally is taken in your first quarter in residence. Although it is not a required course or a part of or prerequisite to any general physics sequence of courses, its purpose is to indicate the nature of current research problems in physics.

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 prerequisite 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 courses 8A through 8E by taking the final examination with a class at the end of any quarter. These serve as placement examinations. You should discuss such possibilities with your departmental adviser.

Physics 10 is a one-quarter, non-laboratory 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.

10. Contemporary Physics (2 units). Limited to physics majors. A review of current problems in physics, with emphasis on those being studied in the research laboratories at UCLA. The significance of the problems and their historical context. (F)

3A. General Physics: Mechanics of Solids and Fluids. Lecture/demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisites: three years of high school mathematics including trigonometry or two years of high school mathematics and a 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 course 8A or equivalent. The fundamentals of classical mechanics: Newton's laws; conservation of momentum, angular momentum, energy; Kepler's laws; dynamics of systems of particles; fluid mechanics. (F, W)

3B. General Physics: Heat, Sound, Electricity and Magnetism. Lecture/demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisites: course 3A or equivalent. Temperature, heat, and the laws of thermodynamics. Introduction to wave motion, resonance, Sound and acoustics. Electric field and potential energy. Electric fields. Electric power. Elements of DC and AC circuits. (W, Sp)

3C. General Physics: Light, Relativity, and Modern Physics. Lecture/demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisites: Mathematics 3A, 3B, 3C (may be taken concurrently), or equivalent. (F, W)

6B. Physics for Life Science Majors: Electricity and Magnetism. Lecture/demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisites: Mathematics 3A, 3B, 3C (may be taken concurrently), or equivalent. (F, W)

6C. Physics for Life Science Majors: Light and Modern Physics. Lecture/demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisites: 8A or consent of instructor. (F, W, Sp)

8A. Physics for Scientists and Engineers: Mechanics. Lecture/demonstration, four hours; discussion, one hour. Prerequisite: Mathematics 31A or equivalent. Recommended: high school physics and chemistry. Mechanics of solids and fluids, MC Physics 8BH, MC Physics 31B. Motion, Newton's laws, work, energy, linear and angular momentum, rotation, equilibrium, gravitation. (F, W, Sp)

8AL. Physics Laboratory for Scientists and Engineers: Mechanics. Lecture/demonstration, one hour; lab, two hours. Corequisite: course 8A or consent of instructor. (F, W, Sp)

8B. Physics for Scientists and Engineers: Waves, Sound, Heat. Lecture/demonstration, three hours; discussion, one hour. Prerequisites: course 8A, Mathematics 31B. Corequisites: course 8BL, Mathematics 32A (or equivalent). Harmonic oscillators, standing and traveling waves, fluid dynamics, sound, kinetic theory of gases, laws of thermodynamics. (F, W, Sp)

8BL. Physics Laboratory for Scientists and Engineers: Waves, Sound, Heat (1 unit). Lecture, one hour; laboratory, one hour. Corequisite: course 8B or consent of instructor. (F, W, Sp)

8BH. Physics for Scientists and Engineers: Modern Physics. Lecture/demonstration, three hours; discussion, one hour. Prerequisites: course 8A, Mathematics 31B, or consent of instructor. (F, W, Sp)

8E. Physics for Scientists and Engineers: Modern Physics. Lecture/demonstration, three hours; discussion, one hour. Prerequisites: course 8D or consent of instructor. (F, W, Sp)


8CL. Physics Laboratory for Scientists and Engineers: Electricity and Magnetism. Lecture, one hour; laboratory, two hours. Prerequisites: course 8C or consent of instructor. (F, W, Sp)

8CH. Physics for Scientists and Engineers: Electromagnetic Waves, Light, and Relativity. Lecture demonstration, three hours; discussion, one hour. Prerequisites: course 8BH or 8B with a grade of A or recommendation of 8B instructor, Mathematics 32B, and 32C (or preferably 32AH) concurrent, or consent of instructor. The significance of the laws of nature as course 8E but in greater depth. (F, W, Sp)

8DH. Physics for Scientists and Engineers: Electromagnetic Waves, Light, and Relativity (Honors). Lecture demonstration, three hours; discussion, one hour. Prerequisites: course 8CH or 8C with a grade of A or recommendation of 8C instructor, Mathematics 32B, and 32C (or preferably 32AH) concurrent, or consent of instructor. The same material as course 8D but in greater depth. (F, W, Sp)

8HD. Physics for Scientists and Engineers (Honors) (5 units). Lecture, four hours; discussion/laboratory, two and one-half hours. Prerequisite: same as for the Physics 8 and 8L series. Limited to the top 20 students (determined by previous Physics 8 grades) with consent of instructor. Intended for outstanding students with a deep interest in physics. Honor students participate in the lectures and examinations of the regular Physics 8 series. Discussions and laboratories given by an honors instructor who discusses challenging problems in depth. (F, W, Sp)

8DL. Physics Laboratory for Scientists and Engineers: Electromagnetic Waves, Light, and Relativity (1 unit). Lecture, one hour; laboratory, one hour. Corequisite: course 8D or consent of instructor. (F, W, Sp)

8DH. General Physics: Electromagnetic Waves, Light, and Relativity (Honors). Lecture/demonstration, three hours; discussion, one hour. Prerequisites: course 8CH or 8C with a grade of A or recommendation of 8C instructor, Mathematics 32B, and 32C (or preferably 32AH) concurrent, or consent of instructor. The same material as course 8D but in greater depth. (W)

8HD. Physics for Scientists and Engineers (Honors) (5 units). Lecture, four hours; discussion/laboratory, two and one-half hours. Prerequisite: same as for the Physics 8 and 8L series. Limited to the top 20 students (determined by previous Physics 8 grades) with consent of instructor. Intended for outstanding students with a deep interest in physics. Honor students participate in the lectures and examinations of the regular Physics 8 series. Discussions and laboratories given by an honors instructor who discusses challenging problems in depth. (F, W, Sp)

8E. Physics for Scientists and Engineers: Modern Physics. Lecture/demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisites: course 8D, Mathematics 33A. Corequisites: Mathematics 33B or equivalent. Wave-particle duality, quantum theory, Schroedinger equation, hydrogen atom, exclusion principle. (W, Sp)

10. Physics. Lecture/demonstration, three hours; discussion, one hour. Prerequisite: consent of instructor. (F, W, Sp)

11. Modern Physics for Nonscience Majors. Lecture/demonstration, three hours; discussion, one hour. Prerequisites: course 8D or consent of instructor. Topics include the concept of energy, quantum theory, nuclear physics, relativity. (F, W, Sp)
Upper Division Courses

Prerequisites for all upper division courses:
- Physics 8A through 8E, Mathematics 31A, 31B, 32A, 32B, 33A, and (except for Physics 105A, 116) 33B, or consent of instructor. Students must complete one quarter of upper division physics before enrolling in the 180 laboratory series.


105B. Analytic Mechanics. Prerequisite: course 105A. Relativity with vectors, non-inertial reference frames, dynamics of rigid bodies, coupled oscillators, normal modes of oscillation, vibrating strings, and wave propagation.

108. Optical Physics. Prerequisite: course 110B. Interaction of light with matter; dispersion theory, oscillator strength, line widths, molecular scattering. Coherence theory, Kirchhoff formulation of diffraction theory, crystal optics, optical rotation, electro and magnetic optical effects. Additional topics of fundamental or current interest.

110A. Electricity and Magnetism. Lecture, three hours. Prerequisite: course 131. Electrostatics and magnetostatics.


112. Thermodynamics. (Formerly numbered 112A.) Lecture, three hours; discussion, one hour. Fundamentals of thermodynamics, including the first, second, and third laws. The statistical mechanical point of view and its relation to thermodynamics. Some simple applications.


115A. Elementary Quantum Mechanics. Lecture, three hours; discussion, one hour. Prerequisites: courses 105B (may be taken concurrently), 131. The classical background, basic ideas, and methods of quantum mechanics.

115B. Elementary Quantum Mechanics. Prerequisite: course 115A. Development of the methods and concepts of quantum mechanics.

116. Electronics. Lecture, three hours; laboratory, three hours. Alternating current circuits, vacuum tube characteristics and parameters, transistor characteristics and parameters, amplifiers, oscillators, nonlinear tube and transistor circuits.

M122. Plasma Physics. (Same as Electrical Engineering M185.) Prerequisite: course 110A or Electrical Engineering 101. Senior-level introductory course to physics 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.


124. Nuclear Physics. Lecture, three hours; discussion, one hour. Prerequisite: course 115B. Nuclear charge, mass, radius, spin, and moments; nuclear models; nuclear forces; alpha, beta, and gamma emission.

126. Elementary Particle Physics. Prerequisite: course 115B. Experimental determination of the properties of elementary particle states. Relativistic kinematics and phase space; angular momentum and isotopic spin formalism; elastic and inelastic scattering; invariance principles and conservation laws; strong, electromagnetic, and weak interactions. Survey of important experiments.

131. Mathematical Methods of Physics. (Formerly numbered 131A.) Lecture, three hours; discussion, one hour. Vectors and fields in space, linear transformations, matrices, and operators; Fourier series and integrals.

132. Mathematical Methods of Physics. (Formerly numbered 131B.) Lecture, three hours; discussion, one hour. Prerequisite: course 131. Green's functions and boundary value problems, complex variables, and topics selected from tensors, Laplace transforms, probability theory, approximation techniques.

140. Physics Laboratory. Prerequisites: courses 105A, 105B, and 105C. Prerequisite: course 115B or equivalent. Introduction to the basic theoretical concepts of solid-state physics with applications. Crystal symmetry; cohesive energy; diffraction of electron, neutron, and electromagnetic waves; dielectric and macroscopic magnetic effects; free electron theory of metals; energy bands.

160. Introduction to Plasma Physics through Computer Modeling. Lecture, three hours; discussion, one hour. Prerequisites: courses 105A, 105B, 110A, 110B. Computer simulations of plasma behavior; wave propagation in plasmas, Landau damping of waves, Coulomb collisions between particles, collective properties of plasma, magneto hydrodynamics, and non-linear plasma behavior. Mr. Dawson

180A. Nuclear Physics Laboratory.

180B. Physical Optics and Spectroscopy Laboratory.

180C. Solid-State Physics Laboratory.

180E. Plasma Physics Laboratory.

180F. Elementary Particle Physics Laboratory.

185. Foundations of Physics. Prerequisite: senior physics or nuclear physics course. Theory of elementary particles and their interactions; free electron theory of metals; elementary particle states. Introduction to relativistic quantum mechanics.

199. Special Studies in Physics (2 to 4 units). May be repeated, but no more than 12 units may be applied toward the Physics B.S. degree requirements.

Graduate Courses


213B. Advanced Atomic Structure. The nij symbols, continuous groups, fractional parentage coefficients, n electron systems.


215A. Statistical Physics. Thermodynamics and statistical mechanics with applications.


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; the Coulomb gas; the imperfect Bose gas; electron-phonon interaction; superconductivity; phase transitions; theory of Fermi liquid.


221B. Quantum Mechanics. Three hours. Prerequisite: course 221A. Rotations and other symmetry operations, perturbation theory.

221C. Quantum Mechanics. Lecture, three hours. 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, and theory 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, the scattering matrix, the density matrix, and the pion-nucleon and pion-pion interactions, the one pion exchange potential, phase shift analysis.

225A-225B. Advanced Nuclear Physics. Prerequisites: courses 221A, 221B. Normally preceded by course 224. An advanced course in the structure of complex nuclei, nuclear models, scattering and reactions.

226A-226B-226C. Elementary Particle Physics (6 units each). (Formerly numbered 226A-226B.) Lecture, four hours. Prerequisites: courses 221A, 221B, 221C. One course may be taken concurrently. Modern theories of elementary particle physics beginning with symmetry principles and conserved quantities, classical V-A theory of weak interactions, gauge field theories (Abelian and non-Abelian), spinors. Additional topics: SU(2) x U(1), SU(2) + U(1), confinement, quantum electroweak interactions of leptons, quarks, W's, Z's, and qark theory of hadrons and quantum chromodynamics.

230A-230B-230C. Relativistic Quantum Theory (6 units each). Lecture, four hours. Prerequisites: courses 222A, 222B, and 222C, 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.
231A. Methods of Mathematical Physics. Not open for credit to students with credit for Mathematics 260A. Linear operators, review of functions of a complex variable, integral transforms, partial differential equations.


232A-232B. Relativity. The special and general theories, with applications to elementary particles and astrophysics.

232C. Special Topics in General Relativity.


241A. Solid-State Physics. Prerequisites: courses 140, 215A, 221A. Symmetry, free electrons, electrons in a periodic potential, experimental measurement of band structure and Fermi surface parameters, cohesive energy, lattice vibrations, thermal properties.

241B. Solid-State Physics. Prerequisite: course 241A. Transport theory with applications, electron-electron interactions.

241C. Solid-State Physics. Prerequisite: course 241B. Semiconductors, magnetism, phase transitions, superconductivity.


261. Seminar in Special Problems in Theoretical Physics.


266. Seminar in Propagation of Waves in Fluids.

268. Seminar in Spectroscopy.

269A. Seminar in Nuclear Physics (2 to 4 units).

269B. Seminar in Elementary Particle Physics (2 to 4 units).

280E. Advanced Plasma Laboratory. Lecture, two hours; laboratory, four hours. Prerequisites: courses M122, 150E. Laboratory experiments on the behavior of plasmas in magnetic fields. Study of the basis physics of particle motions, distribution functions, and fluid dynamics. Plasma waves and nonlinear phenomena. Advanced probe, microwave and plasma diagnostics.

282. Advanced Laboratory in Acoustics and Cryogenics. Selected advanced experiments in acoustics and cryogenics designed to train students in the techniques and instrumentation used in acoustic research and low-temperature physics.

283A-283B. Research in Elementary Particle Physics (2 or 4 units). Seminars and discussion by staff and students directed toward problems of current research interest in the plasma physics group, both experimental and theoretical. Each graduate student doing research in this field is required to take three quarters of this course, ordinarily during the second or third year. May be repeated for credit. S/U grading.

283C. Research Tutorial in Elementary Particle Theory (2 or 4 units). Prerequisites: courses 226A, 226B, 230A, 230B. Seminars and discussion by staff, post-doctoral fellows, and graduate students. Each graduate student doing research in this field is required to take this course, ordinarily during the second or third year. May be repeated for credit. S/U grading.

284. Research Tutorial in Spectroscopy, Low-Temperature, and Solid-State Physics (2 or 4 units). Seminars and discussion by staff and students on problems of current research interest in spectroscopy, low-temperature, and solid-state physics. Each graduate student doing research in these fields is required to take this course, ordinarily during the second or third year. May be repeated for credit. S/U grading.

285. Research Tutorial in Solid Earth Physics (2 or 4 units). Seminars and discussion in solid earth physics. Each graduate student doing research in this field is required to take this course (or course 292 if appropriate), ordinarily in the second or third year. May be repeated for credit. S/U grading.

286. Research Tutorial in Experimental Elementary Particle Physics (2 or 4 units). Limited to six students. Seminars and discussion by staff and students on current problems in experimental elementary particle physics. Each graduate student doing research in this field is required to take this course, ordinarily during the second or third year. May be repeated for credit. S/U grading.

289. Research Tutorial in Nuclear Physics (2 or 4 units). Seminars and discussion in nuclear physics by staff and students, in both experiment and theory. Each graduate student doing research in this field is required to take this course, ordinarily during the second or third year. May be repeated for credit. S/U grading.


291. Research Tutorial in Elementary Particle Theory (2 or 4 units). Prerequisites: courses 226A, 226B, 230A, 230B. Seminars and discussion by staff, post-doctoral fellows, and graduate students. Each graduate student doing research in this field is required to take this course, ordinarily during the second or third year. May be repeated for credit. S/U grading.

292. Research Tutorial in Solid Earth Physics (2 or 4 units). Seminars and discussion in solid earth physics. Each graduate student doing research in this field is required to take this course (or course 292 if appropriate), ordinarily in the second or third year. May be repeated for credit. S/U grading.

293. Research Tutorial in Nuclear Physics (2 or 4 units). Seminars and discussion in nuclear physics by staff and students, in both experiment and theory. Each graduate student doing research in this field is required to take this course, ordinarily during the second or third year. May be repeated for credit. S/U grading.

294. Teaching Assistant Apprentice. Prerequisite: consent of instructor. A study of the physics laboratory experiments and demonstrations available today for secondary school and community college physics courses. Part of the Master of Arts in Teaching (M.A.T.) program but open to other interested students.

295. Research Tutorial in Solid Earth Physics (2 or 4 units). Seminars and discussion in solid earth physics. Each graduate student doing research in this field is required to take this course, ordinarily during the second or third year. May be repeated for credit. S/U grading.

297. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the 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.

298. Research Tutorial In Experimental Elementary Particle Physics (2 units). Lecture/discussion (five or more one-hour meetings during the quarter, plus intensive training week at the beginning of Fall Quarter). Required of all new teaching assistants. A special course for teaching assistants designed to deal with the problems and techniques of teaching college physics. The ideas and techniques learned applied and evaluated in the sections of each teaching assistant. May be repeated for credit. S/U grading.

299. Research Tutorial In Nuclear Physics (2 or 4 units). Limited to six students. Seminars and discussion in nuclear physics by staff and students, in both experiment and theory. Each graduate student doing research in this field is required to take this course, ordinarily during the second or third year. May be repeated for credit. S/U grading.

596. Directed Individual Studies (2 to 12 units). May be repeated for credit. S/U grading.

597. Preparation for Master's Comprehensive Examination or Ph.D. Qualifying Examinations (2 to 8 units). May be repeated. S/U grading.

598. Master's Thesis Research and Writing (2 to 8 units). May be repeated. S/U or letter grading.

599. Ph.D. Research and Writing (8 to 12 units).
individual focused to serve the needs of the liberal arts major, the student seeking preparation for graduate work in political science, public administration, law, and other professional fields, and the student preparing for specialized roles in political and public organizations.

The graduate program leads to the Ph.D. degree in Political Science (a master's degree may be earned in the process of completing Ph.D. requirements). It is designed to give students a strong foundation in the discipline while enabling them to acquire additional skills for advancing their professional careers.

**Bachelor of Arts Degree**

Students entering UCLA in Fall Quarter 1984 or thereafter must fulfill the requirements for the political science major listed in this catalog. Those who entered prior to Fall Quarter 1984 should consult the departmental counselor.

**Pre-Political Science Major**

All students intending to major in political science must enroll as pre-political science majors. After completion of preparation for the major courses, you need to petition to enter the major in the Undergraduate Office, 4256 Bunche Hall.

**Preparation for the Major**

*Required:* Four lower division courses from Political Science 10, 20, 40, 50, 70, 80, including at least two courses from 10, 20, and 50. These lower division courses are prerequisites to upper division courses and are required in those fields designated as your concentration or distribution field.

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 190), economics, geography, history, management (only Management 150, 190), psychology (except Psychology 115, 116, 117), 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 six fields: (I) political theory, (II) international relations, (III) politics, (IV) comparative politics, (V) public law, and (VI) public administration and local government.

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. It is recommended that one of these courses be an undergraduate seminar (C197A-C197C; see field concentration requirements below).

2. A distribution of the two lower division courses and two 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.

Students who entered prior to Fall Quarter 1984 should consult the departmental counselor.

**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 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. Four units from courses 175A-175B may be applied as one of the four courses in Field II. Only one of the defense studies courses—138A, 138B, 138C— may be applied toward the field concentration requirement.

(III) Politics: Course 40 and any four courses in Field III. Course 182A may also be applied toward concentration in this field.

(IV) Comparative Politics: Courses 50, 168, and any three additional courses in Field IV. Course 115, 188A, or 188B—but no more than one of them—may also be applied toward concentration in this field.

(V) Public Law: Courses 70, 170, and any three additional courses in Field V. Course 70 is prerequisite to 172A and 172B.

(VI) Public Administration and Local Government: Course 80 and any four courses in Field VI. Course 138C, 173, or 174—but no more than one of them—may also be applied toward concentration in this field.

Note: No course may be applied toward both concentration and distribution requirements.

Also, courses 119, 139, 149, 169, 179, and 189 may be applied no more than twice toward the field concentration requirement. No more than three of these courses may be applied toward the major. Courses 195A-195B-195C and 199 may not be applied toward either the concentration or distribution requirement.

**Undergraduate Seminars**

Each quarter the department offers a series of seminars (Political Science C197A-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, and students who qualify are encouraged to take them.

**Honors Program**

The department honors program is open to seniors and to students who (1) have completed five upper division political science courses (two of which are in one field), (2) have a 3.5 grade-point average in upper division political science courses, and (3) are eligible for College of Letters and Science honors. You should have substantial experience in writing research papers and take at least one seminar course in the Political Science C197 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, 169, 179, and 189) distributed as follows: four courses in one field and two 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, while also providing the additional professional skills relevant to their particular career objectives. The department ordinarily 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.).

The program, unless you choose the M.A. thesis option, consists of three fields of study (two major fields in political science and a minor field which may be outside the department). You take coursework in these fields during the first two years of the program, at the end of which you take qualifying examinations in your two major fields. If you qualify for the Ph.D. on the basis of these examinations, you take an examination the following year in your minor field and complete the course requirements for the Ph.D. You also prepare a research design for your dissertation and, finally, complete the dissertation.

You are eligible to receive a master's degree when you qualify for the Ph.D. If you do not qualify for the Ph.D., you still receive a master's degree if your qualifying examinations merit it and you have completed the course-
work required for the first two years. If you choose the thesis program, you do not have a minor field and write a thesis at the end of two years instead of taking examinations. You receive a master’s degree after successfully completing the program.

Admission
In addition to University minimum requirements, the department requires three letters of recommendation, scores of 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 irrespective of their preference for the M.A. or Ph.D. degree. Prospective students may write for departmental brochures to the Graduate Studies Office, Department of Political Science, 4289 Bunche Hall, UCLA, Los Angeles, CA 90024. The department does not have an application form in addition to the one used by the Graduate Admissions Office. The deadline for receipt of all application materials is December 31 prior to the Fall Quarter in which you plan to register.

Fields of Study
Seven fields of study are offered to graduate students in the department: political theory; international relations; politics; comparative politics; public law; public administration and local government; and methodology.

Foreign Language or Research Methodology Requirement
There is no foreign language requirement for the M.A. degree.

For the Ph.D., you must fulfill one of the following requirements:

1. Foreign language proficiency may be demonstrated by passing the Educational Testing Service (ETS) examination with a minimum score of 550. In languages for which no ETS examination is given, you must take a department examination to test your proficiency at a level comparable to an ETS score of 550. You may also satisfy the requirement by having completed, with a grade of B or better, the final course in a two-year sequence of college courses in a foreign language.

2. Research methodology proficiency may be demonstrated by completing three courses (normally Political Science 204A, 204B, 204C) with grades of B or better. Comparable courses in quantitative methodology may be substituted for courses 204A and 204B by petition, but you are expected to take course 204C to complete the requirement.

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
During the first two years of the program you are required to take a minimum of 12 substantive courses (exclusive of Political Science 597 and 598), of which eight must be in two major fields in political science. If methodology is one of your major fields, one of the courses may be taken outside the department. The 12 courses must be distributed as follows:

1. A minimum of four graduate courses is required in each of your two major fields. Each field designates the core courses needed to fulfill a minor in that field. Where approved by a field, you may take one designated concepts and methods (CAM) course (Political Science 203A or 203B) to satisfy one of the four course requirements in either of the two major fields, but not in both fields.

2. In addition, you are required to take one course in statistics (normally course 204A). Graduate statistics courses in other departments may be substituted by petition.

3. Unless you select the thesis plan, you must take a minimum of two courses in a minor field, of which at least one must be at the graduate level. The minor field may be taken in one of the seven fields of political science, in the CAM series offered by the department, or in an outside discipline, area studies program, or professional school. If the minor is outside the Political Science Department, your plan of study must be approved by the graduate studies committee. If methodology is a major field, the minor must be taken within the department.

4. If you select the M.A. thesis plan, you must take two courses related to your thesis in lieu of the minor field requirements.

5. All students must take an additional graduate course as an elective, selected from within or outside the department. If your minor is taken outside the department, the elective must be in one of the seven fields, excluding the two major fields. It may not be course 596.

6. A maximum of three 596 courses may be applied toward the requirement of 12 substantive courses, but no more than two 596 courses may be taken in any of the two major fields.

Transfer Students: With the approval of the relevant field committee and the dean of the Graduate Division, a maximum of two graduate courses taken at another institution may be applied toward the 12-course requirement in the first two years of the program. If the courses were taken at another UC campus, the number is increased by four, and if you already have an M.A. in Political Science, to six. Although you may have a master's degree at entrance, you must go through the qualifying examination process to qualify for the Ph.D.

After the two-year program is completed and you have qualified to pursue the Ph.D. as a result of the qualifying examinations, you select your individual research adviser and chart the plan of study to be followed. You must be in residence for a minimum of two quarters, during which time you are to satisfy the following minimum requirements:

1. Minor Field: You must complete your third course in the minor field and take a written examination or submit a paper appropriate for determining proficiency in the minor field. In case of failure you may retake the examination once.

2. Elective: With the approval of your research adviser and graduate adviser, you take one elective course within or outside the department. The elective should be relevant to the dissertation topic and may be a 596 course provided it is a substantive course.

3. Directed Reading and Research: You must take Political Science 590A to research your proposed dissertation topic and 590B to prepare your research design for the dissertation. Normally, course 590B is taken preceding or during the quarter in which the oral examination is taken. With the approval of your research adviser, you may take more than one elective or 590A or 590B course.

Teaching Experience
All graduate students in the Department of Political Science, before being granted the Ph.D., are required to have formal teaching experience in an institution of higher learning. Waiver of this requirement is possible in exceptional circumstances by petition to the graduate studies committee.

Thesis Plan
If you select the thesis plan, you qualify solely for the M.A. degree. The two courses you take instead of a minor field are under the direction of your thesis adviser. They usually are Political Science 596 which is normally taken in the Fall and Winter Quarters of the second year, followed by course 598 in Spring Quarter.

You must decide on the thesis plan by the middle of the Spring Quarter of your first year and must form a thesis committee. You begin researching and writing the thesis by the Fall Quarter of your second year, working closely with members of the committee. The final version of the thesis must be submitted to the committee no later than the sixth week of the Spring Quarter so that the M.A. degree can be conferred by the end of that quarter, provided all requirements have been met and the thesis has been approved.

If the committee does not receive or does not approve the thesis, you are considered to have failed the requirement and are not allowed to resubmit the thesis. If you have received the M.A. on the thesis plan, you may register for the Ph.D. program without reapplying, but you must take the qualifying examinations in the two major and one minor fields by the Spring Quarter of your third year at UCLA.
Qualifying Examinations
You must take the qualifying examinations in your two major fields by the Spring Quarter of your second year unless you have selected the Qualifying Examinations in the Fall Quarter of the subsequent year. The outcome of the spring examinations determines whether you (1) qualify for the Ph.D. and obtain an M.A.; (2) obtain an M.A. degree but do not qualify for the Ph.D.; (3) obtain an M.A. but must retake an examination in one or both fields to qualify for the Ph.D.; or (4) fail to obtain an M.A. and are terminated from the program.

Written examinations are given in each of the major fields. Each field committee provides assessments of the examinations as to whether (1) your performance is sufficient for the M.A. degree and (2) also qualifies you to begin work at the Ph.D. level. The following two-tier grading system is used for each examination: for the M.A., grades are pass and not pass; for the Ph.D., grades are not qualified, marginal, qualified, and qualified with distinction. To obtain an M.A. degree only, you must receive a grade of pass on at least one field examination. If you obtain a pass on both field examinations, you receive a departmental letter certifying qualification in both fields.

To qualify for the Ph.D., you must (1) receive grades of pass on both field examinations and (2) receive a grade of qualified or qualified with distinction in both examinations. If grades of marginal are received on both examinations, an ad hoc committee is formed to determine whether you will be allowed to retake the examinations.

There are no retake examinations for the M.A. degree. Retake examinations are given to determine whether you qualify for the Ph.D. track. They may be retaken only once, provided you receive a grade of qualified in one field and not qualified or marginal in the second field.

Once you have successfully completed all course and examination requirements and have prepared a formal research design for the proposed dissertation acceptable to the research adviser, you may proceed to the University Oral Qualifying Examination. The research design must be submitted to the oral examination committee at least two weeks before the examination. The purpose of the oral examination is to assess the adequacy of your preparation in undertaking the proposed dissertation, to suggest ways in which the research design may be strengthened, and to determine whether the proposed dissertation is feasible and can be completed successfully. After successful completion of the University Oral Qualifying Examination and the language or methodological requirement, you are advanced to candidacy.

Approval of a written dissertation by your doctoral committee constitutes the final requirement for the Ph.D. degree in Political Science.

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 doctoral committee for each candidate decides whether or not a final oral examination should be required.

Lower Division Courses
1. Introduction to American Government
   Lecture, three hours; discussion, one hour. An introduction to the principles and problems of American government and politics. Each field committee provides assessments of the examinations as to whether (1) your performance is sufficient for the M.A. degree and (2) also qualifies you for the Ph.D. requirement but does not fulfill a "Preparation for the Major" requirement.

2. Introduction to Quantitative Research
   An introduction to the collection and analysis of political data, with emphasis on the application of statistical reasoning to the study of relationships among political variables. Use of the computer as an aid in analyzing data from various fields of political science, among them comparative politics, international relations, American politics, and public administration.

   Ms. Geddes

3. Introduction to Political Theory
   (Formerly numbered 110.) Lecture, three hours; discussion, one hour. Meets the Political Science 110 requirement for all students who need 110 for the major. An exposition and analysis of selected political theorists and concepts from Plato to the present.

   Mr. Ashcraft, Mr. Campbell, Mr. Rapoport, Mr. Smith

4. World Politics: Problems of Power Politics
   (Formerly numbered 2A.) Lecture, three hours; discussion, one hour. Required of all students concentrating in Field II. Introduction to modern international politics.

   Mr. Wilkinson (F,W,Sp)

5. Introduction to Politics
   The basic institutions and processes of democratic politics. A treatment of themes such as constitutionalism, representation, participation, and leadership with particular emphasis on the American political system.

   Mr. Ashcraft, Mr. Campbell, Mr. Rapoport, Mr. Smith

6. An exposition and critical analysis of American political thinkers from the Puritan period to 1865. An exposition and critical analysis of American political thinkers from 1865 to the present.

   Mr. Ries

Field I: Political Theory
111A. History of Political Thought: Ancient and Medieval Political Theory. An exposition and critical analysis of the major political philosophers and schools from Plato to Machiavelli.

   Mr. Campbell

111B. History of Political Thought: Early Modern Political Theory. An exposition and critical analysis of the major political philosophers and schools from Hobbes to Bentham.

   Mr. Ashcraft, Mr. Campbell

111C. History of Political Thought: Later Modern and Contemporary Political Theory. An exposition and critical analysis of the major political philosophers and schools from Hegel to the present.

   Mr. Ashcraft, Mr. Nixon, Mr. Wolfenstein

112. Nature of the State. A systematic analysis of modern concepts and problems of political association.

   Mr. Nixon

113. Problems in 20th-Century Political Theory. A study and interpretation of political thinkers from Hegel to the present. An exposition and critical analysis of the major political philosophers and schools from Hobbes to Bentham.

   Mr. Ries

114A-114B. American Political Thought. An exposition and critical analysis of American political thinkers from the Puritan period to 1865.

   Mr. Smith

   Mr. Smith

Upper Division Courses
Prerequisite for all upper division courses: upper division standing or consent of instructor.

102. The Statistical Analysis of Political Data. (Formerly numbered C102.) Prerequisite: course 6. An introduction to statistical inference. Topics include measures of central tendency, elementary probability theory, common probability distributions, least-squares and maximum likelihood estimation, confidence intervals and statistical tests, comparison of means, the analysis of variance, and multiple regression and correlation. Statistical techniques and topics illustrated with applications to a variety of political data.

   Mr. Marvick, Mr. Petrock

104A-104B. Introduction to Survey Research. Prerequisite: course 6. Courses in the fundamentals of survey research as a method. 104A. Sampling theory and methods, the writing of questions, questionnaire construction, and interviewing. Attitudes, attitude measurement, and attitude change. Participation in the formulation of a research problem. 104B. Prerequisite: course 104A. Conducting a survey. Development of a survey questionnaire, designing a sample, collecting interviews, maintaining quality control, and coding the interviews for machine tabulation. Performance of a computer-aided analysis of some of the data and submission of a written report of that research. Both quarters must be taken to receive credit.

M105. Economic Models of Public Choice. (Formerly numbered M105.) (Same as Economics M135.) Prerequisites: Economics 101A, any lower division political science course other than Political Science 1, and junior/senior standing, or consent of instructor. Analysis of the methods and consequences of arriving at collective decisions through political mechanisms. Topics include the free-rider problem, majority choice, and political bargaining.

   Mr. Hirshleifer, Mr. Rogowski, Mr. Stein, Mr. Wallerstein

M106. Economic Models of Political Conflict and Conflict Resolution. (Formerly numbered M1039.) (Same as Economics M136.) Prerequisites: Economics 101A, any lower division political science course other than Political Science 1, and junior/senior standing, or consent of instructor. Biological, cultural, and organizational sources of political conflict. The role of threats, promises, commitments. Models of the onset and termination of conflict. The conduct of war: strategy and tactics.

   Mr. Hirshleifer, Mr. Stein
115. Theories of Political Change: A critical examination of theories of political change, the relation of political change to economic change, and the significance of legal and political systems; consideration of fundamental legal concepts and discussions of the forms of government. Mr. Lofchie

116. Marxism: A critical analysis of the development, nature, and development of Marxist political theory. Mr. Ashcroft, Mr. Wolfenstein

117. Jurisprudence: Development of law and legal systems; consideration of fundamental legal concepts and influence of modern schools of legal philosophy in relation to law and government. May be applied toward either Field I or V. Mr. Gerstein

119A-1192. Special Studies in Political Theory. 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 a regular basis, with topics announced in the preceding quarter: Courses 119, 139, 149, 169, 179, and 189 may be applied no more than twice toward the field concentration requirement. No more than three of these courses may be applied toward the major.

Field II: International Relations

120. Foreign Relations of the United States. Lecture, three hours; discussion, one hour. A survey of the factors and forces entering into the formation and implementation of American foreign policy, with special emphasis on contemporary problems. Mr. Frieden, Mr. Spiegel, Mr. Stein

121. Studies in Formation of American Foreign Policy. A study of the formation of American foreign policy with respect to individual cases. Specific topics announced in the Schedule of Classes each quarter. Mr. Spiegel

122. World Order. (Formerly numbered 21.) Lecture, three hours; discussion, one hour. Prerequisite: course 20. A study of the problems of the international system seen as a community capable of cooperation and development. Mr. Wilkinson

124. International Political Economy. Prerequisite: course 20. A study of the political aspects of international economic issues. Mr. Frieden, Mr. Lake

125. Arms Control and International Security. Controls control in the context of international security in the nuclear age. The nuclear arms race; the relationship between the arms race and war; the roles of technology and ideology; nuclear proliferation; outer space. Mr. Zoppo

126. Peace and War. Prerequisites: courses 6, 20. Theory and research on the causes of war and the conditions of peace. Mr. Wilkinson

127A-127B. The Atlantic Area in World Politics. (Formerly numbered 127;). Mr. Zoppo

127A. Western Europe. The external relations of the United Kingdom, West Germany, France, Italy, and other European members of NATO, in regard to European security in the context of the Atlantic Alliance. Mr. Zoppo

127B. U.S. and Europe. Prerequisite: course 127A or consent of instructor. Relations between the United States and Western European members of the Atlantic Alliance, in the context of U.S.-Soviet relations. Mr. Zoppo

128A-128B. The Soviet Sphere in World Politics. Prerequisite: course 20. Course 128A or consent of instructor is prerequisite to 128B. A contemporary survey of the foreign policies and aspirations of the Soviet Union and other states in the Soviet bloc. Analysis of content and effects of Communist doctrine affecting relations between the Soviet and democratic spheres. Mr. Catell, Mr. Kolkowicz, Mr. Korobinski

129. Comparative Foreign Economic Policy. An examination of the foreign trade, monetary, and investment policies of the United States, France, and the Federal Republic of Germany since 1945. Mr. Lake

130. Politics of Latin American Economic Development. The interaction of international and domestic factors in the political and economic evolution of Latin America. Mr. Friedman

131. Latin American International Relations. Prerequisite: course 20. The major problems of Latin American international relations and organization in recent decades. Mr. Gonzalez

132A-132B. International Relations of the Middle East:

132A. Prerequisite: course 20. Contemporary regional issues and conflicts, with particular attention to inter-Arab politics, the Arab-Israeli problem, and the Persian Gulf area. Mr. Binder

132B. Prerequisites: course 20. Great powers in the Middle East, with emphasis on American, Soviet, and Western European policies since 1945. Mr. Binder

133. International Relations of Sub-Saharan Africa. Contemporary regional issues and conflicts; foreign policies of African states; the role of external powers. Mr. Lofchie, Mr. Zoppo

135. International Relations of China. Prerequisite: course 20. The relations of China with its neighbors and the other powers, with emphasis on contemporary interests and policies of China vis-a-vis the United States and the Soviet Union. Mr. Baum

136. International Relations of Japan. Prerequisite: course 20. The foreign policies of Japan and the interests and policies of other countries, particularly the United States, as they relate to Japan. Mr. Baerwald

C137A-137B. International Relations Theory. (Formerly numbered 137;)

C137A. An examination of various theoretical approaches to international relations. May be concur rently scheduled with course C201. Mr. Lake

C137B. Alternative approaches to the analysis of international relations and their application to historical and contemporary cases. Mr. Stein

138A-138B-138C. Defense Studies. Prerequisite: course 20:

138A. Defense Strategy and Policies. Analysis of national and international security problems in the nuclear age, with special emphasis on the United States and the Soviet Union. Mr. Zoppo

138B. The Conduct of Modern War. A study of recent and contemporary wars, with special emphasis on political and strategic problems. Mr. Zoppo

138C. Military Policy and Organization. A study of the institutional and policy framework in the national military field. May be applied toward either Field II or VI. Mr. Ries

139A-1392. Special Studies in International Relations. Prerequisites: two courses in Field II, or course 120 and 1 course in Field II, and consent of instructor. Intensive examination of one or more special problems appropriate to international relations. Sections offered on a regular basis, with topics announced in the preceding quarter: Courses 119, 139, 149, 169, 179, and 189 may be applied no more than twice toward the field concentration requirement. No more than three of these courses may be applied toward the major.

M139A. Political and Economic Issues in the Proliferation of Nuclear Weapons. (Formerly numbered 139A.) Lecture, three hours; discussion, one hour. An interdisciplinary approach to the problem of nuclear proliferation. Economic aspects of the acquisition of nuclear weapons and economic aspects of nuclear energy including technological, bargaining, and stability issues. Mr. Intriligator (alternate years)

Also see courses 175A-175B

Field III: Politics

M140. Political Psychology. (Same as Psychology M138.) Prerequisite: Psychology 10. Examination of political behavior, political socialization, personality and politics, racial conflict, and the psychological analysis of public opinion on these issues. Mr. Sears

141. Public Opinion and Voting Behavior. Lecture, three hours; discussion, one hour. A study of the character and formation of political attitudes and public opinion. The role of public opinion in elections; the relationship of political attitudes to the vote decision and the influence of public opinion on public policy formulation. Mr. Petrock

142. The Politics of Interest Groups. A systematic investigation of the role of political interest groups in the governmental process. Emphasis on representation, organization, leadership, and policies of such groups to the goals and functions of various types of groups and to the strategy and tactics of influence. Mr. Orren

143. Legislative Politics. A study of those factors which affect the character of the legislative process and the capacity of representative institutions to govern in contemporary society. Mr. Marvick, Mr. Snowless

144. The American Presidency. A study of the nature and problems of presidential leadership, emphasizing the impact of the bureaucracy, congress, public opinion, interest groups, and the party system on the presidency and national policy-making. Mr. Marvick, Mr. Snowless

145. Political Parties. The organization and activities of political parties in the United States. Attention to the historical development of the parties, the nature of party change, campaign finance, and the electoral role of the parties, membership problems and party activists, political finance, and policy formulation practices. Mr. Marvick, Mr. Petrock

146. Political Behavior Analysis. Prerequisite: course 141. The use of quantitative methods in the study of political behavior, especially in relation to voting patterns, political participation, and techniques of political action. Mr. Marvick, Mr. Petrock

M147. Minority Group Politics. (Formerly numbered 147.) (Same as Chicano Studies M147.) Lecture, three hours; discussion, one hour. Prerequisites: course 1 plus one of the following: one additional 140-level course or one upper division course on race or ethnicity from history, psychology, or sociology, or consent of instructor. A systematic evaluation of the functioning of the American polity related to problems of race and ethnicity. Topics include leadership, organization, ideology, conventional versus unconventional political behavior, representational behavior, and the roles of deviance. Mr. Rocco

149A-1492. Special Studies in Politics. Prerequisites: two courses in Field III, consent of instructor. Intensive examination of one or more special problems appropriate to politics. Sections offered on a regular basis, with topics announced in the preceding quarter: Courses 119, 139, 149, 169, 179, and 189 may be applied no more than twice toward the field concentration requirement. No more than three of these courses may be applied toward the major.

Also see course 162A

Field IV: Comparative Politics

152. British Government. The government and politics of the United Kingdom; the British constitution, parliament, parties and elections, foreign policies, administrative problems, and local governments. Mr. Freeman

153. Governments of Western Europe. The constitutional and political structure and development of France and other states of continental Western Europe, with particular attention to contemporary problems. Mr. Dogan, Mr. Rogowski
154. Governments of Central Europe. The constitutional and political structure and development of Germany and other Central European states, with particular attention to contemporary problems.

  - Mr. Rogowski

156. The Government of the Soviet Union. An intensive study of the political and institutional organization of the Soviet Union and its component parts, with special attention to contemporary political issues, as well as party and governmental structures.

  - Mr. Cattell, Mr. Kolkowicz, Mr. Korbonski

157. Governments of Eastern Europe. A study of the political and governmental organization of the Communist countries of Eastern and Central Europe (exclusive of the U.S.S.R.), with special reference to the institutions, practices, and ideologies including interregional relations.

  - Mr. Korbonski

159. Chinese Government and Politics. Organization and structure of Chinese government, with particular attention to the policies, doctrines, and institutions of Chinese Communism; political problems of contemporary China.

  - Mr. Baum

160. Japanese Government and Politics. The structure and operation of the contemporary Japanese political system, with special attention to domestic political forces and problems.

  - Mr. Baerwald


162. Government and Politics in South Asia. A comparative study of political change and the development and performance of public institutions in Southern Asia, with special emphasis on India, Pakistan, and Bangladesh.

  - Mr. Sisson

163A-163B. Government and Politics in Latin America:

163A. A comparative study of governmental and political development, organization, and practices in the states of Middle America.

  - Mr. Gonzalez

163B. A comparative study of governmental and political development, organization, and practices in the states of South America.

  - Ms. Geddes, Mr. Gonzalez


  - Mr. Dborah


  - Mr. Lotchie, Mr. Sklar

167. Ideology and Development in World Politics. A comparative study of the major modes of political and economic development in the world today. Relations between industrial and nonindustrial societies in light of the current debate about imperialism.

  - Mr. Sklar

168L. Comparative Political Analysis. Lecture. Prerequisites: two courses in Field IV, or course 50 and one course in Field IV. Either course 168L or 168S is required of all students concentrating in Field IV (students with credit for course 168S will not receive credit for this course). Conducted as a lecture course. Major approaches to the study of comparative politics. Concepts and methodology of comparative analysis.

  - Mr. Baum

168S. Comparative Political Analysis. Seminar. Prerequisites: two courses in Field IV, or course 50 and one course in Field IV, and consent of instructor. Either course 168L or 168S is required of all students concentrating in Field IV (students with credit for course 168L will not receive credit for this course). Conducted as a seminar. Major approaches to the study of comparative politics. Concepts and methodology of comparative analysis.

  - Mr. Dogan

169A-169B. Special Studies in Comparative Politics. (Formerly numbered courses 150A-150B.) Prerequisites: two courses in Field IV, consent of instructor. Intensive examination of one or more special problems appropriate to comparative politics. Sections offered on a regular basis, with topics announced in the preceding quarter. Courses 119, 139, 149, 169, 179, and 189 may be applied no more than twice toward the field concentration requirement. No more than three of these courses may be applied toward the major.

  Also see courses 117, 187

Field V: Public Law

170. The Anglo-American Legal System. Lecture. Four hours of discussion, one hour of lecture. No prerequisites. Conducted as a seminar. Major approaches to the study of comparative political analysis. Seminar. Prerequisites: two courses in Field IV, consent of instructor. Intensive examination of one or more special problems appropriate to comparative politics. Sections offered on a regular basis, with topics announced in the preceding quarter. Courses 119, 139, 149, 169, 179, and 189 may be applied no more than twice toward the field concentration requirement. No more than three of these courses may be applied toward the major.

Field VI: Public Administration and Local Government

180. State and Local Government. A study of state political systems, including their administrative and local subsystems, intergovernmental relationships, their policy outputs, with specific attention to California.

  - Mr. D. Wilson

182A. Metropolitan Area Government and Politics. An overview of the political and social organization, decision-making processes, political problems, and conflicts of metropolitan areas and their central cities and suburbs. Attention to the impact on these areas of the national and state political systems and racial, ethnic, and protest movements. May be applied toward either Field III or VI.

182B. City Government and Politics. Prerequisite: course 182A or consent of instructor. Intensive analysis of contemporary urban governance in the United States. Emphasis on such student participatory activities as fieldwork, research, and gaming.

Field politics and policy problems.

183. Administration of International Agencies and Programs. An examination of the administrative patterns and practices of the United Nations agencies, international organizations, and public personnel policies; concepts and principles utilized in selected governmental personnel systems. Focus on governmental systems in the United States (national, state, local, foreign service, military), but comparisons also made with other selected governmental systems.

186. National Policy and Administration. A study of the major policies and programs of the national government and their administration as illustrated in such areas as national defense, social welfare, agriculture, etc. Particular attention to the role of the President and other administrators in formulating public policy and in maintaining a responsible bureaucracy. May be applied toward either Field IV or VI.

187. Law and Administration. Legal controls of administration. Substantive and procedural limits on administrative discretion imposed by legislation, executive and judicial agencies, and the sources of legal powers of administrative bodies within these limits. May be applied toward either Field IV or VI.

Mr. Sklar, Mr. Lofchie, Mr. Sklar

188A. Comparative Public Administration. An analysis of bureaucratic structures and function in the United States, other industrialized, and less developed countries, primarily at the national level. Special attention to methods of comparative analysis and the utility of various models. May be applied toward either Field IV or VI.

Field Comparative Urban Government. A cross-cultural examination of the forms and processes of urban government. Particular attention to the role of urbanization in political development. May be applied toward either Field IV or VI.

Mr. Fried

189A-189Z. Special Studies in Public Administration. Prerequisites: two courses in Field VI, consent of instructor. Intensive examination of one or more special programs appropriate to public administration. Sections offered on a regular basis, with topics announced in the preceding quarter. Courses 119, 139, 149, 169, 179, and 189 may be applied no more than twice toward the field concentration requirement. No more than three of these courses may be applied toward the major.

Field Theories of Organization. An examination of the theoretical frameworks for studying public and private bureaucracies, with emphasis on ideologies, values, behavioral patterns, and concepts of organization.
Special Studies

195A-195B-195C. Honors Seminar and Thesis. Prerequisites: one course in the C197 series, a 3.5 GPA in upper division political science courses, eligibility for honors and Science honors status. Course 195A is prerequisite to 195B, which is prerequisite to 195C. A 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 in depth:

195A. Students define their research topic, select a suitable research method, determine appropriate sources of information, prepare a research proposal, find a thesis director, begin their research, and submit a preliminary draft. Writing of a thesis under the direction of a faculty member. The thesis is read by the appropriate field committee and graded high honors, honors, or no honors.

197A-C197F. Seminars for Majors. Prerequisites: political science major, upper division standing, a 3.25 GPA in upper division political science courses, two upper division courses in the field in which the seminar is offered. May be applied toward the distribution or concentration requirement. May be concurrently scheduled with various graduate courses.

199. Readings in Political Science (2 to 4 units). Prerequisites: upper division standing, 3.0 overall GPA, consent of instructor and department chair. Individual study. May not be applied toward the concentration or distribution requirement. May be repeated for a maximum of 16 units.

Graduate Courses

C201. International Relations. An examination of various theoretical approaches to international relations. May be concurrently scheduled with course C137A. Mr. Lake, Mr. Stein

203A-203B. Introduction to Political Inquiry. (Formerly numbered 203A-203B-C203C.)


203B. Major Conceptual Frameworks and Approaches to Political Science. Prerequisite: course 203A or equivalent.

204. Quantitative Applications. An introduction to the quantitative analysis of political data. Problems of measurement, the logic of analysis and hypothesis testing, basic statistical techniques, and the use of the computer and standard data analysis programs. Mr. Petrock

204B. Statistical Analysis. Prerequisite: course 204A. Statistical techniques and their applications to political science data. Ms. Giddes

204C. Problems in Statistical Analysis of Political Data. Lecture, three hours. Prerequisites: courses 204A, 204B. A practicum in which students examine particular techniques and their applications to contemporary research issues in political science.

210A-210B. An Introduction to Political Theory. Lecture, three hours.

210A. Classical and Medieval Formulations. An exploration of major texts and issues in political theory from Plato through Aquinas.

210B. The Early Modern Period. An exploration of major texts and issues in political theory from Machiavelli through the Enlightenment.

211. Political Theory. An analysis of the central problems of political inquiry and their relation to political philosophy.

212A-212B. International Relations Theory. (Formerly numbered 212.) Discussion, three hours. Approaches to and central problems of international relations theory.

212A. Major Theorists and Approaches.

212B. A Survey of the Major Theories. Mr. Stein

214A-214B. Survey Courses in American Politics. Students taking M.A. or Ph.D. examinations in the political science field will ordinarily have completed these courses before the examination sequence:

214A. Political Parties and the Electoral Process. Mr. Marvick, Mr. Petrock

214B. American Political Institutions. Mr. Orren, Mr. Snowiss

215A-215B. Comparative Politics. Course 215A or consent of instructor is prerequisite to 215B. Approaches to the study of comparative politics and problems of comparative political analysis. Mr. Cattell, Mr. Lofchie, Mr. Bogowski, Mr. Sisson

216. Public Law. A systematic analysis of the sources of law and their application to contemporary problems with particular attention to its materials and methods as illustrated in concepts and doctrines drawn from various of its subject fields. May be concurrently scheduled with course C197F. Mr. Gerstein, Mr. Hobbs

218A. Public Administration and Democratic Government. An analysis of the nature and scope of public administration and its role in modern political systems. May be concurrently scheduled with course C197F.

218B. Approaches to Organizational Analysis. Analysis of several of the major conceptual alternatives for the 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 a guide to understanding organizational analysis. May be concurrently scheduled with course C197F.

218C. Public Administration and Public Policy Discussion, three hours. A systematic analysis of the nature and scope of public policy and its programmatic implications. Special emphasis on government organization and implementation problems of 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 C197F.

219A. Selected Texts in Political Theory. A critical examination of major texts in political theory, with particular attention to their philosphic system, their relations to the contemporary political and intellectual currents, and the importance of the system for present-day political analysis. May be concurrently scheduled with course C197A.

222. Selected Topics in Political Theory. A critical examination of a major problem in political theory. May be concurrently scheduled with course C197A.


224A. Politics and Economy. An analysis of the theoretical and practical relationships between economic organization and governmental institutions. The development and political implications of the market system, banking and finance, corporate enterprise, and organized labor. Mr. Orren

224B. Political Recruitment. A critical evaluation of the literature concerned with the backgrounds of public figures and with the screening and sponsoring mechanisms affecting their careers and political perspectives. May be concurrently scheduled with course C197C. Mr. Marvick

224C. Politics and Society. The application of selected theories of contemporary sociology and political science to politics. May be concurrently scheduled with course C197C. Ms. Orren

224D. Group Theories of Politics. Critical appraisal of "group theory" approaches to the study of political decision making, with special attention to empirical research problems. Mr. Orren

224E. Legislative Behavior. The analysis of the major approaches to the study of representative institutions, with special emphasis on the assumptions, concepts, methods, and theoretical implications associated with each approach. May be concurrently scheduled with course C197C. Mr. Marvick, Mr. Snowiss

224F. Executive Politics and the Presidency. An analysis of executive organization and leadership, with emphasis on the American Presidency. Special attention to theories of organization and personality and the relationship between the executive and other institutions and groups. May be concurrently scheduled with course C197C. Mr. Orren, Mr. Snowiss

M224G. Political Psychology (Same as Psychology M228.) Discussion, three hours. Prerequisite: course 214A or Psychology 220A. Examination of political behavior, political socialization, personality and political attitude development, and the analysis of public opinion on these issues. Mr. Sears

224H. Mass Attitudes and Behavior. Prerequisite: course 141 or 214A or consent of instructor. An analysis of the development and change of political attitudes in mass publics and their relationship to protest, and violence. May be concurrently scheduled with course C197B.

224I. Political Parties. A critical examination of the literature on party systems and organization. Special attention to political functions, electoral campaigns, and party cadres. May be concurrently scheduled with course C197C. Mr. Marvick, Mr. Petrock

C224. Political Parties. A critical examination of the literature on party systems and organization. Special attention to political functions, electoral campaigns, and party cadres. May be concurrently scheduled with course C197C. Mr. Marvick, Mr. Petrock

228A. Personnel and Human Relations. An analysis of the politics, processes, organizations, and interrelationships involved in the public service.

C228B. Public Planning, Programming, and Budgeting. Public budgeting processes within a political and organizational framework. Special emphasis on the federal program-budgeting system and the interplay among contemporary bureaucratic and decision theory of rational allocation of resources. May be concurrently scheduled with course C197F. Ms. Ries

228C. Political and Administrative Aspects of Planning. A study of the political constraints and sources of support for effective planning. Topics include the relationships between planning performance on the one hand, and forms of government, distribution of power, political culture, law, and social structure on the other.

228E. State Administrative Systems. An analysis of state administrative systems, their local subsystems, and their outputs. May be concurrently scheduled with course C197F. Mr. Ries

CM229. Urban Government. (Same as Architecture and Urban Planning M205C.) An analysis of the policies, processes, interrelationships, and organization of governments in heavily populated areas. May be concurrently scheduled with course C197F. Mr. Ries

C230. Comparative Development Administration. Seminar; three hours; discussion, one hour. An analysis of the formulation and implementation of policy at the federal level. The consequences of administrative performance for American political and social life. May be concurrently scheduled with course C197F.

228F. State Administrative Systems. An analysis of state administrative systems, their local subsystems, and their outputs. May be concurrently scheduled with course C197F. Mr. Ries

228G. Public Planning, Programming, and Budgeting. Public budgeting processes within a political and organizational framework. Special emphasis on the federal program-budgeting system and the interplay among contemporary bureaucratic and decision theory of rational allocation of resources. May be concurrently scheduled with course C197F. Mr. Ries

228H. Mass Attitudes and Behavior. Prerequisite: course 141 or 214A or consent of instructor. An analysis of the development and change of political attitudes in mass publics and their relationship to protest, and violence. May be concurrently scheduled with course C197B.

228I. Political Parties. A critical examination of the literature on party systems and organization. Special attention to political functions, electoral campaigns, and party cadres. May be concurrently scheduled with course C197C. Mr. Marvick, Mr. Petrock

C224. Political Parties. A critical examination of the literature on party systems and organization. Special attention to political functions, electoral campaigns, and party cadres. May be concurrently scheduled with course C197C. Mr. Marvick, Mr. Petrock

230. Comparative Development Administration. Seminar; three hours; discussion, one hour. An analysis of the administration of development programs and the development of administrative institutions, with special emphasis on comparative comparisons made both between countries and within countries. May be concurrently scheduled with course C197F.
C231A-C231D. Studies in International Relations:

C231A. Contemporary Problems in United States Foreign Policy. An intensive analysis of the policy formulation process and the substance of selected contemporary problems in foreign policy. Political and institutional factors affecting foreign policies; the analysis of policy processes. May be concurrently scheduled with course C197B. Mr. Spiegel

C231B. Politics and Strategies of Modern War. Seminar, three hours; discussion, one hour. 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 a prerequisite). May be concurrently scheduled with course C197B. Mr. Kolkowicz

C231C. The Foreign Policy Process. (Formerly numbered 231C.) Discussion, three hours. Prerequisites: courses 120, and C201 or 212A or 212B, or consent of instructor. Political science and policy science approaches to the national foreign policy process, with primary focus on the formulation and implementation of American foreign policy. May be concurrently scheduled with course C197B. Mr. Zoppo

C231D. International Relations Theory. An introduction to contemporary problems in international relations theory. May be concurrently scheduled with course C197B. Mr. Stein

223A-232B. International Political Economy. (Formerly numbered 232.) Discussion, three hours.

232A. International Trade and Advanced Industrialized Nations. An intensive examination of various theoretical approaches to international political economy, particularly as relate to international trade and the study of advanced industrialized nations.

Mr. Lake

232B. International Capital and International Relations. The interaction of international lending and investment and the domestic political economics of both industrialized and industrializing societies.

Mr. Frieden

233A-233B-233C. Political Economy Workshop. Discussion, two hours. Open only to graduate students who have successfully completed the major field examinations. Workshop for those students writing or preparing to write dissertations. Reading and discussion of research and progress presented by UCLA faculty, visiting scholars, and advanced graduate students. A research paper of publishable length and quality required. Mr. Frieden, Mr. Lake

235. Selected Topics in Comparative Political Science. Lecture, three hours. A critical examination of a major problem in comparative politics.

235A. The Founding of Representative Government. An analysis of the factors affecting the development and functions of representative institutions in the United States, Europe, and selected political systems of Africa, Asia, and Latin America. Politics or comparative politics field credit.

236A. An introduction to the literature on the development of elective institutions and their performance. An interdisciplinary approach, emphasizing historical as well as contemporary cases and modes of analysis.

236B. Prerequisite: course 236A or consent of instructor. A research seminar devoted to the analysis of particular problems and countries.

Mr. Sisson, Mr. Snowiss

C238A-C238D. Studies in Public Law:

C238A. Evolution of Anglo-American Law Books. Survival and early research. Case reporting, from the year books to the modern reports. Legal treatises from Glanvill to today. Statutes and how to find them. The language of the law. The entire English-speaking world with an emphasis on American materials. May be concurrently scheduled with course C197E.

Mr. Gerstein

C238B. Making of the Constitution. An examination of the development of constitutional law during selected periods of American history, such as founding, the Marshall and Taney eras, and the New Deal. Emphasis on both judicial and nonjudicial materials. May be concurrently scheduled with course C197D. Mr. Hobbs

C238C. The Bill of Rights and the States. An examination of the problems surrounding the application to the states of Amendments 1 through 9. May be concurrently scheduled with course C197E.

Mr. Hobbs

C238D. Current Problems in Public Law. A discussion of selected contemporary problems in jurisprudence, the judicial process, judicial behavior, and legal controls on social conduct. May be concurrently scheduled with course C197E. Mr. Gersten

C251A. Topics in Applied Game Theory. (Same as Economics M205.) Lecture, three hours. Prerequisites: calculus or introductory probability, and graduate standing in economics or consent of instructor. Survey and application of the major solution concepts to models of bargaining, oligopoly, cost allocation, voting power, etc. Course paper consists of a substantial game-theoretic model on a topic in the student's area of interest from a field of contemporary law.

M242A-M242B. Game Theory. (Same as Economics M242A-M242B.) Lecture, three hours. Prerequisites: Economics 245A or suitable mathematics courses. Elements of the theory of cooperative and noncooperative games. Walrasian and duopoly applications to economic models. Strategic and coalitional games, minimax, Nash-Cournot equilibrium, bargaining theory, the core, value, and other solution concepts; applications to oligopoly, general exchange and production economies, allocation of joint costs. Mr. Shapley

M247. Multivariate Analysis with Latent Variables. (Same as Psychology M257.) Prerequisite: consent of instructor. Introduction to models and methods for the analysis of data hypothesized to be generated by analogues of traditional methods in multivariate analysis. Causal modeling; theory testing via the analysis of moment structures. Measurement models such as confirmatory, higher order, and structured-means factor analytically. Structural equation models, including path and simultaneous equation models. Parameter estimation, hypothesis testing, and other statistical issues. Computer implementation. Applications. Mr. Jolliffe

M249. Special Topics in Econometrics. (Same as Economics M249.) Prerequisites: Economics 247, 248. A seminar on one of several special topics such as Bayesian inference, time-series methods, non-linear estimation, or qualitative variables, including path and simultaneous equation models. May be concurrently scheduled with course C197E.

M375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: appointment as graduate assistant or associate, or fellow. A teaching apprenticeship under the active guidance and supervision of a regular faculty member responsible for coordinating the teaching of a course at the University. May be repeated for credit. S/U grading.

495. Teaching Political Science. A workshop in teaching techniques, including evaluation of each student's performance in front of a class. Normally to be taken by all new teaching assistants in the first quarter of their assistantships. May be taken only in a quarter 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 6 units). Prerequisite: consent of UCLA graduate adviser and graduate dean, and host campus instructor, department chair, and graduate dean. Course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

590A. Directed Reading for Ph.D. Dissertation Proposal. Required of all Ph.D. students. Must be taken under the supervision of the research adviser prior to the quarter in which the oral examination is taken. Research for the proposed dissertation topic and submission of a bibliographic essay on that topic. May be repeated with consent of research adviser and graduate adviser.

590B. Directed Research for Ph.D. Dissertation Proposal. Prerequisite: course 590A. Required of all Ph.D. students. Must be taken under the supervision of the research adviser prior to or during the quarter in which the oral examination is taken. Development and writing of the research design for the Ph.D. dissertation. May be repeated with consent of research adviser and graduate adviser.
596. Directed Individual Study or Research (2 to 4 units). May be applied only three times toward the minimum course requirement in the first two years. May be repeated.

597. Preparation for Ph.D. Qualifying Examinations (2 to 12 units). May be repeated.

598. Research for and Preparation of M.A. Thesis (2 to 12 units). Course is rarely taken because students normally receive the M.A. degree under the comprehensive examination plan. S/U grading.


Program in Computing
See Mathematics

Psychology

1285 Franz Hall, (213) 825-2961

Professors
Howard S. Adelman, Ph.D.
Arthur P. Arnold, Ph.D.
Bruce L. Baker, Ph.D.
Jackson Beatty, Ph.D.
Peter M. Bentler, Ph.D.
Elizabeth L. Bjork, Ph.D., Vice Chair, Undergraduate Affairs
Robert A. Bjork, Ph.D.
Marilynn B. Brewer, Ph.D.
William E. Broen, Jr., Ph.D., Vice Chair, Graduate Affairs
Larry L. Butcher, Ph.D.
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Andrew L. Comrey, Ph.D.
Gaylord D. Ellison, Ph.D.
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Seymour Feushbach, Ph.D.
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Patricia M. Greenfield, Ph.D.
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Franklin B. Kremer, Ph.D.
John C. Liebeskind, Ph.D.
O. Ivar Lovaas, Ph.D., Litt.D.
John H. Lyman, Ph.D.
Donald G. MacKay, Ph.D.
Irving Maltzman, Ph.D.
Albert Mehrabian, Ph.D.
Charles Y. Nakamura, Ph.D.
Donald Novin, Ph.D.
Amado M. Padilla, Ph.D.
Allen Parducci, Ph.D.
L. Anne Peplau, Ph.D.
Bertram H. Raven, Ph.D., Chair
David Q. Sears, Ph.D.
David Shapiro, Ph.D.
Edwin S. Shneidman, Ph.D., in Residence
Gerald H. Shure, Ph.D.
Stanley Sue, Ph.D.
Shelley E. Taylor, Ph.D.
James P. Thomas, Ph.D.
Bernard Weiner, Ph.D.
J. Arthur Woodward, Ph.D.
Eran Zuazo, Ph.D.
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James C. Coleman, Ph.D.
Joseph A. Gengarelli, Ph.D.
Milton E. Hahn, Ph.D.
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Ralph E. Geiselman, Ph.D.
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Felipe Castro, Ph.D.
Patricia Cheng, Ph.D.
Christine A. Dunkel-Schetter, Ph.D.
Halford H. Fairchild, Ph.D.
Carlos V. Grijalva, Ph.D.
Stephen P. Hinshaw, Ph.D.
Daniel B. Kaye, Ph.D.
Vickie M. Mays, Ph.D.
Thomas Minor, Ph.D.
Marie A. Morel, Ph.D.
D. Dean Richards, Ph.D.
Adjunct Professors
Joseph Bogen, Ph.D.
Marion Jacobs, Ph.D.
Claire Kopf, Ph.D.
James G. Miller, Ph.D.
Adjunct Associate Professors
M. Douglas Anglin, Ph.D.
Jacqueline D. Goodchilds, Ph.D.
Morris K. Holland, Ph.D.
Dennis McGinty, Ph.D.
Jill Waterman, Ph.D.
Adjunct Lecturers
Darrell C. Dearmore, M.A.
Kenneth R. Pfeiffer, Ph.D.
Scope and Objectives
We all practice some form of intuitive psychology to understand ourselves and the world around us. In contrast, the psychology curriculum at UCLA focuses on psychology as a scientific discipline that uses systematic methods of investigation to understand general principles of human behavior, cognition, and emotion.

The curriculum treats psychology as a biosocial science; human behavior is viewed from both biological and social viewpoints. The biosocial perspective allows students to study a broad range of topics such as psychobiology, animal behavior, learning, motivation, perception, cognition, measurement, memory, social psychology, personality, and clinical, developmental, community, and health psychology.

According to recent surveys, the UCLA Psychology Department is ranked as one of the top departments of its kind in the country in terms of faculty quality. The curriculum is both wide in terms of range of courses, and deep in terms of quality of the faculty.

The undergraduate curriculum provides a basic liberal arts foundation. It does not focus on training students to be only professional psychologists, but rather helps them to understand the world and our place in it. A choice of three majors, leading to either the B.A. or B.S. degree, is offered; several specializations are also offered.

At the graduate level, the department offers training leading to the Ph.D. degree with emphases in various fields. The program is designed to prepare psychologists to function effectively as scientific investigators, college and university teachers, and professional psychologists.

Undergraduate Study
To meet the diverse needs of students, there are three different major curricula: the psychology major, the cognitive science major, and the psychobiology major. The first two lead to a Bachelor of Arts degree; the third culminates in a Bachelor of Science degree.

All courses required for these majors (which include lower division courses and major courses) must be taken for a letter grade.

Bachelor of Arts in Psychology
The general psychology major emphasizes the experimental and research aspects of the field. It is a good choice for students with an interest in human behavior who wish to receive a general education in the liberal arts and sciences. For additional information, contact the Psychology Undergraduate Office, 1531 Franz Hall, early in your career.

Preparation for the Major
You are identified as a pre-psychology major until the preparation for the major requirements have been satisfied. The following required courses must be completed 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 135 total units: Anthropology 11 or 1 or 2; Biology 2 or 5; Chemistry 2 (if you have completed one year of high
school chemistry with a C or better, this requirement will be waived) or 11A; Mathematics 2 or two quarters of calculus; Physics 10 or 3A or 6A or 8A; one course from Philosophy 1, 3, 4, 6, 7, 8, 9, 10, 21, 22; Psychology 10, 42; Psychology 41 (recommended) or Mathematics 50 or Economics 40. Psychology 41 and 42 should be taken early in your career.

These are minimum requirements in preparing for the major. More advanced courses in science and statistics would provide stronger preparation.

The Major
After completing the preparation courses, you must petition to enter the major at the Psychology Undergraduate Office. You must have a 2.0 grade-point average in your upper division major courses, and each must be taken for a letter grade.

Required: (1) Psychology 110, 115, 120, 125, 135; (2) one course from 111, 116, 121, 126, 136A, C136B, 143, M155, 170B, 174, 176, M181A, M181B, 186; (3) an additional four upper division elective courses (16 units) in psychology.

Developmental Disabilities Immersion Program Specialization
This specialization combines a general education in the liberal arts and sciences with research and fieldwork experience in the area of developmental disabilities. Students participate in courses and research under the Mental Retardation and Child Psychology Program at Lanterman State Hospital and Developmental Center. A complete description of the Developmental Disabilities Immersion Program (DDIP) is given below.

Admission is limited. In addition to the courses listed above under “Preparation for the Major,” you must take Communication Studies 10 and Sociology 1. You also may take Psychology M182A and M182B instead of course 42. All preparation courses must be completed for a letter grade (a C – or better in each course and a 2.5 overall grade-point average). After completing the preparation courses, you must petition to enter the major at the Psychology Undergraduate Office. You must have a 2.0 grade-point average in your upper division major courses, and each must be taken for a letter grade.

Required: (1) Psychology 110, 115, 120, 121, 125 or 135, 185, 186, 188; (2) an additional three upper division elective courses (12 units) from Psychology 102 through 124B, M153, Computer Science 119 through 199, Linguistics 100 through 199, Mathematics 104 through 199, Philosophy 126A through 136.

Quantitative Methods Specialization
This specialization is intended to give students more extensive preparation in statistics. The following additional courses are required: Mathematics 32A, 33A, and either 150A-150B or 152A-152B. Psychology 41 is not required if you select this specialization.

Bachelor of Arts in Cognitive Science
This major focuses on the study and implementation of intelligent systems, both human and artificial. Cognitive science involves the study of cognitive psychology, computer science, mathematics, and related disciplines. For additional information, contact the Psychology Undergraduate Office, 1531 Franz Hall, early in your career.

Preparation for the Major
Admission to the major is limited. You are identified as a pre-cognitive science major until the preparation for the major requirements have been satisfied. The following required courses must be completed for a letter grade (a C – or better in each course and a 2.5 overall grade-point average in the preparation courses): Anthropology 11 or 1 or 2; Biology 2 or 5; Chemistry 11A, 11B/11BL, 11C/11CL, 21, 23, 25; Mathematics 3A, 3B, and 3C, or 31A, 31B, and 32A; Physics 6A, 6B, and 6C, or 3A, 3B, and 3C, or 8A/8AL, 8B/8BL, and 8C/8CL; Psychology 10, 42; Psychology 41 (recommended) or Mathematics 50 or Economics 40. Psychology 41 and 42 should be taken early in your career.

The Major
After completing the preparation courses, you must petition to enter the major at the Psychology Undergraduate Office. You must have a 2.0 grade-point average in your upper division major courses, and each must be taken for a letter grade.

Required: (1) Biology 129 or Psychology 118A or Anthropology 128A and 128B, and Psychology 110, 115, 116, 120; (2) one course from Psychology 125, 127, 130, 135; (3) four courses from the following list: Psychology 117 (only one section may be used); Biology 107, 112, 113, 114 (no more than one from this group); Psychology 118B, 118C, 118D, 118E, M119, 128, 143, M153, 190 (one course only), 199 or Biology 199 (one course only), Biology 102, 105, 110, 111, 120, 122, 124, 131, 135, 138, 139, 143, 144, 145A, 145B, 145C, 153, CM156, 158, 164, 166, 167, 168, 169, 171, 172A, 172B, 173, 177, 179, Kinesiology 140, Chemistry 152.

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, emphasize readings in the original literature, student oral and written reports, and field or research experience. All such courses offer credit toward departmental honors and College Honors.

Departmental Honors
Psychology majors intending to continue study at the graduate level are encouraged to apply for departmental honors. In addition to the regular requirements for your major, you must take at least two honors-designated courses. Different courses are designated for honors each year, and you may choose among them. You also must engage in advanced research and study leading to a formal bachelor’s thesis under the tutorial guidance of a faculty member while enrolled in Psychology 190A-190B-190C. If your thesis is judged acceptable by the honors committee, you are awarded the degree with honors or highest honors. Consult
the Psychology Undergraduate Office early in your educational planning for further information and application forms.

**Developmental Disabilities Immersion Program**

The Developmental Disabilities Immersion Program is cosponsored by the Department of Psychology and the Department of Psychiatry and Biobehavioral Sciences and by the Office of Instructional Development — Field Studies Development. Each year a group of 28 students is selected for the program which runs during the Winter/Spring Quarters. Students participate in courses and research at Lanterman State Hospital and Developmental Center, a facility for mentally retarded citizens in Pomona, and do related fieldwork while living at the site.

During each quarter of the program up to 20 units of coursework related to developmental disabilities are offered. Most of the courses are in the Psychology/Psychiatry M180 through M184 series, but courses from other departments (such as Biology) may supplement these offerings. Many of the courses fulfill psychology undergraduate major requirements (consult the Psychology Undergraduate Office for details). Student individualized research projects are also part of the immersion experience.

To supplement their academic activities, students spend 10 hours a week working with the developmentally disabled by assisting teachers in the special education classes in nearby public schools or by helping supervise at sheltered workshops. For more information, contact the Psychology Undergraduate Office or Field Studies Development (70 Powell Library).

**Preparation for Graduate Study**

Although requirements for admission to graduate programs in psychology in most universities are satisfied by the above major requirements, both admission to graduate work and progress toward the degree may be impeded in certain areas of psychology if additional preparation is not obtained at the undergraduate level. For this reason, if you plan to do graduate work in psychology, you are advised to take additional work in methodology and statistics and to take advantage of the many advanced undergraduate courses in specific fields offered both by the Psychology Department and related departments. Consult the Psychology Undergraduate Office 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 in 3453 Franz Hall.

**Admission**

Admission to the Ph.D. program normally requires an undergraduate degree in psychology. However, students from other areas (particularly the mathematical, physical, biological, and social sciences) may be admitted. Admission is for Fall Quarter only and on a full-time basis only. Applicants must mail the following documents directly to the Psychology Department, 3453 Franz Hall, UCLA, Los Angeles, CA 90024, by December 30 to be considered for admission the following Fall Quarter:

1. The departmental Application for Admission to the Doctoral Program, available in 3453 Franz Hall.
2. Three letters of recommendation.
3. One official transcript from each college attended.
4. Scores from the Graduate Record Examination (GRE) Aptitude Test and the Advanced Test in Psychology (taken within the last three years).
5. An official score report of the Miller Analogies Test. International students or U.S. students currently overseas are exempt from this requirement.
6. 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.

Incoming students are expected to have had courses equivalent to the following: (1) Psychology 41; (2) two courses from Psychology 110, 115, 120; and (3) two courses from the following alternatives: (a) Psychology 125 or 127; (b) 130; and (c) 135. If you have not had training in these areas, you have to take appropriate coursework or examinations. In addition, it is recommended that you have adequate preparation in mathematics, physics, chemistry, and the biological and social sciences, at least to the extent of a quarter’s work at the college level in each. Continuation in the Ph.D. program is contingent on successfully clearing undergraduate deficiencies by the end of your fourth quarter in residence.

**Major Fields or Subdisciplines**

You may major in clinical, cognitive, developmental, learning and behavior, measurement and psychometrics, personality, physiological, or social psychology. With the exception of clinical, you may minor in any of the areas listed above, as well as in health psychology and industrial. You may petition for individualized minors or a minor in experimental psychopathology. 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 quarter is needed to complete the course).

Nine graduate courses (36 units), including Psychology 250A, 250B, 251A-251B (research project must be complete), and 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 238, 247A, 249, 252, 253, 254, 255, 256, M257, 258, 259, 287, 299.

During the third year, you must enroll in a minimum of three graduate-level courses, plus one quarter of course 596. At least one quarter 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: clinical: Psychology 270A-270B-270C, 271A-271B-271C, two courses in the 272 series, at least two other advanced clinical courses outside the 272 series, and the area’s two-quarter assessment course (277); cognitive: courses 260A-260B, plus two courses from 261, 262, 263, 266; developmental: courses 240A-240B, one course from 220A, 235, 268, one course from 200B, 205A, 261, 262, 263, 264, 266, three courses from 242A through 242F, 243A, 243B, 244, one of the quantitative courses listed under second-year requirements, and 299; learning and behavior: courses 200A, 200B, plus two courses from 204A, 204B, 204C, 208, 210, 281, 290, 293, and Psychology 271; measurement and psychometrics: five courses from 249, 252, 253, 254, 255, 256, M257, 258; personality: courses 232, 235, M239, 278; physiological: courses 205A-205B, three quarters of course 212, two approved physiological seminars, and Anatomy M206A, M206B, social:
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.

**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 on an individual basis or in a group setting. The program is located in Franz Hall and provides child care for 13 infants ranging in age from four months to two and one-half years.

**Spanish Speaking Mental Health Research Center**

The Spanish Speaking Mental Health Research Center (SSMHR) promotes basic and applied research on the mental health needs of the Hispanic population. SSMHR provides an interdisciplinary research environment for scholars, students, and professionals interested in Hispanic mental health. Previous research projects have included studies on acculturation and ethnicity, bilingualism, community studies, health and behavior, personality assessment, and psychosocial issues. In January 1984 the National Institute of Mental Health's Center for the Studies of Minority Mental Health awarded the SSMHR a five-year grant to study the effects of stress on Mexican Americans.

**Lower Division Courses**

10. Introductory Psychology. A general introduction including topics in cognitive, experimental, personality, developmental, social, and clinical psychology; six hours of psychological research.
115. Physiological Psychology. Lecture, three hours; laboratory, one hour. Prerequisites: courses 41, Biology 2, junior standing; for nonmajors: Biology 5, 7, consent of instructor. A laboratory course oriented toward the psychobiology major. May be repeated for credit with consent of instructor.
114. Alcoholism. Prerequisite: upper division standing. Theories and research on the impact, causes, characteristics, and treatment of alcoholism considered from a biobehavioral point of view.
1128. Theories of Learning. Prerequisite: course 110. A survey of research in psychology. Topics vary with the interests of the instructor and class.
112E. Current Topics in Learning. Prerequisite: course 110. A study of specific topics in the psychology of learning. Topics vary with the interests of the instructor and class.
111. Learning Laboratory. Lecture, two hours; laboratory, three hours. Prerequisites: courses 41, 42, 110 (may be taken concurrently), psychology major standing. Laboratory experience with techniques in the study of learning, especially with animals.
112A. Human Learning. Prerequisite: course 110. Acquisition, retention, and transfer of verbal and nonverbal human learning.
41. Psychological Statistics. Lecture, two hours; laboratory, one hour. Prerequisites: courses 10, 41, 42, 110 (may be taken concurrently), psychology major standing. Laboratory experience with techniques in the study of learning, especially with animals.
112A. Human Learning. Prerequisite: course 110. Acquisition, retention, and transfer of verbal and nonverbal human learning.
41. Psychological Statistics. Lecture, two hours; laboratory, one hour. Prerequisites: courses 10, 41, 42, 110 (may be taken concurrently), psychology major standing. Laboratory experience with techniques in the study of learning, especially with animals.
112A. Human Learning. Prerequisite: course 110. Acquisition, retention, and transfer of verbal and nonverbal human learning.
41. Psychological Statistics. Lecture, two hours; laboratory, one hour. Prerequisites: courses 10, 41, 42, 110 (may be taken concurrently), psychology major standing. Laboratory experience with techniques in the study of learning, especially with animals.
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112A. Human Learning. Prerequisite: course 110. Acquisition, retention, and transfer of verbal and nonverbal human learning.
41. Psychological Statistics. Lecture, two hours; laboratory, one hour. Prerequisites: courses 10, 41, 42, 110 (may be taken concurrently), psychology major standing. Laboratory experience with techniques in the study of learning, especially with animals.
112A. Human Learning. Prerequisite: course 110. Acquisition, retention, and transfer of verbal and nonverbal human learning.
118C. Psychophysiology of Motivation. Prerequisite: course 115. The basic physiology of motivation, including brain and endocrine mechanisms, involved in the control of motivation. Discussion of homeostatic drives such as hunger and thirst and nonhomeostatic drives such as reproductive behavior.

119C. Personality Laboratory. Prerequisite: course 115. The experimental analysis of higher brain functions. Special emphasis on attention, memory, perception, and language.

118E. Current Topics in Physiological Psychology. Lecture, three hours; discussion, one hour. Prerequisite: course 115 or consent of instructor. Advanced topics of current interest in physiological psychology presented in depth. Emphasis on bringing students to a point where they can appreciate and evaluate current research papers on the topics covered. May be repeated for credit with consent of instructor.

M118F. Ethology: Physiology of Behavior and Learning in Animals. (Same as Psychiatry M190.) Lecture, four hours; laboratory, one hour. Basic course. Course 115, junior standing. A systematic overview of common forms of behavioral plasticity and standard training procedures in laboratory animals (in behavioral, neurophysiological, and physiological behavioral studies) with a broad biological, evolutionary perspective. (W)

118G. Neuron Circuitry and Behavior. Prerequisite: course 115, Biology 171, or consent of instructor. A presentation of current data and theory concerning how neuron circuits produce behavior. Mechanisms of behavioral plasticity and learning and motivation in the generation, learning, and motivation, with an emphasis on the operation of these processes in well-defined neural circuits.

M119. Evolution of Intelligence. (Formerly numbered 119) (Same as Psychiatry M119.) Lecture, two hours; discussion, two hours. Prerequisites: course 15 or 115, an introductory statistics course, junior or senior standing, consent of instructor. Intelligence training in neural circuitry and its relation to learning capacity; its evolution in vertebrates correlated with the evolution of enlarged brains. Quantitative approaches in evolutionary biology and the neurosciences.

120. Human Information Processing. Lecture, three hours; discussion, one hour. Prerequisites: courses 10, 41, junior standing. A survey of how people acquire and retain nonverbal and verbal information. Perception, attention, memory, and representation of knowledge.

121. Laboratory in Human Information Processing. Prerequisites: courses 10, 41, 42, 120 (may be taken concurrently). Laboratory experience with methods and phenomena drawn from research on human perception, memory, and cognition.

122. Language and Communication. Prerequisite: course 41 or consent of instructor. A survey of language behavior, communication, and speech perception, including acquisition, sequential structure, and semantic aspects. Recent developments in linguistics, theory of information transfer, analysis, and synthesis of speech. Social communication. Aphasis and speech pathology. Animal communication.

123. Psycholinguistics. A survey of current theory and research in psycholinguistics: the description of language in generative grammars; the acquisition of language by children; experiments on speech recognition, production, and comprehension; errors in speech perception and production; speech physiology and pathological language.

124A. Current Topics in Human Information Processing. Lecture, two hours; discussion, one hour. Prerequisites: courses 10, 41, 120. Advanced consideration of special topics in human information processing. May be repeated for credit with consent of instructor.

124B. Current Topics in Psycholinguistics. Prerequisite: course 123. Advanced consideration of special topics in the psychology of language. May be repeated for credit with consent of instructor.

125. Personality. Lecture, three hours; discussion, one hour. Prerequisites: courses 10, 41, 125 (may be taken concurrently). Personality laboratory. A survey of the major topics in the field of personality, including personality theory, personality assessment, and the physiological, behavioral, and cultural role of perception, learning, and motivation in personality.

126. Personality Laboratory. Discussion, three hours; laboratory, three hours. Prerequisites: courses 41, 42, 125 (may be taken concurrently). Personality laboratory. Experience with various topics in personality assessment.

126H. Personality Laboratory: Emotions (Honors). Discussion, three hours; laboratory, three hours. Prerequisites: courses 10, 41, 42, psychology major standing. Presentations of the major approaches to emotional and experimentation of some hypotheses from the theories. Use of different (basic) statistical techniques and experimental methodologies.

127. Abnormal Psychology. Lecture, three hours. Prerequisite: course 10. Study of the dynamics and prevention of abnormal behavior, including neuroses, psychoses, character disorders, psychosomatic reactions, and other abnormal personality patterns.

127H. Abnormal Psychology (Honors). Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. Advanced treatment parallel to courses 41 and 127.

128. Behavioral Medicine. Lecture, two hours; discussion, one hour. Prerequisites: courses 10, 127, junior or senior standing. Psychophysiological (psychosomatic) disorders approached via a biopsychosocial model. Emphasis on the interrelationships between physiology, personality, behavior, and social/environmental factors. Major focus on behavioral assessment and treatment approaches (e.g., modifying Type A behavior, treatment of anxiety reactions).

129A. Personality Measurement. Prerequisite: course 125. The rationale, methods, and context of studies dealing with the problems of describing persons in terms of a limited set of dimensions. Detailed consideration of major personality scales and a few representative personality dimensions.

129B. Personality Dynamics. Prerequisite: course 125. Detailed conceptual examination of one or two personality in which the main and interactive effects of personality and situational variables have been investigated. Personality as related to the study of psychological processes, particularly motivation. Examination of current research literature.

129C. Personality and Cognition. Prerequisite: course 125. The cognitive and neuropsychological processes and their implications for theories of personality.

130. Developmental Psychology. Lecture, three hours. Prerequisite: course 125. Study of selected topics in the psychology of personality. Topics vary with the interests of instructor and class. May be repeated for credit with consent of instructor.

132. Personality Laboratory. Lecture, three hours; discussion, one hour. Prerequisites: courses 41, 42, 125 (may be taken concurrently). Personality laboratory. Laboratory experience with such topics as small group behavior, attitude measurement, and interpersonal behavior.

C130B. Survey Methods in Psychology. Lecture, two hours; laboratory, two hours. Prerequisites: courses 41, 42, psychology major standing. The nature of attitudes and opinions and their measurement by means of attitude scales and public opinion surveys. Class projects and fieldwork. Concurrently scheduled with course C223.

137A. Group Behavior. Lecture, three hours. Prerequisites: courses 10, 41, 135. Psychology of interdependence, group membership, leadership, and social influence.

137B. Attitude Formation and Change. Lecture, three hours. Prerequisites: courses 10, 41, 135. Effects of propaganda, personal influence, socialization, and social structure on private attitudes and public opinion.

137C. Interpersonal Relations. Lecture, three hours. Prerequisites: courses 10, 41, 135, consent of instructor. A study of the psychological facts, principles, problems, and theories concerned with interpersonal relations and group dynamics. Focus on such phenomena as interpersonal attraction, exchange, aggression, conflict, control, power relations, and the initiation, development, and dissolution of relationships.
M137E. Work Behavior of Women and Men. (Same as Women's Studies M137E.) Prerequisites: course 10 or Women's Studies 100, junior or senior standing. Examination of work behavior of men and women. Topics include antecedents of career choice, job finding, leadership, performance evaluation, discrimination and evaluation bias, job satisfaction, and interdependence. Course 137E may be repeated once for credit.

M137F. Special Topics in Social Psychology. Prerequisite: course 135. Study of selected topics in social psychology. May be repeated for credit with consent of instructor.

M138. Political Psychology. (Same as Political Science M140.) Prerequisite: course 10. Examination of political behavior, political socialization, personality and politics, racial conflict, and the psychological analysis of public opinion on these issues.

M139. Psychology of Social Issues. Prerequisite: course 10. An analysis of the contribution of contemporary political theory and research to the understanding of selected historical, social, and political problems.

M142. Advanced Statistical Methods in Psychology. (Formerly numbered 142.) (Same as Psychiatry M142.) Lecture, two hours; discussion, two hours. Prerequisite: course 41. Chi square, special correlation methods, multiple regression, nonparametric methods, analysis of variance, reliability and validity.

143. Foundations of Psychological Investigation. Prerequisites: courses 41, 42. Psychological major standing. Outline and examination of concepts associated with psychological investigation and the interpretation of results. Readings, discussions, and reports; individual and class projects.

144. Psychological Tests and Evaluation. Prerequisite: course 41. Further study of the principles of measurement, stressing basic concepts. Application to problems of test construction, administration, and interpretation.

145. Elements of Psychology of Sport. The application of psychological theories, principles, and techniques to recreation, games, and sport. Current theories of the role of the brain in learning and performance are studied. (Same as Sociology M158.) Lecture, three hours. Prerequisites: courses 42, 127, senior standing, and consent of instructor. The study of lives and the personality theories of Henry A. Murray, touching on autobiographical writing, life histories, and personality development and style. Emphasis on the psychological perspective of death. Reading and discussion of primary sources and the application of psychological principles to related topics. May be repeated for credit.

146. Mathematical Models in Psychology. Prerequisites: Mathematics SC 3 or 31B, Computer Science 10C or 10F, or consent of instructor. Review of theoretical models and the experimental evidence for these models in various areas of psychology. Topics include methods of classical computer psychology, major models and their applications to learning, perception, cognition, and personality.

147. Computer Applications in Psychology. Prerequisites: Computer Science 10C or 10F, consent of instructor. Topics include hardware and software computer problems in the design, control, and analysis of experiments; programming problems arising in the evaluation of models of psychological processes of the various content areas such as learning, perception, and personality.

151. Principles of Biotechnology. (Same as Materials Science and Engineering M107A.) Prerequisite: upper division standing. The principles of biotechnology developed in an engineering design context. Emphasis on how physiological, psychological, and sociological factors affect the integration of man into environmental, informational, and management systems through design engineering.

M155. A Laboratory for Naturalistic Observations: Developing Skills and Techniques. (Same as Anthropology M136Q and Psychiatry M112.) Prerequisite: consent of instructor. The skill 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 the social sciences. (W)

162. The Personological System of Henry A. Murray. An undergraded course. Three hours; discussion, one hour. Prerequisite: consent of instructor. The study of lives and the personality theory of Henry A. Murray, touching on autobiographical writing, life histories, and personality development and style. Emphasis on the psychological perspective of death. Reading and discussion of primary sources and the application of psychological principles to related topics. May be repeated for credit.

163. Directed Suicide: Psychological and Sociological Aspects. (Same as Sociology M158.) Lecture, three hours. Prerequisite: junior standing. The definition and taxonomy of suicide; the new permissiveness and taboos relating to death; the romanticization of suicide; the role of the individual in suicide; the modes of death: development of ideas of death through the life span; ways in which ideas of death influence the conduct of lives; the impact of dying; the relationship of the individual to the society; the individual: preventive, interventive, and postventive practices in relation to life and death; the role of death in society; partial death; medical death: the psychological autopsy; the death of institutions and cultures; the grading recommended for upper division credit and arrangement for individualized study. May be repeated for credit.

165. The Psychology of Gender. (Same as Women's Studies M165.) Lecture, two hours; discussion, one hour. Consideration of psychological literature relating to sex differences, including 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 the impact of gender on social interaction.

166. Environmental Psychology. Prerequisites: courses 41, 125. A research-oriented course which surveys theoretical and methodological issues which concern 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 variation in the relevant conceptual mental theory. Residential, therapeutic, work, and recreational environments within a unified framework.

170A. Behavior Modification. Lecture, three hours. Prerequisite: course 10, upper division standing. Applied behavior theory: a study of the application of principles derived from learning theory, especially modeling and reinforcement, to behavior problems of retarded and autistic children, adult psychotic disorders, reading disorders, etc. Lectures, discussions, and demonstrations.

170B. Fieldwork in Behavior Modification. Discussion, two hours; fieldwork, eight hours. Prerequisites: courses 41, 42, 170A, psychology major standing, consent of instructor. Advanced fieldwork in applied behavior theory, especially to problems of retarded and autistic children, adult psychotic disorders, etc. May be repeated once for credit.

170C. Practicum: Design and Implementation of Behavioral Interventions. Lecture one hour; discussion, five hours. Prerequisites: courses 170A or 110, 170B (two quarters), upper division psychology or psychology major standing, consent of instructor. The design and evaluation of behavioral interventions with developmentally delayed 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 school; and clinical issues. May be repeated once for credit.

170D. Introduction to Health Psychology. Prerequisite: course 10. The areas of health, illness, treatment, and delivery of treatment that can be elucidated by an understanding of psychological concepts and research, the psychological perspective on these problems, and its roles in the research agenda. Topics might be enlarged and extended in the medical area.

170E. Work Behavior of Women and Men. (Same as Women's Studies M137E.) Prerequisites: course 10 or Women's Studies 100, junior or senior standing. Examination of work behavior of men and women. Topics include antecedents of career choice, job finding, leadership, performance evaluation, discrimination and evaluation bias, job satisfaction, and interdependence. Course 137E may be repeated once for credit with consent of instructor.

172. The Afro-American Woman in the U.S. (Same as Afro-American Studies M172 and Women's Studies M172.) Prerequisite: upper division standing. The impact of the social, psychological, political, and economic forces which impact on the interpersonal relationships of Afro-American women as members of a large society and as members of their biological and ethnic group.

174. Interpersonal Process Analysis. Discussion, two hours; laboratory, three hours. Prerequisites: courses 41, 127, psychology major standing. An introduction to the conceptual tools for analyzing interpersonal structures and functions in goal-oriented human interaction such as psychotherapy, persuasion, social interaction, and group work. May be repeated for credit.

175. Community Psychology. Prerequisites: junior or senior psychology major or consent of instructor. The experimental findings supporting the understanding and solution of community problems. Topics include community development, community mental health problems, drugs, racism, and rehabilitation of prisoners.

177. Experimental Community Psychology. Lecture, three hours. Prerequisites: courses 42, 127, 175, psychology major standing, consent of instructor. Examination and experimental application of concepts drawn from interpersonal and community psychology, with the goal of facilitating the development of individuals in structured social communities (communities, schools, mental hospitals, prisons, etc.).

178. Counseling Relationships. Prerequisites: courses 10, 41, 127, junior or senior standing, and consent of instructor. Designed for undergraduates interested in or considering a career in community mental health areas such as drug abuse, suicide prevention, and crisis intervention.

179. Human Motivation. Prerequisite: upper division standing. Examination of current theories of human motivation. Emphasis on such factors as the experiential findings supporting the theories, and their applied value. Emphasis on motivation in the classroom, particularly the effects of success and failure on performance. Other topics include stress, conflict, frustration, and perceptions of control.

179. Health Promotion in Minority Populations. Lecture, three hours. Prerequisite: course 10 or consent of instructor. Designed for undergraduates interested in or considering a career in a health or mental health area. A social psychological approach of how individuals in structured social environments (social work, nursing, public health, etc.) and for those who would deliver such health services to ethnic minority peoples.

M180A. Contemporary Problems in Mental Retardation. (Same as Psychiatry M180A.) Prerequisites: courses 10, 41, and 127 or 130. Corequisites: courses M181A-M181B. Limited to Immersion Program students. Presentation of the concepts, issues, and research techniques in the area of mental retardation. Biological, psychological, and community questions concerning the causes and treatment of developmental disabilities, as well as systems for the 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 literature on ongoing field experiences through lectures, discussions, media, and six student papers.

Transportation, and urban design. The Psychology Undergraduate Office, 1531 Franz Hall. Only one 190 course may be applied toward the elective course requirement for the psychology major.

192. Practicum in The Teaching of Psychology. Prerequisites: upper division psychology major, department consent. Training and supervised practice for advanced undergraduates in the teaching of psychology. Students serve as junior teaching assistants and assist in the preparation of materials and the development of innovative programs. The Psychology Undergraduate Office, 1531 Franz Hall, should be consulted for contracts and further information. Only 12 units from courses 192, 193, and 194 may be applied toward the undergraduate degree. May not be applied toward course requirements for any of the psychology majors. P/NP grading.

193. Fieldwork in Psychology. Seminar, two hours; internship (approved research setting), seven hours. Prerequisites: sophomore pre-psychology or psychology major standing, department consent. Fieldwork in applications of psychology. The Psychology Undergraduate Office, 1531 Franz Hall, should be consulted for contracts and further information. Only 12 units from courses 192, 193, and 194 may be applied toward the undergraduate degree. May not be applied toward course requirements for any of the psychology majors. P/NP grading.

194. Research in Psychology. Seminar, one hour; internship (approved research setting), seven hours. Prerequisites: sophomore pre-psychology or psychology major standing, department consent. Practi- cal application of psychological science. The Psychology Undergraduate Office, 1531 Franz Hall, should be consulted for contracts and further information. Only 12 units from courses 192, 193, and 194 may be applied toward the undergraduate degree. May not be applied toward course requirements for any of the psychology majors. P/NP grading.

195. Current Issues in Psychology. Lecture, three hours. Prerequisite: junior or senior psychology major standing, department consent, or instructor consent. A study of selected current topics in psychology. May be repeated for credit with consent of instructor.

196. Seminar in Comparative Psychobiology. Seminar, two hours; laboratory, three hours. Prerequisites: junior or senior psychology major standing, department consent. Seminar in applications of psychology through research. The Psychology Undergraduate Office, 1531 Franz Hall, should be consulted for contracts and further information. Only 12 units from courses 192, 193, and 194 may be applied toward the undergraduate degree. May not be applied toward course requirements for any of the psychology majors. P/NP grading.

197. Legalistic Psychology. Discussion, two hours; seminar, one hour. Prerequisite: junior standing. A study of new topics on legal psychology, including suspect identification, witness reports, and police procedures. Outside speakers utilized in the presentation of these materials. Students participate in presentations and/or discussions.


199. Human Factors. Lecture, two hours; discussion, one hour. Prerequisites: courses 10, 110, or equivalent standing. The principal objective of human factors psychology is the optimization of human-machine productivity and efficiency while ensuring human safety. Research from engineering, computer science, and psychology combined for the design of systems for human use. Contemporary applications include health care, safety systems, pollution control, transportation, and urban design.

Graduate Courses

200A. Animal Learning and Behavior. Basic principles and purposes 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 the application of learning principles in the etiology and treatment of a variety of socially significant problems. Special emphasis on systematic desensitization of anxiety states, behavior modification programs for schizophrenic children and adults, behavioral pharmacology, control of autonomic behavior, among others.
228. Interpersonal Influence, Social Power, and Health. Lecture, two hours; discussion, two hours. Prerequisites: courses 220A-220B or consent of instructor. A review of theory and research on interpersonal influence and social power, with particular application to health issues such as doctor-patient, doctor/nurse, and control/counter-control relationships. Supervision/worker, parent/child, wife/husband, and teacher/student applications also considered.

Mr. Raven

C223A. Survey Research in Psychology. (Formerly numbered C223.) Lecture, three hours. A critical review of the theory and practice of large-scale sampling, measurement, and analysis of beliefs, attitudes, and other psychological variables. Concurrently scheduled with course C136B.

Mr. Shure

224. Experimental Methods in Social Psychology. Lecture, three hours. Prerequisites: courses 220A-220B or consent of instructor. A critical review of laboratory techniques and problems of experimental control and measurement encountered in research on social psychological phenomena.

Mr. Collins

225. Seminar: Critical Problems in Social Psychology. Discussion, three hours. Prerequisites: courses 220A-220B or consent of instructor. May be repeated for credit.

226. Current Literature in Social Psychology (2 units). Recent and current research papers in social psychology presented by members of the seminar and their significance and methodology discussed and critiqued in depth. May be repeated for credit. S/U grading.

227. Health Psychology. Lecture, two hours; discussion, one hour. Prerequisite: undergraduate degree or training in psychology. The psychological and social factors involved in the etiology of illness, the treatment and course of illness, the long-term care and adjustment of the chronically ill, and the practice of institutional health care and self-care.

Ms. Taylor

M228. Political Psychology. (Same as Political Science M242G.) Discussion, three hours. Prerequisites: course 220A or Political Science 214A. Examination of political behavior, political socialization, personality and politics, and the analysis of public opinion on these issues.

Mr. Sears

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 a broad background in the field and also gives depth and focus in particular research topics in the field. Weekly papers, as well as a lengthy final paper, required.

Ms. Taylor


231. The Psychology of Gender. Seminar, three hours. Prerequisites: consent of instructor or instructor of women's studies or consent of instructor. A critical evaluation of current research and theory concerning the psychology of gender, drawing on work from various areas of psychology to understand the sources of gender differentiation and its 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 carry out research on human sexual behavior. Contents include theory construction, scale development, physiological and endocrinological implications, radio-immunoassays (measuring hormones in blood sample), ethical issues, methodological and statistical considerations, the measurement of sexual arousal, fantasy, and sexual dysfunction therapy. Discussion-oriented, with emphasis on operationalizing predictions concerning human sexual development.

Mr. Abramson

233. Seminar in Environmental Psychology. Prerequisites: courses 235, 250A, 250B. Critical review of work in environmental psychology designed to identify basic dimensions for the analysis of man-environment relationships. Use of human emotional responses to environments as intervening variables linking specific stimulus qualities to a variety of approach-avoidance behaviors. Individual differences and drug-induced states as these relate to the emotional response dimensions used to explain within-individual differences in response to the same environment differential over the same situation. Review of literature relating information rate from environments to arousal and preferences for those environments.

Mr. Mehrabian

M234. Social Psychological Aspects of Competitive Youth Sport. (Same as Kinesiology M237.) Prerequisite: Kinesiology 120 or consent of instructor. Review of research concerning the social psychological aspects of competitive 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, predictors of performance, determinants of participation and dropping out, and socialization through sport.

Ms. Scanlan


236. Seminar in Mental Measurements. Lecture, three hours. Prerequisites: courses 240A-240B or equivalent, consent of instructor. Critical review of the status of emotional behavior in personality theory and research. Emphasis on the intensive exploration of selected content areas in personality development.

Mr. Nakamura

242. Multivariate Analysis. Prerequisites: courses 240A-240B or equivalent, consent of instructor. Current problems in assessment. Mr. Woodward

247B. Prerequisite: course 247A or consent of instructor. Topics in human problem solving, information processing, and decision making, with particular attention given to the psychological aspects of mental retardation, including classification, etiology, theory, prevention, treatment, assessment, modern and future developments, and input from other disciplines (ethics, law, religion, welfare systems).

Mr. Tymchuk (F)


247A. Acquisition and analysis of data, on-line analysis of behavior, and control of experiments in the diverse content areas of psychology (e.g., perception, social, clinical, personality, and physiological).

Mr. Carterette

247B. Prerequisite: course 247A or consent of instructor. Topics in human problem solving, information processing, and decision making, with particular attention given to the psychological aspects of mental retardation, including classification, etiology, theory, prevention, treatment, assessment, modern and future developments, and input from other disciplines (ethics, law, religion, welfare systems).

Mr. Carterette

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 the design and interpretation of experimental and observational research.

Mr. Wickens, Mr. Woodward

250B. Advanced Psychological Statistics. Advanced experimental design and planning of investigations.

Mr. Wickens, Mr. Woodward

251A-251B. Research Methods. Limited to psychology graduate students. Students design and conduct original research projects under the supervision of the instructor in charge. It is anticipated that many students will complete their project in two quarters (normally three quarters are allowed). S/U grading (course 261A only).

252. Multivariate Analysis. Prerequisites: courses 250A, 250B. Introduction to the analysis of data having multiple dependent measures. Topics include multivariate distributions, principal components analysis, discriminate analysis, and the multivariate analysis of variance. Examples applications from a variety of psychological areas of research, including clinical, cognitive, physiological, and social. Computer implementation includes APL and standard statistical packages.

Mr. Woodward


Mr. Holman


Mr. Woodward
258. Seminar in Critical Problems in Psychological as they do. Concepts, theories, and research in the study of perception. Considers the questions: Why do things look, sound, smell, taste, or feel the way they do? What is the nature of perceptual systems? How do these systems process information? Mr. Thomas

259. Quantitative Methods in Cognitive Psychology. Prerequisites: courses 250A and 250B, or consent of instructor. A study of the development and use of the psychological science. The representation of cognitive structures and higher-level processes. Specific areas include perception, learning and memory, problem solving, and reasoning. Relationships among these computational models. Mr. Richards, Mr. Wickens

260A-260B. Seminar in Cognitive Psychology. 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. Controversy about 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. Controversy about the nature of perceptual systems. How do these systems process information? Mr. Baker

263. Psycholinguistics. Lecture, three hours. Prerequisite: consent of instructor. Contemporary theory and research in psychology. The study of language, including the processes of perception, production, and comprehension. Mr. French, Mr. MacKay

264. Judgment and Decision Processes. Lecture, three hours. Prerequisite: consent of instructor. Contemporary theory and research in the field of judgment and decision making. Special emphasis on theoretical models and empirical studies. Mr. Parodi

265. Thinking. Lecture, three hours. Contemporary theory and research in thinking, problem solving, inference, semantic memory, internal representation of knowledge, imagery, concepts.

266. Cognitive Science. Lecture, three hours. Prerequisite: consent of instructor. Major issues in cognitive science. The representation of cognitive structures and higher-level processes. Specific areas include perception, learning and memory, problem solving, and reasoning. Relationships among these computational models. Mr. Richards, Mr. Wickens

268A-268E. Seminar in Human Information Processing. Seminar, three hours. Prerequisite: consent of instructor. Topics vary with the interests of the instructor. May be taken independently and may be repeated for credit.

268A. Perception. Mr. Thomas

268B. Human Learning and Memory. Mr. Bjork

268C. Judgment and Decision Processes. Mr. Parodi

268D. Language and Thought. Mr. MacKay

268E. Human Performance. Mr. Beatty, Mr. Cartarette

269. Seminar in Cognitive Psychology. Seminar, three hours. Prerequisite: consent of instructor. A 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. Corequisites: courses 271A-271B-271C. Limited to graduate students in clinical psychology. Prerequisites: courses 270A-270B-270C. Limited to graduate students in clinical psychology. Mr. Christensen

271D. Clinical Research Laboratory (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. Prerequisites: consent of instructor. A seminar focused on research in clinical psychology. Mr. French


272A-272F. Advanced Clinical Psychological Methods. Seminar, three hours. Prerequisites or corequisites: 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. A course in the series of clinical training and assessment offerings for second- and third-year clinical students that covers behavior modification research and practice in school, clinic, institution, and home settings. Mr. Baker

272B. Psychotherapy with Adults. 272C. Clinical Interventions for Psychological Problems, some of which cross into the realm of personality. A brown-bag format utilized to foster intellectual exchange and discussion. Students meet at least once presentation per quarter and participate in discussions with faculty and guest lecturers.

272D. Family Therapy and Family Dynamics. 272E. Special Problems. 272F. Behavior Modification with Adults. Prerequisite: second-year graduate standing in clinical psychology. Current cognitive behavior modification principles and techniques. Major conceptual issues; specialized techniques demonstrated and practiced by students to cover a range of adult problems such as depression, stress and anxiety, anger management, assertive problems. Mr. Hammen, Ms. Mays

273. Interpersonal Communication Seminar. Prereq: courses 272A or consent of instructor. Development of a degree of training in interpersonal communication. Initial focus on methods for improving interpersonal communication skills. Mr. Goodman

274A-274B. Group Therapy Dynamics. 275F. Group Process: Psychological and Social Perspectives on the Family. (Same as Social Welfare M275.) Various theoretical perspectives applicable to the analysis of family structure and dynamics. Critical issues in the application of family constructs to clinical problems. Mr. Cohen, Mr. Goldstein

276. Clinical Approaches to Children with Learning and Related Behavior Problems. Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. Theoretical and research issues and problems related to educational and social settings in the area of children with learning problems. Prerequisites: three credits in psychology or consent of instructor. Mr. Adelman

277. Advanced Clinical Assessment. Prerequisite: three units in psychology, and consent of instructor. Prerequisites: three credits in psychology, and consent of instructor. The study of the application of psychological techniques, and the psychological psychological test battery, psychological interpretation, and assessment of application to problems in psychotherapy.

278. Seminar in Motivation, Conflict, and Neuroses. Mr. Feigenbaum

279. Seminar in Research in Psychopathology.

280. Seminar in Behavior Therapy. Mr. Lovass

281. Interpersonal Forms Analysis of Human Interaction Structures. Conceptual and experimental study of six response modalities common to psychotherapy and everyday interaction: questions, statements, advisement, interpretation, self-disclosure, and reflection. Laboratory work performed in conjunction with lecture and seminar sessions. Mr. Goodman

282. Psychopathology. A survey of the dominant psychopathological categories and theories of psychopathology, including an analysis of the status of various theories concerned with the etiology and mediating mechanisms of personality, neurotic, schizophrenic spectrum, and affective disturbances. Mr. Verrillo

283. Seminar in Clinical Psychology and Communication.

284. Issues and Concepts of Clinical Psychology. Open to graduate students in majors other than clinical psychology. Survey of major issues and controversies in current practice. Emphasis on assessment and intervention, with consideration of historical, theoretical, and research bases for current trends. Mr. Broen

285. Critical Problems in Clinical Research Methodology. Prerequisites: courses 250A, 250B. Special problems of measurement and design in clinical research. Mr. Christensen

286. Seminar in Research in Personality (1 unit). Prerequisite: graduate standing in personality. Required of all students majoring in personality. Current research, theory, and professional issues within the area of personality. A brown-bag format utilized to foster intellectual exchange and discussion. Students meet at least once presentation per quarter and participate in discussions with faculty and guest lecturers.

290. History of Psychology. Philosophical and historical context of contemporary psychology. Major trends from the 19th century to contemporary issues. Mr. Katzman

291. Principles of Behavioral Pharmacology. Prerequisite: consent of instructor. Intensive analysis of drug, brain, and behavior relationships. Discussion of the nature and source of drugs, general aspects of pharmacology, neurotransmitters and basic neuroanatomy, principles of pharmacology, categories of psychopharmacological agents, and pharmacological approaches to the study of drug addiction, schizophrenia, and other behavioral processes, both normal and pathological. Mr. Butcher

292. Biobehavioral Mechanisms of Stress and Disease. Lecture, three hours. Prerequisite: graduate standing in psychology or consent of instructor. The behavior-physiology interactions of some major bodily systems: the nervous, cardiovascular, gastrointestinal, and endocrine systems. Usual and altered states of these systems (e.g., stress) as these can improve bodily function, health enhancement. Mr. Castro, Mr. Grijalva, Ms. Mollé
233. Behavioral and Psychophysiological Problems of Alcoholism. Prerequisite: consent of instructor. Behavioral and psychophysiological characteristics of alcoholism, along with theories concerning their etiology and treatment. Experimental approaches.

M294A-M294D. Seminars in Neural and Behavioral Endocrinology (3 units, 2 units, 3 units, 2 units). (Same as Anatomy M255A-M255D.) Lecture, three hours. Topics include hormonal biochemistry and pharmacology. Hypothalamic-hypophysal interactions, both hormonal and neural. Structure and function of the hypothalamus. Hormonal control of reproductive and other behaviors. Sexual differentiation of brain and behavior. Stress: hormonal, behavioral, and neural aspects. Aging of reproductive behaviors and function. Mr. Arnold

297. Issues in the Social Development of the Minority Child. (Formerly numbered 223A.) Seminar, three hours. Prerequisites: graduate standing, consent of instructor. A critical evaluation and integration of existing research on the social psychological development of the minority child. Emphasis on the socialization of cognitive and personality style, with the goal of empirically clarifying the issues raised in this area of developmental study. Mr. Myers

298. Special Problems in Psychology. Content depends on the interests of the particular instructor. May be repeated for credit. Mr. Maiztman

299. Developmental Methodology. Coverage of both theory and methods in measuring age-related changes in behavior. Experimental designs and data-analytic solutions to problems in the measurement of change. Some experience in analysis of actual data. Mr. Kaye

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the 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.

401. Fieldwork in Clinical Psychology (4 or 8 units). Prerequisites: courses 271A-271B-271C. Students on practicum assignments are required to register for this course each quarter (except by consent of clinical program committee). Mr. Maitzman

402. Fieldwork in Speech Pathology (4 or 8 units). Prerequisite: consent of instructor. Practical work in hospitals and clinics in diagnostic testing and psychotherapy with speech disorders.

410A-410B-410C. Clinical Teaching and Supervision. Prerequisites: completion of Ph.D. comprehensive examinations, advancement to candidacy or preparation for dissertation research actively underway, consent of instructor and clinic steering committee. Study and practice of the knowledge, concepts, and theories on teaching and supervision of applied clinical psychology. Ms. Jacobs, Mr. Nakamura

420A-420B. Health Psychology Practicum (2 units each). Prerequisite: graduate standing. Determination of what areas of health, illness, treatment, and delivery of treatment can be elucidated by an understanding of psychological concepts and research; the psychological perspective on these problems; how the psychological perspective might be enlarged and extended in the medical area. Through a practical field placement helps students apply the knowledge acquired in courses to research observation and/or clinical work in the field. Ms. Taylor

425. Health Psychology Lecture Series (2 units). Clinicians and researchers in health psychology from the Los Angeles area present their research, programs, and/or clinical work as part of a training program in health psychology. May be repeated for credit. S/U grading. Ms. Taylor

451. Internship in Clinical Psychology (6 to 12 units). Prerequisite: course 401. Limited to students who have successfully completed departmental qualifying examinations. May be repeated for credit. S/U grading.

454. Internship in Industrial Psychology (2 to 4 units). Mr. Barthol

490. Scientific Writing for Psychologists (2 units). Lecture, two hours; laboratory, two hours. Prerequisite: consent of instructor. Gives graduate students the opportunity to improve their effectiveness in writing scientific papers for publication and proposals for dissertations or grants. May not be applied toward graduate degree requirements. S/U grading.

495. Presentation of Psychological Materials. Supervised practical in undergraduate teaching. Students serve as discussion section leaders in selected undergraduate courses. 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. Course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596. Directed Individual Research and Study in Psychology (2 to 12 units). One 596 course is required during the second year of graduate study, and one 596 or 599 course is required during each succeeding year of graduate study. (Terminal M.A. candidates are exempt from this requirement.)

597. Individual Studies (2 to 12 units). Intended primarily as preparation for Ph.D. qualifying examinations. May be required by some area committees as a prerequisite for taking the examinations.

599. Research for Ph.D. Dissertation (2 to 12 units). Prerequisite: successful completion of qualifying examinations. One 599 course is required during each year following completion of qualifying examinations.

Religion, Study of (Interdepartmental)

383 Dodd Hall, (213) 825-7831, 825-4641

Professors
Marilyn Adams, Ph.D. (Philosophy)
Robert Merrifield Adams, Ph.D. (Philosophy), Chair
Rogers Abrition, Ph.D. (Philosophy)
Amin Banari, Ph.D. (Persian and History)
Arnold J. Band, Ph.D. (Hebrew)
Robert L. Benson, Ph.D. (History)
Kees W. Bolle, Ph.D. (History)
Seeger A. Bonebakker, Ph.D. (Arabic)
Gionio Buccelliat, Ph.D. (Ancient Near East and History)
John Callender, Ph.D. (Egyptology)
Claus-Peter Clasen, Ph.D. (History)
Herbert A. Davidson, Ph.D. (Hebrew)
Vincent A. Deering, Ph.D. (English)
Patrick K. Ford, Ph.D. (English)
Amos Funkenstein, Ph.D. (History)
Marija Gimbutas, Ph.D. (Archaeology)
Richard Hovannisian, Ph.D. (History)
Daniel W. Howe, Ph.D. (History)
Henry Asgar Kelly, Ph.D. (English)
William R. LaFluer, Ph.D. (Buddhism)
Bengt T. M. Löfstedt, Ph.D. (Medieval Latin)
Jacques Maquet, Ph.D. (Anthropology)
Afaq Morsat, D.Phil. (History)
Ronald J. Mellor, Ph.D. (History)
Ismaïl Poonawala, Ph.D. (Arabic)

Merrick Posnansky, Ph.D. (History and Anthropology)
Douglas Price-Williams, Ph.D. (Anthropology and Psychiatry)
Jaan Puhvel, Ph.D. (Classics and Indo-European Studies)
Yona Sabar, Ph.D. (Hebrew)
Hartmut E. F. Scharf, Ph.D. (Sanskrit)
Hanns-Peter Schmidt, Ph.D. (Indo-Iranian)
Stanislav Segert, Ph.D. (Northwest Semitics)
Johannes Wilbert, Ph.D. (Anthropology)
Milton V. Anastos, Ph.D., Emeritus (Classics)
Kenneth K.S. Chen, Ph.D., Emeritus (Buddhism)
Hidaka Kuper, Ph.D., Emeritus (Anthropology)
Gerhard B. Ladner, Ph.D., Emeritus (History)
William A. Lessa, Ph.D., Emeritus (Anthropology)

Associate Professors
Edward G. Berenson, Ph.D. (History)
Robert A. Hill, M.Sc. (History)
Steven Lattimore, Ph.D. (Classics)
Michael G. Morony, Ph.D. (History)
Joseph F. Nagy, Ph.D. (English)
Philip L. Newman, Ph.D. (Anthropology)
Herbert E. Pletschow, Ph.D. (Japanese Religion and Cultural History)

Assistant Professor
Ruth Bioch, Ph.D. (History)

Lecturer
David L. Lieber, D.H.L. (Hebrew)

Adjunct Associate Professor
S. Scott Bartschy, Ph.D. (History)

Scope and Objectives

The UCLA major in the study of religion has a twofold purpose. In the first place it 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. In the second place, the program asks the student to select one particular religious tradition for study in greater depth. Cohesion and integrity in the program are furthered by courses dealing with philosophical problems in religion and with general anthropological reflections.

The program requires one year of language study which should be related to the major tradition of concern. This minimum requirement allows every student to develop some idea of the basic problems in understanding religious texts. Students contemplating graduate study will generally do more than fulfill the minimum requirement.

Bachelor of Arts Degree

Preparation for the Major

Required: Anthropology 22; History 4; Philosophy 2; two courses from History 1A, 1B, 1C, 9A, 9B, 9C, 9D, 10A, 10B.
The Major

Required: A minimum of 13 upper division courses and three related courses in foreign language. These must include History 193A or 193E; Anthropology 133R or 156; two courses from Philosophy 175, 177B or 195, 193.

In addition, you must select one of the nine groups below as your main area of study and take three courses in that main area and three related courses in foreign language as indicated. (The language courses may be either upper or lower division. If any requirements have been satisfied prior to admission to the program, they will be honored on the recommendation of the appropriate instructor. Another language pertinent to your main area may be substituted with the consent of the committee in charge of the major. Among these languages are Hitite, Ugaritic, Syriac, Coptic, Persian, Armenian, French, German, Irish, Welsh.) You must also select six courses in traditions chosen from at least two groups outside your main area of study, excluding foreign language courses.

Group 1: Ancient Near East and Eastern Europe—Three courses from History 193D, Ancient Near East 130, 150A, 150B, 150C, 170, Indo-European Studies 131, 132, Iranian 170; three courses in either Ancient Egyptian or Akkadian.

Group 2: Indo-European Traditions—Three courses from English M111D, M111E, History 193B, Old Norse Studies 140, Iranian 170, Slavic M179; three courses in Sanskrit, Latin, or Greek.

Group 3: Greece and Rome—Three courses from Classics 161, 162, 166A, 166B, History 197 (Roman History: Christianity and Imperial Rome); three courses in either Latin or Greek.


Group 7: South Asia—Three courses from History 188A, 193B, 193C, 197 (South Asian Religions), East Asian Languages and Cultures 167, Iranian 170; three courses in Sanskrit.

Group 8: Far East—Three courses from History 193C, East Asian Languages and Cultures 172, 173, 174; three courses in Sanskrit, Chinese, or Japanese.

Group 9: Traditional and Nonliterate Cultures—Three courses from Anthropology 171, 174P, 177, Folklore and Mythology M111, M123A, M125, M129, 130, History 157A, 157B, 157C, Linguistics M150; three courses in a language selected in consultation with an instructor in these areas.

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 13 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 Robert M. Adams at the program address.

Upper Division Course

100. Undergraduate Seminar in the Study of Religion. Prerequisite: consent of instructor. Limited to 20 students. An interdisciplinary approach to some major topics in the study of religion, such as religion and politics, mysticism, ideas of revelation, myth and religious, worship and ritual. May be repeated for credit with consent of instructor. Mr. Nagy

Romance Linguistics and Literature (Interdepartmental)

359 Royce Hall, (213) 825-0237

Professors
Stephen R. Anderson, Ph.D. (Linguistics)
Shirley L. Arora, Ph.D. (Spanish)
José R. Barcia, Lic. F. y L. (Spanish)
Rubén A. Benitez, Ph.D. (Spanish)
Marc Bensimon, Ph.D. (French)
Franco Bettii, Ph.D. (Italian)
Giovanni Cecchetti, Ph.D., Dottore in Lettere (Italian)
Fredi Chiappelli, Dottore in Lettere (Italian)
Margherita Cottino-Jones, Ph.D., Dottore in Lettere (Italian)
Hassan El Nouty, Docteur des Lettres (French)
Eric Gans, Ph.D. (French)
Joaquín Gimeno, Ph.D. (Spanish)
Peter Haidu, Ph.D. (French)
Claude L. Huelt, Ph.D. (Spanish and Portuguese)
Carroll B. Johnson, Ph.D. (Spanish)
Bengu T. M. Lofstedt, Ph.D. (Classics)
Gerardo Luzuriaga, Ph.D. (Spanish)
C. B. Morris, Litt.D. (Spanish)
P. C. Otero, Ph.D. (Spanish and Romance Linguistics)
Edward F. Tuttle, Ph.D. (Italian)
Stephen D. Warner, Ph.D. (French)
Pier-Maria Pasinetti, Ph.D., Dottore in Lettere, Emeritus (Italian)
Stanley L. Robe, Ph.D., Emeritus (Spanish)

Associate Professors
George D. Bedell, Ph.D. (Linguistics)
Patrick Coleman, Ph.D. (French)
E. Mayone Dias, Ph.D. (Portuguese)
Shuhsi Kao, Ph.D. (French)
Sara Melzer, Ph.D. (French)
Susan Flann, Ph.D. (Spanish)
A. Carlos Quicoli, Ph.D. (Portuguese and Romance Linguistics), Chair
Richard M. Reeve, Ph.D. (Spanish)
Enrique Rodriguez-Cepeda, Ph.D. (Spanish)
A. John Skinner, Ph.D. (Spanish)
Paul C. Smith, Ph.D. (Spanish)

Assistant Professors
Jean-Claude Canon, Ph.D. (French)
James Reid, Ph.D. (French)
Timothy A. Stowell, Ph.D. (Linguistics)

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 Aptitude Test of the Graduate Record Examination (GRE) are also required and should be submitted to the Chair, Romance Linguistics and Literature Program, 359 Royce Hall, UCLA, Los Angeles, CA 90024. 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 quarter 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 in 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 quarter 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 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 100 is required as a prerequisite of all students majoring in the linguistics field. 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 automatically eligible for the Ph.D. program.

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 quarter two weeks prior to final examinations. If you fail the examination or any part thereof, you may retake the failed portions 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) Aptitude 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 form 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; (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 philology; (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 3 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 Educational Testing Service (ETS) test. 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 a grade 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 quarter 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. These 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 100 is required as a prerequisite of all students majoring in the linguistics field.

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 the 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 prospectus 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.

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.
Candidate in Philosophy Degree
You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

Graduate Courses
211. Comparative Romance Syntax. Lecture, three hours. Prerequisite: French 204A, Portuguese 204A, Spanish 204A, or consent of instructor. Comparative study of syntactic processes in Romance languages. Investigation of the parameters underlying linguistic variation.

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 the M.A. degree requirements. S/U grading.

597. Preparation for Graduate Examinations (4 to 8 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 only in the quarter 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 201A. Phonological Theory: Current Issues
201B. Phonological Theory in the 20th Century
206A. Syntactic Theory: Current Issues in Formal Syntax
206B. Syntactic Theory: Current Issues in Functional and Typological Approaches to Syntax

Development of the Romance Languages
Hispano-Romance: Spanish M205A-M205B. The Development of the Portuguese and Spanish Languages
280A-280B. Seminar in Indo-European Linguistics
Italic Dialects: Latin 242. Italic Dialects and Latin Historical Grammar
Italo-Romance: Italian 259A. History of the Italian Language
Latin History: Latin 240. History of the Latin Language
Medieval Latin: Latin 231A-231B. Seminar in Medieval Latin
Northern Gallo-Romance: French 204A. Phonology and Morphology from Vulgar Latin to French Classicism
204B. Syntax and Semantics from Vulgar Latin to French Classicism
Paleography: History 219A. Paleography I
219B. Paleography II
Romance Dialectology: Italian 259C. Italian Dialectology
Spanish 209. Dialectology
Romance Linguistics: Linguistics 225G. Linguistic Structures
Southern Gallo-Romance: French 215E. The Medieval Language and Literature: Provençal Poetry
Vulgar Latin: Latin 232. Vulgar Latin

Studies in the History of the Romance Languages
Gallo-Romance: French 215A. The Medieval Language and Literature: Old and Middle French
Hispano-Romance: Spanish M251A-M251B. Studies in Galego-Portuguese and Old Spanish
Italo-Romance: Italian 210A. Early Italian Literature: The Origins of Italian Language and Early Texts
Vulgar Latin: Latin 232. Vulgar Latin

Synchronic Linguistics
Advanced Grammar: French 201. Literary Research and Composition
206. French Linguistics
Italian 259B. The Structure of Modern Italian
Portuguese 202. Synchronic Morphology and Phonology
204A-204B. Generative Grammar
Spanish 202. Phonology and Morphology
204A-204B. Generative Grammar

262. Studies in Stylistics
Spanish 256A-256B. Studies in Spanish Linguistics
257. Studies in Dialectology

Literature Courses
French Literature: French 205A-205D. The Intellectual Background of French Literature
History of Ideas: French 260A-260B. Studies in the History of Ideas

Literary Criticism: French 203A-203B. French Literary Criticism
256A-256B. Studies in Literary Criticism
Italian 205A-205B. Methods of Literary Criticism
Spanish M201. Literary Theory and Criticism

Literary History: History 218. Medieval Latin Literary History
Philosophy and Literature: French 259A-259B. Studies in Philosophy and Literature

Early Romance Literature
Petrarca: Italian 214D. Italian Literature of the 14th Century: Petrarca
251. Seminar on Petrarch

Studies in Early Romance Literature: French 215B-215F. The Medieval Language and Literature
250A-250B. Studies in Medieval Literature
Italian 210B-210C. Early Italian Literature
214A-214G. Italian Literature of the 14th Century
215A-215B-215C. Italian Literature of the 15th Century
250A-250D. Seminar on Dante
252. Seminar on Boccaccio

Portuguese C224. Medieval Portuguese Literature
Spanish 222. Medieval Epic and Narrative Poetry
223. Medieval Prose
262A-262B. Studies in Medieval Spanish Literature

Modern Romance Literature
Genre Studies: Portuguese 252. Studies in Early Portuguese Literature
253. Studies in Modern Portuguese Literature
254. Studies in Early Brazilian Literature
255. Studies in Modern Brazilian Literature

Studies in the 18th Century: French 218A-218D. The 18th Century
254A-254B. Studies in the 18th Century
Italian 218A-218E. Italian Literature of the 18th Century
256A-256B. Seminar on the 18th Century

Portuguese C227. Romanticism and Realism in Portuguese Literature
C232. Romanticism in Brazilian Literature

Spanish 229. Romanticism
239. Romanticism and Realism in Spanish-American Literature
270A-270B. Studies in 18th-Century Spanish Literature
277A-277B. Studies in Colonial Spanish-American Literature

255A-255B. Studies in the 19th Century
Italian 219A-219F. Italian Literature of the 19th Century
257A-257B. Seminar on Romanticism

Portuguese C228. Post-Romanticism and Naturalism in Portuguese Literature
C233. Naturalism, Realism, and Symbolism in Brazilian Literature
Spanish 230. Realism and Naturalism
271A-271B. Studies in 19th-Century Spanish Literature
276A-276B. Studies in 19th-Century Spanish-American Literature

221A-221D. French-African Literature
256A-256B. Studies in Contemporary Literature
257A-257B. Studies in French-African Literature
Italian 220A-220B-220C. Italian Literature of the 20th Century
258A-258B. Seminar on Contemporary Italian Literature

Portuguese C229. 20th-Century Portuguese Literature
C234. 20th-Century Brazilian Literature: Poetry and Drama
C235. 20th-Century Brazilian Literature: Novel
Spanish 232. Spanish Prose Literature from 1898 to the Civil War
233. Spanish Prose Literature after the Civil War
234. Spanish Drama and Poetry from 1898 to the Civil War
235. Spanish Drama and Poetry after the Civil War
240. Major Currents in Modern Spanish-American Literature
243A-243B. Contemporary Spanish-American Poetry
244A-244B. Contemporary Spanish-American Novel
245. Contemporary Spanish-American Essay
272A-272B. Studies in 20th-Century Spanish Literature
280A-280B. Studies in Contemporary Spanish-American Literature

Renaissance and Baroque Literature
Cervantes: Spanish 227. Cervantes

Studies in Renaissance and Baroque Literature: French 216A-216H. The Renaissance
Aerospace Studies

210 Men's Gym, (213) 825-1742

Professor
Richard L. Folks, M.A., Colonel, Chair

Adjunct Assistant Professors
Dean S. Alred, M.S., Captain
Ronald J. Calloway, M.S., Captain
Murray D. Johannsen, M.B.A., M.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, and operating principles and national security policies, demonstrating ability to apply modern principles of management and human relations in the Air Force environment, and mastery 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-quarter 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 two hours of academic class each week and two or four hours of laboratory the first week and two or four hours of academic class (each week that laboratory does not meet) during the academic year.

A prerequisite for the two-year program is 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 this program are encouraged to apply to the department chair early during the Fall Quarter preceding the six-week summer field training course. The application deadline normally is March 1, and 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, and performance during an officer board interview.

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 (1 unit each). Lecture, one hour; discussion, one hour. Air Force ROTC students should complete all three courses, preferably in sequence. Willingness to participate in class discussion is required.

1A. A "threat assessment" of the U.S.S.R./Warsaw Pact; summary of the United States agencies and armed services which specifically counter that "threat," comparing and contrasting the U.S.S.R. and the U.S. in numerous areas.

1B. Discussion of doctrine and policy, giving students an opportunity to role play and create problems/solutions. Defense contracting and the attached and specialized units of the Air Force: civilian influence and Air Force contributions to industry. The major commands of the Air Force, their contributions to civilian industry/economy, and the special programs/challenges of the future. More technical in nature, covering basic improvements in Air Force weapon systems, humanitarian efforts, and the importance of current events. Pros and cons.

Capt. Johannsen (F,W,Sp)

Sophomore-Year Courses

20A-20B-20C. The Developmental Growth of Air Power (1 unit each). Prerequisites: courses 1A-1B-1C. The development of air power over the past 60 years. The 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 the history of air power, especially where these provide significant examples of the impact of air power on strategic thought.

Col. Folks (F,W,Sp)
Upper Division Courses

130A-130B-130C. Concepts of Air Force Management and Leadership (3 units each). Course 130A is prerequisite to 130B, which is prerequisite to 130C. An analysis of the 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 force requirement used as teaching devices. Communicative skills strengthened through preparation of written reports and oral presentations. Capt. Calloway (F,W,Sp)

140A. Military Judicial System (3 units). Seminar. Prerequisite: course 140A. Forces and issues in the social context of the American military. The influence of social norms, societal pressures, and cultural factors on the functions and role of the military professional in the United States. Communicative skills strengthened through extensive classroom presentations. Capt. Alfred (F)

140B. The Military in American Society (3 units). Seminar. Prerequisite: course 140A. Forces and issues in the social context of the American military. The influence of social norms, societal pressures, and cultural factors on the functions and role of the military professional in the United States. Communicative skills strengthened through extensive classroom presentations. Capt. Alfred (W)

140C. American Defense Policy (3 units). Seminar. Prerequisite: course 140B. U.S. security policy with respect to factors that influence its formulation, the bureaucracy that formulates and implements it, and the forms it has taken and may take in the future. Communication techniques strengthened, and communicative abilities oriented to Air Force requirements through preparation of papers and classroom presentation and discussion. Capt. Alfred (Sp)

199. Special Studies in Aerospace Studies (1 or 3 units). Prerequisite: consent of instructor. A course of study beyond undergraduate 130C. As wish to engage in independent research under the direct supervision of a department faculty member. Col. Folks

Military Science

142 Men's Gym, (213) 825-7381

Professor
Richard H. Zeiler, M.A., Lieutenant Colonel

Assistant Professors
William Coffey, M.E.A., Major
Anthony Dennard, M.A., Major
Carla J. Smith, M.A., Captain
J.L. Steuber, M.B.A., Captain

Army ROTC Scope and Objectives

Army ROTC prepares selected students for leadership as commissioned officers in the United States Army, Army Reserve, or National Guard. This training includes an 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 13 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, students are 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 service 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 only three months. Students accepting ROTC scholarships, 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 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, enlist in the United States Army Reserve for eight years, 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 leads 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

ROTC students may satisfy military history requirements by completing History 7B, 148A, 148B, 148C, 152A, or 152B in lieu of courses 22 and 23, with consent of the ROTC advisor.

100. Leadership Laboratory (No credit). Laboratory; two hours. Cadets must be concurrently enrolled in a military science course and actively pursuing a commission through the ROTC program. Required of all Army ROTC students each quarter. Designed to allow cadets to apply the leadership techniques and military skills taught in the classroom and to develop the confidence needed to cope with the challenges associated with being an officer.


13. Theory of Warfare (2 units). Inquiry into the theory, nature, causes, and elements of warfare, with attention also to the evolution of weapons and warfare.

14. Principles of Land Navigation Applicable in Maneuver (2 units). (Formerly numbered 114.) Lecture, one hour; laboratory, one hour. Limited to military science students. Introduction to topographic maps and aerial photographs and their relation to land navigation; conceptual linkage to basic military tactics. Topics include map coordinate systems, scale and distance relationships, intersection and resolution, map and aerial interpretation, squad and platoon operations, and resource planning techniques. Introduction to new technologies, including Global Positioning Systems (GPS).

18. Modern Guerrilla Warfare (2 units). Lecture, one hour; discussion, one hour. Prerequisite: undergraduate standing. Introduction to low intensity conflict and guerrilla strategies; exploration/discussion of political, economic, religious, and social factors contributing to civil unrest and/or insurgencies. Topics include nonmilitary responses, military tactics, interrelationship of the military and government, psychological warfare, and civic actions.

22. United States Military History, 1860-1919 (2 units). A survey of American military history during the period from 1860 to 1919. Causes of war, strategy, tactics, and technological developments. Economic, political, diplomatic, and social history is woven into the fabric of war, and a special effort is made to reveal the character and personalities of the leaders, political and military figures of the period.

Upper Division Courses

111. The Psychology of Leadership I (2 units). Limited to military science students. The basis for understanding the relationship of individual differences and the leadership process, group dynamics and their relationship to the leadership process, formal organizational constraints on the leadership process, and the impact of society on the leadership process. Introduction to the external environment in which a leader functions and the pressures that exist on a leader. The psychology of the individual as a follower, examined in the areas of motivation, peer pressure/conformity, and group norms to determine how they influence an individual. (F)

112. The Psychology of Leadership II (3 units). Lecture, two hours. Limited to military science students. The study of the application of military law and legal systems, with emphasis on the Uniform Code of Military Justice and the rights of the accused under the constitution. (W)

113. Theory of Learning Applied to Teaching (2 units). Limited to military science students. An introduction to the theory and application of military legal and legal systems, with emphasis on the Uniform Code of Military Justice and the rights of the accused under the constitution. (F)

125. Decision Making (2 units). Limited to military science students. Designed to present students who will become commissioned officers with a new insight into the modern methods of managerial decision-making and into the various steps involved in the process. Introduction to the various components of leadership and the functions of management in order to understand where the areas of problem analysis and decision-making impact and how they fit into leadership and management. The various steps which comprise the problem analysis and decision-making process. (Sp)

126. Military Professionalism and Ethics (2 units). Lecture, 90 minutes; discussion, 30 minutes. Limited to military science students. An introduction to ethical and moral concepts inherent in leadership. The classification of the military as a profession, the 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 Study (1 to 3 units). Prerequisites: upper division standing, consent of instructor. Supervised independent study and research for undergraduate students who desire to pursue topics of their own selection.

Naval Science

123 Men's Gym, (213) 825-9075

Professor
Allen L. Shapero, M.S., Captain, U.S. Navy, Chair

Assistant Professor
Michael P. Jonas, M.S., Commander, U.S. Navy, Vice Chair

Adjunct Assistant Professors
Kevin W. Alt, B.S., Lieutenant, U.S. Navy
John M. Misielwicz, M.S., Captain, U.S. Marine Corps
Peter A. Shaner II, M.S., Lieutenant, U.S. Navy

Navy ROTC Scope and Objectives

Navy ROTC at UCLA offers subsidized and nonsubsidized 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 an understanding of the fundamental concepts and principles of naval science, a basic understanding of associated professional knowledge; an 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 and aviation. It also provides an 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 enrolled in NROTC as juniors, with the same obligations and privileges as in the College Program described above. The age limit is 27 1/2 years at the time of graduation. Applicants should contact the department no later than March 1 of their sophomore year.

Freshman-Year Courses


1B. Naval Ship Systems I. An introduction to the principles of ship hull and superstructure design. The concepts of ship structural integrity, stability, and buoyancy examined in detail. Basic thermodynamic principles inherent in ship propulsion and salt water distillation systems. (W)

Sophomore-Year Courses

20A. Naval Ship Systems II. (Formerly numbered 20B.) A study of naval weapon systems, with emphasis on target detection and mission planning, methods of solving fire control problem and target detection systems. Analysis of transfer and feedback functions inherent in weapon systems. Infrared, radar, and sonar principles. (F)

20B. Seapower and Maritime Affairs (2 units). (Formerly numbered 20A.) A conceptual study of seapower, emphasizing the historical development of naval and commercial power. Sea power examined in relation to economic, political, and cultural strengths, focusing on current abilities of specific nations to use the oceans to attain national objectives. (W)

Junior-Year Courses

101A. Navigation I. A study of principles of piloting, rules of the road, ship handling, and basic concepts of multiple ship formations in ocean transit. In-depth discussion of problems associated with high seas and inland water, applying to small craft and super-tankers alike. (L) Shaner

101B. Navigation II. Prerequisite: course 101A or consent of instructor. A detailed study of electronic and celestial navigation employed in the determination of a ship's position at sea, including spherical trigonometry, mathematical analysis, sextant sights, and the use of navigational aids. (L) Shaner

103. Evolution of Warfare. A study of the evolution of warfare, including historical and comparative considerations of influence that leadership, political, economic, and sociological and technological development factors had on warfare and the influence they continue to exert in the age of limited warfare. (Capt. Misielwicz)

108. Naval Leadership and Management I. An examination of current and classical leadership and management theories and their application to the military environment. Interpersonal communication, counseling, moral and professional ethics, conflict resolution, and management of change. The leadership problems created by racism, sexism, alcoholism, and drug abuse. (Capt. Misielwicz)

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. (Cdr. Jonas)

104. Amphibious Operations. A study of the art of amphibious operations, including historical development of techniques used to project military power from sea to land. The evolution of amphibious doctrine and techniques, examined through study of the U.S. landings during World War II, the Korean Conflict, and the Vietnam War. (Capt. Misielwicz)

Senior-Year Courses

102B. Naval Leadership and Management I. An examination of current and classical leadership and management theories and their application to the military environment. Interpersonal communication, counseling, moral and professional ethics, conflict resolution, and management of change. The leadership problems created by racism, sexism, alcoholism, and drug abuse. (Capt. Misielwicz)

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. (Capt. Misielwicz)

*Course to be taken by candidates for commissions in the Marine Corps of Marine Corps Reserve in lieu of courses 101A, 101B, 102B, 102C.

*Course to be taken by candidates for commissions in the Marine Corps of Marine Corps Reserve in lieu of courses 101A, 101B, 102B, 102C.
Undergraduate Study

The department offers three majors: (1) Slavic languages and literatures, (2) Russian civilization, and (3) Russian linguistics. The major in Slavic languages and literatures 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 civilization or Russian linguistics are expected to make up in order to receive graduate degrees in the department. Students who do not choose the major in Slavic languages and literatures but 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 several graduate courses numbered below 220 with consent of the instructor and the graduate adviser.

Work completed in the University's summer or semester Russian programs at Leningrad State University may be applied toward fulfillment of the Russian 101- and 111-series requirements in any of the following majors.

Bachelor of Arts in Slavic Languages and Literatures

Preparation for the Major

Required: Slavic 99, Russian 1, 2, 3, 4, 5, 6, 99.

The Major


Bachelor of Arts in Russian Civilization

Preparation for the Major

Required: Russian 1, 2, 3, 4, 5, 6, 99.

The Major

Required: Russian 101A-101B-101C, 111A-111B-111C, 119, 120, three additional courses in Russian literature, seven courses from Russian M170, Economics 182, Geography 184, History 131A, 131B, 131C, 131D, Political Science 128A, 128B, 156, or special courses in

the Departments of Art, Design, and Art History, Music, Theater, Film, and Television, and Slavic Languages and Literatures approved by the undergraduate adviser.

Bachelor of Arts in Russian Linguistics

Preparation for the Major

Required: Russian 101A-101B-101C, 111A-111B-111C, 118, 119, 120, three additional courses in Russian literature, seven courses from Russian M170, Economics 182, Geography 184, History 131A, 131B, 131C, 131D, Political Science 128A, 128B, 156, or special courses in

the Departments of Art, Design, and Art History, Music, Theater, Film, and Television, and Slavic Languages and Literatures approved by the undergraduate adviser.

Graduate Study

The Department of Slavic Languages and Literatures 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 the equivalent of a UCLA B.A. in Slavic Languages and Literatures, or three years of Russian language and a sufficient number of Russian history, literature, and linguistics courses so that you will not need more than one year (nine courses) to make up deficiencies. 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 take the M.A. comprehensive examination as a screening examination within your first year and to make up any deficiencies in your background compared with that of a UCLA master's degree recipient.

For all applicants, three letters of recommendation are required from persons capable of judging your academic potential. 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, Slavic Languages and Literatures, 115 Kinsey Hall, UCLA, Los Angeles, CA 90024.

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 lan-
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 at least one quarter 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 quarter until a pass grade is achieved; (2) you must demonstrate an ability to read scholarly literature in either French or German by one of three options: (a) passing the appropriate Educational Testing Service (ETS) 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 before admittance may satisfy this requirement at the discretion of the graduate adviser).

Course Requirements
Slavic 201, Russian 102A-102B-102C, 112A-112B-112C, and 204 are required of all M.A. students.
Literature students must also take Russian 211, 212, 213, and one other literature course in the department.
Linguistics students must also take Slavic 202, Russian 221, 222, 225, and two courses from 211, 212, 213.
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 quarter 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. Examinations are offered at the end of each quarter. After you have declared your intention to take the examination in a given quarter, a committee consisting of three members is appointed by the chair and the graduate adviser. The comprehensive examination has two parts — written (three hours) and oral (two hours) — and is based on coursework and the departmental reading list. The examination covers either linguistics or literature. If you receive a pass grade on the written examination, you are admitted to a two-hour oral examination which is designed to test the fields of major interest and general background. It is 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, no later than one calendar year after the first attempt.

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"); (3) taking one year (or the equivalent) of a second Slavic language.

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 an ability to read scholarly literature in both French and German by completing one of the three options listed under the master's degree. With departmental consent, students specializing in linguistics may substitute a 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 Educational Testing Service (ETS) examination 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 four other advanced linguistics courses or seminars (numbered above 220).

Recommended preparation for linguists includes Linguistics 100, 103, 110, 120A, 120B, M150.

Literature students must take two courses from Slavic 230A-230B-230C; Russian 251A; and three additional seminars.

Candidates specializing in literature are advised to acquire a sound general knowledge of modern Western European literature.

Qualifying Examinations
Candidates are required to submit to the examination committee a serious research paper of publishable quality. The paper must be received and approved no later than one quarter preceding the comprehensive written examination.

All students are expected to have a sound general knowledge of both Slavic philology and Russian literary history equivalent to that required for the M.A. at UCLA. For linguistics students, there is one written three-hour qualifying examination given at the end of each quarter. For literature students, there are two written three-hour qualifying examinations given one week apart at the end of each quarter.

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 quarters (or one quarter 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 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 required except in cases of geographically imposed hardship.

Slavic

Lower Division Course
99. Introduction to Slavic Civilization. Lecture, three hours. An introductory survey of the social and cultural institutions of the Slavic peoples and their historical background.

Upper Division Courses
177. Baltic Languages and Cultures (2 units). A general survey of the peoples speaking Old Prussian, Lithuanian, and Latvian; their linguistic, historical, and ethnic affiliations. Mrs. Gimbutas

M179. Baltic and Slavic Folklore and Mythology. (Same as Folklore M126.) Lecture, three hours. A general course for students interested in folklore and mythology and for those interested in Indo-European mythic antiquities. Mrs. Gimbutas

199. Special Studies (2 to 8 units). Prerequisites: senior standing, consent of instructor.
Graduate Courses

**Linguistics**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>201</td>
<td>Introduction to Old Church Slavic.</td>
<td>3</td>
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</tr>
<tr>
<td>202</td>
<td>Introduction to Comparative Slavic Linguistics.</td>
<td>3</td>
<td>Required for M.A. (linguistics, literature). Introduction to phonology and grammar.</td>
<td></td>
</tr>
<tr>
<td>203</td>
<td>Introduction to West Slavic Languages.</td>
<td>3</td>
<td>Required for M.A. (linguistics). Introduction to the comparative phonology and grammar of the Slavic languages.</td>
<td></td>
</tr>
<tr>
<td>204</td>
<td>Introduction to East Slavic Languages.</td>
<td>3</td>
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</tr>
<tr>
<td>206</td>
<td>Introduction to South Slavic Languages.</td>
<td>3</td>
<td>Prerequisite: course 202. Recommended: Serbo-Croatian 103A-103B-103C or Bulgarian 100A-100B-100C. Required for the Ph.D. (linguistics). Introduction to the structure and history of the South Slavic languages.</td>
<td></td>
</tr>
<tr>
<td>211</td>
<td>Advanced Old Church Slavic.</td>
<td>3</td>
<td>Prerequisite: course 201. 241A. Advanced Readings in Canonical Texts; 241B. East, West, and South Slavic Recensions of Church Slavic.</td>
<td></td>
</tr>
<tr>
<td>212</td>
<td>Comparative Slavic Linguistics.</td>
<td>3</td>
<td>Prerequisite: course 202. Selected topics in the development of Common Slavic.</td>
<td></td>
</tr>
<tr>
<td>213</td>
<td>Introduction to Baltic Linguistics.</td>
<td>3</td>
<td>Prerequisite: course 202. Introduction to Baltic linguistics, with special attention to the relationship between Baltic and Slavic.</td>
<td></td>
</tr>
<tr>
<td>214</td>
<td>Slavic Paleography.</td>
<td>3</td>
<td>Prerequisite: course 201. Introduction to Slavic paleography: inscriptions, birch bark letters, Glagolitic and Cyrillic texts.</td>
<td></td>
</tr>
<tr>
<td>221</td>
<td>West Slavic Linguistics.</td>
<td>3</td>
<td>Prerequisite: course 222. 262A. Lekhbit; 262B. Czechoslovak; Sorbian.</td>
<td></td>
</tr>
<tr>
<td>222</td>
<td>South Slavic Linguistics.</td>
<td>3</td>
<td>Prerequisite: course 223. 263A. Serbo-Croatian, Slovene; 263B. Bulgarian, Macedonian.</td>
<td></td>
</tr>
<tr>
<td>223</td>
<td>Seminar in Slavic Linguistics.</td>
<td>3</td>
<td>Seminar, three hours. Selected topics in comparative and historical Slavic linguistics. May be repeated for credit with consent of instructor and graduate adviser.</td>
<td></td>
</tr>
<tr>
<td>224</td>
<td>Seminar in Structural Analysis.</td>
<td>3</td>
<td>Selected topics. May be repeated for credit with consent of instructor and graduate adviser.</td>
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**Literature**

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>290</td>
<td>Seminar in Comparative Slavic Literature.</td>
<td>3</td>
<td>Seminar, three hours. Prerequisites: courses 230A-230B-230C. Recommended: reading knowledge of one Slavic language in addition to Russian. Selected topics involving more than one Slavic language or Slavic and Western literatures. May be repeated for credit with consent of instructor and graduate adviser.</td>
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</table>

**Special Studies**

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<tr>
<th>Course Code</th>
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<th>Prerequisites</th>
<th>Notes</th>
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<tbody>
<tr>
<td>275</td>
<td>Seminar in Literary Analysis. Seminar, three hours. Recommended prerequisite: reading knowledge of one Slavic language in addition to Russian. Selected topics from various Slavic literatures or Slavic and Western literatures, with emphasis on analytic methods. May be repeated for credit with consent of instructor and graduate adviser.</td>
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</table>

**Russian Language Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
<th>Prerequisites</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>10A-10B-10C</td>
<td>Russian Conversation (2 units each). Prerequisite: course 3 or consent of instructor. Russian conversation designed to supplement the grammar and readings of courses 4, 5, 6.</td>
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</tr>
<tr>
<td>11A-11B-12A-12B-12A-13B</td>
<td>Self-Paced Program in Russian (2 to 12 units). Basic course in the Russian language. Each two-unit course in the sequence requires 30 minutes of laboratory session per week and 30 minutes of discussion session per week, plus individual instruction as required by the staff. Courses 11B and higher require the completion of or simultaneous enrollment in all courses lower in the sequence.</td>
<td>3</td>
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<tr>
<td>261A-261B-262A-262B</td>
<td>Advanced Old Church Slavic. Lecture, three hours. Prerequisite: course 201. 241A. Advanced Readings in Canonical Texts; 241B. East, West, and South Slavic Recensions of Church Slavic.</td>
<td>3</td>
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<tr>
<td>221A-221B-221C</td>
<td>Introduction to Bulgarian Civilization. Lecture, three hours. An introductory survey of the social and cultural institutions of the Bulgarian people and their historical background.</td>
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<tr>
<td>250A-250B-250C</td>
<td>Elementary Bulgarian. Recitation, five hours. Basic course in the Bulgarian language.</td>
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<tr>
<td>254</td>
<td>Survey of Bulgarian Literature. Lecture, three hours. Prerequisite: upper division standing. Lectures and readings in English. A survey of Bulgarian literature from the Middle Ages to the present.</td>
<td>3</td>
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</table>

**Czech Language Courses**

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>102A-102B-102C</td>
<td>Elementary Czech. Recitation, five hours. Basic course in the Czech language.</td>
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<tr>
<td>102A-102B-102C</td>
<td>Advanced Czech. Recitation, three hours. Prerequisite: course 102C.</td>
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<tr>
<td>155A-155B</td>
<td>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.</td>
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**Polish Language Courses**

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<tr>
<th>Course Code</th>
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<th>Credits</th>
<th>Prerequisites</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>102A-102B-102C</td>
<td>Elementary Polish. Recitation, five hours. Basic course in the Polish language.</td>
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<tr>
<td>102A-102B-102C</td>
<td>Advanced Polish. Recitation, three hours. Prerequisite: course 102C.</td>
<td>3</td>
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<tr>
<td>152A-152B-152C</td>
<td>Survey of Polish Literature. Lecture, three hours. Lectures and readings in English. 152A. From the Middle Ages to Romanticism; 152B. From Realism to the Present.</td>
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<tr>
<td>160</td>
<td>Polish Romanticism. Lecture, three hours. Lectures and readings in English. Comparison of Polish Romanticism with that of other Slavic and Western European countries.</td>
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**Graduate Course**

280. Seminar in 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.

**Linguistics Courses**

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>121</td>
<td>Russian Phonology. Lecture, three hours. Prerequisite: course 6. Introduction to transliteration and transcription, articulatory phonetics, phonemics.</td>
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<tr>
<td>122</td>
<td>Russian Morphology. Lecture, three hours. Prerequisite: course 121. Introduction to morphophonemics, inflection, derivation.</td>
<td>3</td>
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</tbody>
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**Historical Commentary on Modern Russian Literature**

**597. Preparation for MA Thesis.** Seminar, three hours. Prerequisite: consent of instructor and graduate adviser. May be repeated for credit with consent of instructor and graduate adviser.
Literature and Civilization Courses

99. Introduction to Russian Civilization. Lecture, three hours. An introductory survey of the social and cultural institutions of the Russian people and their historical background.

100. The Russian Novel in Translation. Lecture, three hours. Designed for nonmajors. A study of major works by the great 19th-century Russian novelists.

118. 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.

123. 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.

124A-124F. Studies in Russian Literature. Lecture, three hours. Lectures and readings in English. The following writers are alternately discussed: 124A. Pushkin; 124B. Gogol; 124C. Turgenev; 124D. Dostoevsky; 124E. Tolstoy; 124F. Chekhov.

125. The Russian Novel in its European Setting. Lecture, three hours. Prerequisite: upper division standing. Emphasis on 19th- and 20th-century novelists. Lectures and readings in English.

129. Survey of Russian Drama. Lecture, three hours. Prerequisite: upper division standing. Major Russian plays from the 18th to 20th century. Lectures and readings in English.


210. Readings in Russian Historical Texts. Lecture, three hours. Prerequisite: Slavic 201 or consent of instructor. Readings in early Russian chronicles and other documents of historical interest.

Graduate Courses

Linguistics

203. Higher Course in Russian (2 units). Prerequisite: course 102C. Two quarters 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 Russian Historical Texts. Lecture, three hours. Prerequisite: Slavic 201 or consent of instructor. Readings in early Russian chronicles and other documents of historical interest.

221. Advanced Russian Phonology (2 units). Prerequisites: courses 102A-102B-102C, 121 (may be taken concurrently). Required for the M.A. (linguistics). Advanced study and analysis of problems in Russian phonology.


241. Topics in Russian Phonology. Lecture, three hours. Prerequisite: course 221. Selected topics in Russian phonology.

242. Topics in Russian Morphology. Lecture, three hours. Prerequisite: course 222. Selected topics in Russian inflection and derivation.

243. Topics in Historical Russian Grammar. Lecture, three hours. Prerequisite: course 122. Slavic 221. Selected topics in Russian historical phonology, morphology, and syntax.

263. Russian Dialectology. Lecture, three hours. Prerequisite: Slavic 221. Phonology and grammar of modern Great Russian dialects.

264. The History of the Russian Literary Language. Lecture, three hours. Prerequisites: course 204, Slavic 201. The evolution of literary Russian from the 11th to 20th century. Lectures and analysis of texts.

265. Advanced Russian Syntax. Lecture, three hours. Prerequisite: course 225. Traditional and generative approaches to Russian syntax.

266. Russian Lexicology. Lecture, three hours. Examination of the formal and semantic structure of the Russian lexicon.

Literature and Civilization

211. 18th-Century Russian Literature. Lecture, three hours. Required for the M.A. (literature). Lectures and readings in major and secondary writers. Analysis of selected literary works.


251A-251B. Old Russian Literature. Lecture, three hours. Prerequisites: courses 251A, 251B. Required for the Ph.D. (literature). Survey of preliterary literature from the beginnings through the Kievian and the Muscovite periods up to the end of the 17th century. Detailed discussion of specific writers, periods, or genres.

270. Russian Poetics. Lecture, three hours. Prerequisites: courses 130A-130B-130C. Introduction to the technical study of Russian poetics and versification, with attention to metrics, stanza forms, rhyme, and the development of various verse types from the 18th into the 20th century.

290. Seminar in Russian Poetry. Seminar, three hours. Prerequisites: courses 130A-130B-130C. Recommended: course 270. Detailed study of a single author, period, or work. May be repeated for credit with consent of instructor and graduate adviser.

291A. Seminar in Old Russian Literature. Seminar, three hours. Prerequisite: course 251A. Selected topics from the 11th through the 17th century. May be repeated for credit with consent of instructor and graduate adviser.

291B. Seminar in 18th-Century Russian Literature. Seminar, three hours. Prerequisite: course 211. 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 in 19th-Century Russian Literature. Seminar, three hours. Prerequisite: course 212. 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 in 20th-Century Russian Literature. Seminar, three hours. Prerequisite: course 213. Selected authors and works from 20th-century poetry, prose, and drama. May be repeated for credit with consent of instructor and graduate adviser.

294. Seminar in Russian Literary Criticism. Seminar, three hours. Prerequisites: courses 211, 212, 213. Detailed study of a specific school of literary criticism, a single literary critic, or a 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.

296. Seminar in Russian History and Culture. Reading and discussion on selected topics in the history of Russian culture.

Serbo-Croatian

Upper Division Courses

103A-103B. Elementary Serbo-Croatian. Recitation, five hours. Basic course in the Serbo-Croatian language.

103D-103F. Advanced Serbo-Croatian. Recitation, three hours. Prerequisite: course 103C. Recommended: Slavic 222. Survey of Yugoslav literature from the Middle Ages to the Present; 154A. Selected Topics.

Slovak

Graduate Course

222. The Structure of Slovak. Lecture, three hours. Prerequisite: Slavic 202. Recommended: Slavic 222. Introduction to the phonological and morphological structure of the Slovak language, especially as contrasted with Czech.

Ukrainian

Upper Division Courses

152. Ukrainian Literature. Lecture, three hours. A survey of writers, literary trends, and issues in Ukrainian literature from the late 18th century to the present. Special attention to the works of such major figures as I. Kotlyarevsky, T. Shevchenko, I. Franko, L. Ukrainka, and P. Tychyna. Lectures and readings in English.

Non-Slavic Languages of Eastern Europe

Lithuanian

Upper Division Courses


Romanian

Lower Division Course

99. Introduction to Romanian Civilization. Lecture, three hours. An introductory survey of the social and cultural institutions of the Romanian people and their historical background.

Upper Division Courses


152. Survey of Romanian Literature. Lecture, three hours. Lectures and readings in English. A survey of Romanian literature from the Middle Ages to the present.

Graduate Course

201. Romanian as a Romance Language. Lecture, three hours. A survey of the structure and development of the Romanian language, with special emphasis on the relationship of Romanian to other members of the Romance group.

Related Courses in Other Departments

Dance 748, 148B; Economics 182; Geography 184; Linguistics 100, 103, 110, 120A, 120B, M150, as well as several of the graduate courses in linguistics; Music 81C, 142A-142B; Political Science 128A-128B, 156, 157.

Sociology

264 Haines Hall, (213) 825-1313

Professors

Jeffrey Alexander, Ph.D.
Rodolfo Alvarez, Ph.D.
Judith Blake, Ph.D.
Phillip Bonacich, Ph.D., Chair
Lucie Cheng, Ph.D.
Burton R. Clark, Ph.D.
Robert M. Emerson, Ph.D.
Howard E. Freeman, Ph.D.
Harold Garfinkel, Ph.D.
Oscar Grusky, Ph.D.
Harry L. Kitano, Ph.D.
Gene N. Levine, Ph.D.
Ivan H. Light, Ph.D.
Valerie K. Oppenheimer, Ph.D.
Georges Sabaugh, Ph.D.
Emanuel A. Schegloff, Ph.D.
Melvin Seeman, Ph.D.
Edwin S. Shneidman, Ph.D.
Gerald H. Shure, Ph.D.
Warren D. TenHouten, Ph.D.
Donald J. Treiman, Ph.D.
Ralph H. Turner, Ph.D.
Maurice Zeitlin, Ph.D.
C. Wayne Gordon, Ph.D., Emeritus
Leo J. Kuper, Ph.D., Emeritus

Associate Professors

Charlotte A. Heth, Ph.D. (Music)
Kerranny R. Lincoln, Ph.D. (English)
Robert A. Nakamura, M.F.A. (Theater, Film, and Television)
Melvin Oliver, Ph.D. (Sociology), Coordinator
Raymond A. Paredes, Ph.D. (English)
Jeffrey Prager, Ph.D. (Sociology)
Raymond A. Rocco, Ph.D. (Political Science)
Richard A. Yarborough, Ph.D. (English)

Assistant Professors

Duane Champagne, Ph.D. (Sociology)
King-Kok Cheung, Ph.D. (English)
Jacqueline C. DjieDe, Ph.D. (Music)
Halldor H. Fairchild, Ph.D. (Psychology)
Rebecca Morales, Ph.D. (Architecture and Urban Planning)
Paul Ong, Ph.D. (Architecture and Urban Planning)

Visiting Lecturers

Steven J. Loza, Ph.D. (Music)
Nora Yeh, Ph.D. in Music

There is no major in social sciences; however, the following undergraduate course is offered for interested students.

Lower Division Course

20. Racial Minorities in the United States. (Formerly numbered Afro-American Studies M20, American Indian Studies M20, Asian American Studies M20, Chicano Studies M20.) Lecture, three hours; discussion, one hour. A multidisciplinary examination of the history and culture of Afro-Americans, Asian Americans, Chicanos, 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.

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

Major for the Preparation

Required: Sociology 1, 18 or (Mathematics 50, Psychology 41, Economics 40, or Public Health 100A), one course from Group A (Mathematics 2, 3A), one course from Group B (Philosophy 8, 9, 31), one course from Group C...
must 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, not including former course 101. The 10 courses (40 units) must include the following:

(1) Sociology 109 and 112 or 113. These courses, devoted to the systematic exploration of sociological methods and theories, should be completed as early as possible in your junior year.

(2) Four upper division courses as required by one of the specialized "Concentrations for the Major" listed below.

(3) Any four additional upper division sociology courses.

(4) Four upper division allied field courses (16 units) in other departments to complete the major. The allied fields are anthropology, economics, geography, history, political science, and psychology.

(5) English 100W.

Concentrations for the Major

By the end of the junior year and no later than the beginning of the senior year, you are required to declare your specific concentration by filing a statement with the undergraduate counselor. The purpose of the concentration requirement is to expose you to systematic, in-depth work within a specific area of sociology. Completion of a concentration requires four upper division sociology courses. You must take a concentration's required course (if any) before declaring that concentration. You must select one of the following concentrations and meet its course requirements:

(1) Comparative and Historical Sociology

Required: 138

Two of the following: 120, 125, 126, 140, 141

One of the following: 130, 131, 132, 133, 134, 135, 136, 137

(2) Organizations

Required: 121

Three of the following: 120, 123, 128, 140, 141, 147, 152

(3) Political Sociology

Required: 140

Three of the following: 114, 120, 124, 136, M143, 147, 150

(4) Quantitative Sociology

Consult the faculty adviser for premajor requirements for this concentration.

Required: 116

Three of the following: 123, 126, 152, 154

Recommended: Mathematics 152A-152B instead of Sociology 18 on the preparation

(5) Race and Ethnicity

Required: 124

Two of the following: 120, 123, 125, 151, 155

One of the following: 130, 131, 132, 133, 134, 135, 136, 137

(6) Social Change and Modern Society

Required: 120

Two of the following: 123, 140, 150

One of the following: 124, 125, 136, 141

(7) Social Demography

Required: 126

Three of the following: 116, 123, 127, 132, 160

(8) Social Organization and Language, Thought, and Experience

Four of the following: 117, C144A, C144B, 146, 148, 149, 153, 157, 159

(9) Social Psychology

Required: 154

Three of the following: 115, 150, 151, 152, 153, 155, 156

(10) Social Stratification

Required: 123

Three of the following: 114, 116, 124, 128, 136, 140, 155, 160

(11) Social Policies and Social Programs

Required: 110, 129

One of the following: 120, 121, 124, 136

One of the following: M143, 146, 147, 157, 161, 162

A psychology course taken to fulfill the breadth requirement cannot also be used for the allied field requirement. 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 109, 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, (3) completing two courses from Sociology 9, 116, 118. You graduate with a bachelor's degree in sociology and a specialization in computing.

Honors Program

The honors program in sociology provides an opportunity for outstanding students to undertake an independent year-long research project under the guidance of a faculty member. The project culminates with an honors thesis or paper. Students intending to obtain advanced degrees will find this program especially useful. If you are selected, you enroll in Sociology 199HA-199HB-199HC in your senior year. These courses may be applied toward the 10 upper division courses required of all sociology majors. After completing the program, you graduate either with departmental honors or highest honors.

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 in the Undergraduate Counselor's Office, 254A Haines Hall. You should apply in the last quarter 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 ordinarily 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.

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).

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 articularateness), 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 January 15. Appli-
cation forms and more detailed information are available from the Graduate Affairs Assistant, Department of Sociology, 254C Haines Hall, UCLA, Los Angeles, CA 90024.

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 quarter of residence. During the first year of graduate study, and no later than the first quarter of the second year, you are expected to form a two-person master's committee to help you prepare the master's paper.

In the quarter 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 specialized, advanced study and research toward the Ph.D. The area programs represent the special strengths of the department in research and graduate instruction:

1. 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. Methods and Models: Survey research methods, methods of applied and evaluation research, formal demography, advanced social statistics, and mathematical sociology.

4. Social Organization and Institutions: Social demography, stratification, and mobility, work and occupations; social change and class analysis; complex/formal organizations; crime, deviance, and social control; sociologies of education and cognitive development; sociologies of knowledge, science, and technology; mass media and mass communication; medical sociology; biosociology; social and ethnic communities; intergroup relations; urban studies.

5. Social Psychology: Attitudes and social structure, collective behavior, socialization, social interaction and small group behavior, and organizational social psychology.

Foreign Language Requirement
Master's Degree: There is no foreign language requirement for the master's degree.

Ph.D. Degree: The foreign language requirement for the Ph.D. is one language or a substitute program approved by the executive committee. Students who plan to study toward the Ph.D. degree should complete the foreign language requirement as early as possible, so as to make use of foreign language sociological publications throughout graduate study. In any case, the foreign language requirement must be fulfilled before the doctoral committee is nominated and the oral examination is taken. Reading knowledge of one language, as demonstrated either by acceptable performance on a standardized test or by completing level five of that language (or the equivalent), with at least a grade of C, is required. You must submit your selected language to your area governing committee for approval.

With the approval of the department, an international student may offer English as a foreign language if the native language is other than English. Proficiency in English is evaluated by the level of performance on the UCLA entrance examination in English for international students, together with achievement in graduate work.

A second alternative is to study sources in an allied field such as history, political science, linguistics, psychology, economics, philosophy, or mathematics. You would be permitted to substitute for the language requirement a set of three upper division or graduate courses offered at UCLA and passed with a grade of at least B. Contact the department for further information and guidelines for language substitutions.

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.


2. A two-quarter graduate-level methodology sequence of which there are several alternatives (e.g., the survey methods course, the demographic methods course, etc.). The methodology series is presently numbered 211A through 218B.

In choosing a methodology sequence, you should note that some of the Ph.D. area programs and subprograms require particular methodology sequences. An additional methodology sequence (from courses 217A-217B, 218A-218B, or C244A/C244B) must be completed before the oral qualifying examination; courses 293A-293B-293C.

If you plan to take one field examination in this area, you should take at least three additional courses significantly related to this field; if you plan to take two field examinations in this area, you should take six additional courses (courses 223, 229, 251, 252, 266, 267, and 284 may be applied toward this requirement).

3. Ethnomethodological, Phenomenological, and Observational Sociologies: Sociology 222: at least three courses from 223, 229, 251, 252, 266, 267, 284; an additional methods sequence selected from courses 217A-217B, 218A-218B, or C244A/C244B (two of these sequences must be completed before the oral qualifying examination); courses 293A-293B-293C.

4. Macrosociology: Sociology 211A-211B, 228A-228B, 294A-294B-294C, and three relevant graduate courses in any department approved by the director and your adviser.


Advanced Statistics Specialty: Courses in calculus, linear algebra, and mathematical statistics (preferably taken as an undergraduate) and a program of coursework and supervised individual study, selected in consultation with the area faculty, designed to provide suitable depth of coverage of an appropriate range of statistical techniques.

Applied Sociology and Evaluation Research Specialty: Sociology 210C, 280, and courses in calculus and linear algebra (preferably taken as an undergraduate).


Mathematical Sociology Specialty: Sociology 281, courses equivalent to Mathematics 115A, and other mathematics courses that may be required for particular specialties.

Survey Research Method Specialty: Sociology 216A-216B and a graduate-level course in sampling, such as Public Health 210H or Management 215E.


Course requirements for the five area programs are listed below. Contact the graduate affairs assistant or area directors for more specific details and for other requirements such as special papers.

(1) Ethnomethodological, Phenomenological, and Observational Sociologies: Sociology 222: at least three courses from 223, 229, 251, 252, 266, 267, 284; an additional methods sequence selected from courses 217A-217B, 218A-218B, or C244A/C244B (two of these sequences must be completed before the oral qualifying examination); courses 293A-293B-293C.

(2) Macrosociology: Sociology 211A-211B, 228A-228B, 294A-294B-294C, and three relevant graduate courses in any department approved by the director and your adviser.

(3) Methods and Models: Sociology 232 and 295A-295B-295C.

Advanced Statistics Specialty: Courses in calculus, linear algebra, and mathematical statistics (preferably taken as an undergraduate) and a program of coursework and supervised individual study, selected in consultation with the area faculty, designed to provide suitable depth of coverage of an appropriate range of statistical techniques.

Applied Sociology and Evaluation Research Specialty: Sociology 210C, 280, and courses in calculus and linear algebra (preferably taken as an undergraduate).


Mathematical Sociology Specialty: Sociology 281, courses equivalent to Mathematics 115A, and other mathematics courses that may be required for particular specialties.

Survey Research Method Specialty: Sociology 216A-216B and a graduate-level course in sampling, such as Public Health 210H or Management 215E.

Field and Qualifying Examinations
The department requires you to pass two field examinations before taking the University Oral Qualifying Examination for the Ph.D. The emphasis here is on mastery and depth of understanding in two areas of specialized study. Field examinations are administered and evaluated under guidelines established by area programs. You may take both or just one of your field examinations in the area with which you are affiliated. Each area program also has procedures enabling unaffiliated students to take field examinations in that area. Details are available from area directors and from the graduate affairs assistant.

If the performance on the field examination is satisfactory and the foreign language requirement has been fulfilled, you may nominate a doctoral committee and take the University Oral Qualifying Examination. You must prepare a two-page abstract of the dissertation proposal for distribution to the entire department faculty no later than one week before the 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 optional final oral examination for the Ph.D. degree is given by the doctoral committee no later than six months after the completion of the dissertation. A decision to waive the final examination is optional on the part of the Ph.D. committee.

Lower Division Courses
1. Introductory Sociology. Not open for credit to students with credit for former course 101. Survey of the characteristics of social life, the processes of social interaction, and the tools of sociological investigation.
2. Computers and Social Change. Lecture, two hours; laboratory, three hours. The impact of technological change from computers and computing on personal, institutional, business, firms, industries, and educational and legal institutions. Whenever needed for an adequate understanding of those topics, the course also provides information on selected aspects of contemporary computers and the history of computing. In addition to reading assignments and lectures, the course involves direct experience in a computing laboratory.

18. Interpretation of Quantitative Data. Prerequisite or corequisite: course 1. Satisfies the statistics requirement for the major in sociology. Reading graphs and tables; statistical description using indices of central tendency, dispersion, and association; simple linear regression. Probability; the 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.
20. Fates and Forecasts. Lecture, two and one-half hours. The utility of trend and other data in making social forecasts for the year 2000, with emphasis on the United States and Japan. In addition, consideration of Mexico for contrast as an example of a developing country. Popular treatments of future social and technological possibilities. Class discussion on reading and lecture materials.

31. Dilemmas of Third World Development. Lecture, three hours; discussion, one hour. An introduction to understanding the dilemmas of Third World social development and the prospects for progress in the future.

Mr. Lopez, Mr. Zeitlin

Upper Division Courses
102A-102Z. Special Topics in Sociology. Prerequisite: upper division standing (some sections may require prior coursework or consent of instructor). A study of selected current topics of sociological interest. See Schedule of Classes for topics and instructors. May be repeated for credit and may be applied as elective units toward the sociology major.

M102A. Sex Roles and Society. (Formerly numbered 102A.) (Same as Women’s Studies M102.) Lecture, three hours; discussion, one hour. Prerequisite: course 1 or Women’s Studies 100 or consent of instructor. Consideration of sociological literature pertaining to the development and functions of sex roles in society from a critical perspective. Topics include socialization and gender norms, contemporary sex role strain, and the challenge to traditional notions of sex roles posed by feminist critique.

109. Introduction to Sociological Research Methods. A systematic treatment and semiquantitative skills in use in sociological research (e.g., classification, questionnaire and schedule design, content analysis, critical analysis of studies, conceptual analysis of case materials). Fieldwork may be required.

Mr. Bailey, Mr. Freeman, Mr. TenHouten

110. Research Methods in Policy Analysis and Evaluation. Prerequisite: course 129 or consent of instructor. Recommended: course 109. Approaches for identifying and analyzing social problems and for the assessment of policies and interventions for their control and management.

Mr. Freeman, Ms. Zucker

112. Development of Sociological Theory. A comparative survey of basic concepts and theories in sociology from 1800 to 1920; the codification of analytic schemes; a critical analysis of trends in theory construction.

Mr. Alexander, Mr. Horton, Mr. Lopez

113. Contemporary Sociological Theory. A critical examination of significant theoretical formulations from 1920 to the present; an analysis of the relationship between theoretical development and current research emphasis.

Mr. Alexander, Mr. Champagne, Mr. TenHouten

114. Marxist Sociology. The 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 the theory requirement for the major.

Mr. Horton

115. Experimentation and Laboratory Methodology in Sociology. Prerequisites: course 18 or equivalent introductory statistics and introductory social psychology. Provides opportunities for students to participate as observers, subjects, and experimenters in a variety of laboratory simulations of social and political settings and to use a computer-supported techniques as aids in conducting, analyzing, and interpreting their experiences in the settings.

Mr. Shure

116. Introduction to Mathematical Sociology. Prerequisites: course 18, Mathematics 2, 3A (a course whose content includes introduction to probability theory, matrix algebra, and differential and integral calculus), or equivalent. Mathematical treatments 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 the deductive and computational aspects of mathematics).

Mr. McFarland
117. Field Research Methods. Lecture, two hours; discussion, one hour. Prerequisites: upper division standing, consent of instructor. Fieldwork and intensive field notes required. Theory and practice of field research, with particular emphasis on the interrelations between fieldwork role and substantive findings. Mr. Seeman, Mr. Turner

118. Statistical and Computer Methods for Social Research. Lecture, three hours; laboratory, one hour. Prerequisite: course 18. A continuation of course 18, covering more advanced statistical techniques such as multiple regression, multivariate analysis, and time-series analysis. Content varies. Students learn how to use the computer and write papers analyzing prepared data sets. Mr. Bonacich, Mr. TenHouten

120. Social Change. A study of patterns of social change, resistance to change, and change-producing agencies and processes. Mr. Alexander, Mr. Surace

121. Organizations and Society. Sociological analysis of organizations and their social environment. An introduction to basic theories, concepts, methods, and research on the organization of society. Mr. Alvarez, Mr. Grusky, Mr. Surace

122. Mass Communications. Lecture, three hours. Fieldwork may be required. Development, functions, and organization of the mass media in industrialized societies; social and cultural implications of mass communications; short-term effects of the media; the media and socialization; mass media and the shaping of public opinion; prospects for media in the Third World. Technological innovations and their effects on future social systems. Mr. Levine

123. Social Stratification. An introduction to analysis of social structure in terms of evaluation criteria. Topics include criteria for differentiation, bases for evaluation, and stratification, the composition of strata and status systems, mobility, consequences of stratification, and problems of methodology. Mr. Lopez, Mr. McFarland, Mr. Yamaguchi

124. Ethnic and Status Groups. The characteristics of the "visible" ethnic groups (e.g., Japanese, Mexican, and black); their organization, mobilization, and differentiation. The development, operation, and effects of selective immigration and population mobility. The status of the chief minorities in the continental U.S. with comparison of material drawn from Jamaica, Hawaii, and other areas. Mr. Alvarez, Mr. Kitano, Mr. Prager

125. Urban Sociology. Lecture, three hours. Description and analysis of urbanization and urbanism in the United States and the world. Mr. Bailey, Mr. Light, Mr. Oliver


127. Sociology of Family Demographic and Economic Behavior. An examination of demographic behavior associated with the social organization of the family and its relationship to the study of the family's economic system. American and European historical studies of family socioeconomic and demographic characteristics and behavior in the first half of course; the U.S. experience since the 1920s, the second half. Ms. Oppenheimer

128. Occupations and Professions. Description and analysis of representative occupations and professions, with emphasis on the contemporary United States. Mr. Prager, Mr. Roy, Mr. Zeitzlin

129. Social Policies and Social Programs. Lecture, three hours; discussion, one hour. Prerequisites: junior standing and course 1, or consent of instructor. Analysis of problems of social disorganization, with emphasis on social action and social control; evaluation of social policies and intervention strategies related to control and management of social problems. Mr. Freeman, Ms. Zucker

130. Social Processes in Africa. A course in comparative sociology. A study of selected processes in African societies, primarily in the fields of urban sociology, social structure, and social change, involving an interdisciplinary approach. Mr. Lopez, Mr. Zeitzlin

131. Latin American Societies. A descriptive survey of the major Latin American societies, emphasizing their historical background and their emergent characteristics, with special attention to the relations between rural and urban life. Mr. Lopez, Mr. Zeitzlin

132. Population and Society in the Middle East. Prerequisite: upper division standing, consent of instructor. A survey of the Middle Eastern societies; their historic and environmental bases; the contemporary demographic and cultural situation. Mr. Sabagh

133. Comparative Sociology of the Middle East. Prerequisites: upper division standing, consent of instructor. A review of the unity of Middle Eastern societies in Islam and their diversity exemplified by such nomadic peoples considered throughout. Mr. Sabagh


135. Comparative American Indian Societies. Lecture, three hours. Prerequisite: course 1. The comparative and historical study of political, economic, and cultural change in indigenous North American societies. Several theories of social change, applied to selected case studies. Mr. Champagne

136. American Society. Analysis of major institutions in the U.S. in historical and international perspective, with emphasis on topics such as industrialization, work, the state, politics, community, the family, religion, and American culture. Theories of social change, conflict, and order applied to the case of the U.S. Mr. Lo, Mr. Roy, Mr. Zeitzlin

137. Comparative Studies of Jewish Communities in the U.S. and Abroad. The history, structure, and functioning of major Jewish communities, with particular focus on North America and Israel. Interrelationships and sources of conflict between Jews and Gentiles in Western countries. More generally, the economic and social integration of Diaspora Jewish communities. Fieldwork may be required. Mr. Chapman, Mr. Lo, Mr. Roy

138. Comparative and Historical Sociology. Prerequisite: course 1. A survey of the central themes of comparative and historical studies in sociology. The various aspects of the development of modern society, with emphasis on the emergence of capitalism, industrialization, and population growth. Variation in contemporary society, viewed from a variety of theoretical perspectives. Mr. Champagne, Mr. Lo, Mr. Roy

139. Japanese Society. Lecture, two and one-half hours; discussion, two hours. Prerequisite: course 1 or consent of instructor. Analysis of social-structural characteristics and functioning of contemporary Japanese society, with focus on (1) forms of social interaction and social structure, (2) work, family, and the life course, and (3) education and opportunity. Emphasis on structural perspectives, more than cultural perspectives. Mr. Yamaguchi

140. Sociology. The contributions of sociological theory to the study of politics, including the analysis of political aspects of social systems, the social contexts of action, and the social bases of power. Mr. Prager, Mr. Roy, Mr. Zeitzlin

141. Economy and Society. The sociology of economic life, with emphasis on principal economic institutions of the United States. Mr. Light, Mr. Lo, Mr. Zeitzlin

142. Sociology of the Family. Theory and research dealing with the modern family, its structure, and functions, including both invariant and variant family patterns, family as an institution, and the influence of the contemporary society on the family. Mr. Freeman, Ms. Zucker

143. Sociology of Education. (Same as Education M108) Prerequisite: course 1. Study of social processes and interaction patterns in educational organizations; the relationship of such organizations to aspects of society, social class, and power; social relations within the school, college, and university; function and roles within traditional and non-traditional systems; roles of teachers, students, and administrators. Mr. O'Shea, Mr. Rabow, Ms. Wrigley

144A. Conversational Structures I. (Formerly numbered 144B) Lecture, three hours. An introduction to some of the structures which are employed in the organization of conversational interaction, such as turn-taking organization, the organization of repair, and some basic sequence structures with limited expansions. May be concurrently scheduled with course C244A. Mr. Schegloff

144B. Conversational Structures II. (Formerly numbered 144B) Lecture, three hours. Prerequisite: course C144A. A consideration of some of the more expanded sequence structures, story structures, topical and paratopical sequences, and the overall structural organization of single conversations. May be concurrently scheduled with course C244B. Mr. Schegloff

145. Sociology of Deviant Behavior. An examination of the various approaches which focus on the study of deviation and a general survey of the major types of deviation in American society. Mr. Horton, Mr. Surace

146. Criminology. Theories of the genesis of crime; the organization of criminal behavior from the points of view of the person and group; criminal behavior systems. Mr. Katz, Mr. Rabow

147. Control of Crime. Theories of punishment; methods of dealing with convictions; social organization of police, courts, prisons, probation, parole. Fieldwork required. Mr. Emerson, Mr. Rabow

148. Normal Environments. Structural interpretation of the concerted production, management, and alteration of perceived normal interpersonal environments. Fieldwork required. Mr. Garfinkel, Mr. Pollner

149. A Study of Norms. Properties of norms, of normative 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 the understanding of the normative correlates of analytic sociology. Fieldwork required. Mr. Garfinkel, Mr. Pollner

150. Collective Behavior. Prerequisites: courses 1, 18, or equivalent, upper division standing. Characteristics of crowds, mobs, public opinion, the novel, deviance, and revolutions; their relation to social unrest and their role in developing and changing social organization. Mr. Seeman, Mr. Turner

151. Culture and Personality. Prerequisites: courses 1, 18, or equivalent, upper division standing. Theories of the relation of variations in personality to culture and group life, in primitive and modern societies, and the influence of social role on behavior. Mr. Turner

152. Group Processes. Systematic study of the formation, structure, and functioning of groups; analysis of group processes and group products from a variety of theoretical viewpoints; implications of various research techniques. Mr. Bonacich, Ms. Zucker

153. Process and Socialization in the Family. Prerequisites: courses 1, 18, or equivalent, upper division standing. Examination of the processes of interaction, decision making, role differentiation, conflict, integration, and socialization within the family and their interrelations with social institutions. Mr. Bonacich, Mr. Rabow, Ms. Zucker

154. Social Psychology: Sociological Approaches. A survey of the contribution of sociologists to theory and research in social psychology, including theories of social control, conformity and deviance, reference groups, and interaction processes. Mr. Bonacich, Mr. Rabow, Ms. Zucker
154. White-Collar Criminality. Lecture, three hours. Prerequisite: course 146 or consent of instructor. Theories of the genesis of crime applied to criminal behavior by business and political elites, including a history and evaluation of criminal law enforcement against white-collar illegitimates.

160. The Demography and Sociology of Women's Economic Roles. Prerequisites: course 1 or equivalent. A study of the socioeconomic roles, women's economic roles, and the relationship of women's economic roles to the family. Topics include demographic determinants of women's economic roles, women's changing place in the occupational structure, men's and women's contribution to the socioeconomic status of the family, the socioeconomic position of women without men to support them, future trends, and social policy affecting women's status.

161. The Social Organization of Psychiatric Treatment. Strongly recommended prerequisite: course 157. Review of current research and theory on psychiatric treatment processes and treatment organizations, including mental hospitals and community mental health organizations.

162. Sociology of Law. The political impact of court decisions; legalization of social relations in modern institutions; social movements toward equal justice; the judicial role: experience of participants in legal processes; common sense conceptions of justice.

163. Medical Sociology. Prerequisite: course 1 or consent of instructor. Provides majors in sociology and other social sciences and students preparing for health science careers, an understanding of health-seeking behavior and the interpersonal and organizational relations that are involved in the receipt and delivery of health services.

164. White-Collar Criminality. Lecture, three hours. Prerequisite: course 146 or consent of instructor. Theories of the genesis of crime applied to criminal behavior by business and political elites, including a history and evaluation of criminal law enforcement against white-collar illegitimates.

165. 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 ethnic minority participation, legal and illegal forms, public and private auspices.

197. Undergraduate Seminar. Prerequisites: upper division standing, major in sociology, consent of instructor.

199A-199B. Special Studies. Prerequisites: senior standing, 3.0 GPA in major, courses 1 and 18 or equivalent, consent of instructor and department chair. A course of independent study designed for graduate or senior undergraduate students who (1) desire a more advanced or specialized treatment of an area covered in the regular course list and who present that course as a prerequisite or (2) desire work in an area of sociological analysis currently not covered by an upper division course. Only eight units are allowed. See undergraduate counselor for course contract.

199HA-199HB. Special Studies for Honor Program. Prerequisite: honors program standing.

199A. Design of a research project to serve as the student's honors thesis. A research proposal, detailed bibliography, and regular meetings with the sponsoring faculty member required.

199B. Completion of the written report or honors thesis.

Graduate Courses

201A-201B. Proseminar in Sociology. Prerequisite: graduate standing. Designed primarily for graduate students in the first year of residence. A comprehensive survey of basic concepts and theories in the major fields of sociology. Mr. Alexander, Mr. López

202A-202B. Sociological Analysis. Lecture, two hours; discussion, one hour. Prerequisite: graduate standing. Required of first-year sociology graduate students. Consideration of a number of exemplary works in contemporary sociology in terms of the interplay of theoretical and methodological issues, and analysis of replication.
218A-218B. Ethnomethodological Methods. Prerequisite: consent of instructor. Examination of techniques used in ethnomethodological research, practice in the critical evaluation of research, and directed experience in the conduct of an extended investigation employing ethnomethodological procedures. In Progress grading. Mr. Garfinkel

220. Role Theory. Prerequisites: graduate standing, consent of instructor. A review of theories and research dealing with social roles, with special emphasis on roles in social interaction and in formation of the self. Mr. Turner

221. Social Ecology. Prerequisites: courses 18, 126, or equivalent, and graduate standing, or consent of instructor. An examination of the various approaches to both microecology and macroecology, including classical and ecological ecology, social area analysis, sociocultural ecology, city-size distributions, effects of population density on animals and humans, proxemics, territoriality, and the effects of the physical environment on humans. Mr. Bailey

222. Foundations of Ethnomethodological, Phenomenological, and Analytic Sociologies. Lecture, three hours. Prerequisite: graduate standing or consent of instructor. Basic issues, methods, and topics of ethnomethodological, phenomenological, conversational-analytic, and related varieties of inquiry. Central themes such as the world of everyday life, the problem of rationality, rules/norms and tacit knowledge, the problem of social order, speaking and discourse, and the constitution of ordinary interaction in the first part; guest presentations by affiliated faculty in the second part.

223. Phenomenological and Interactionist Perspectives on Selected Topics. Lecture, three hours. Prerequisite: graduate standing or consent of instructor. Major theoretical traditions and contemporary exemplars of phenomenological and interactionistic perspectives by examining a particular body of live or currently unresolved substantive issues. Topics vary; attention on development of phenomenological and interactionist thought on the topic of consciousness, language, and relations of social and cultural order. Mr. Turner

224A-224B. Problems in Social Psychology. Prerequisites: course 210A, consent of instructor. Basic course for graduate students intending to specialize in social psychology. Orientation to theoretical contributions to the field. 224B. Current work being done in the department in several subfields. Mr. Turner

225A-225B. Demographic Perspectives on the Relationship of Family and Economic Systems. Prerequisites: course 104B, consent of instructor. An examination of the interrelationship of family and economic systems in societies at different levels of economic development, focusing particularly on the U.S. experience. Central to the course: (1) an analysis of how demographic factors affect economic and family systems; (2) how these systems, and changes in them, affect demographic variables; and (3) how this two-way process influences the relationship of family and economic systems over time. 225A. Lectures and readings. 225B. Individual research projects involving a term paper and classroom reports of results. Mr. Oppenheimer

227. The Sociology of Knowledge. Prerequisite: graduate standing or consent of instructor. A survey of theories and research concerning social determinants of systems of knowledge and the role of intellectual and artistic elites in Western societies. Mr. Horton

228A-228B. Critical Issues in Macrosociology. Seminar, three hours. Prerequisite: graduate standing. A conceptual introduction to the area of macrosociology in which exemplary works are read, studied for their methodological and theoretical significance, and discussed in written papers. Usually team taught by faculty of varying orientations.

229. Processes of Social Control. Prerequisite: graduate standing, consent of instructor. Current theory and research on social control processes. Specific topics include conceptual issues, informal social control mechanisms, the relation between informal and formal control systems, typification and production of deviant role structures. Mr. Emerson, Mr. Rabow, Ms. Sprague

231. The Structure of Occupations. (Same as Education M231.) Lecture, two hours; discussion, two hours. Shifts in the occupational structure of the United States, changing skill requirements for jobs, the effects of automation on work environments, and the role of training and informal education in preparing people for occupations. Mr. O'Shea, Ms. Wrigley

232. Survey Data Acquisition. Lecture, three hours. Prerequisites: courses 210A-210B. Traditional topics on survey research practice in study design, instrument preparation, sampling, interviewing, and data management. Parallel coverage of research literature on various sources of nonsampling response bias that influence survey results. An ongoing survey that employs the California-Area Survey as an example of available as a resource for the course. Mr. Shure

233. Foundations of Political Sociology. Lecture, three hours. Prerequisite: graduate standing or consent of instructor. A survey of the field of political sociology, oriented around critical themes in the major theoretical traditions and contemporary exemplars. Special attention to competing perspectives on power, the theory of the state, and the relationship of class structure to politics. Mr. Lo, Mr. Prager, Mr. Roy

234. Sociology of Community Organization. Prerequisite: graduate standing, consent of instructor. A survey of recent and classical research and literature dealing with predominantly political institutions, the problems of order, and the organization of communal life in the village and the metropolis. Mr. Lo

235. Social Change in the Middle East. An analysis of the sources, extent, and types of social change in the Middle East, with emphasis on the origin and consequences of industrialization and urbanization, and an understanding of the sources, extent, and types of social change. Mr. Haggstrom

236. Social Stratification in the Middle East. Modes of social differentiation in traditional Middle Eastern societies, localism and tribalism, the counter influence of nationalism, and the implications for the future of these societies. Mr. Saltman

237. Social Stratification in the Middle East. Modes of social differentiation in traditional Middle Eastern societies, localism and tribalism, the counter influence of nationalism, and the implications for the future of these societies. Mr. Saltman

238A-238B. Fieldwork in Minority Communities. Seminar, two hours. Prerequisites: graduate standing, consent of instructor. Designed to supply graduate students with conceptual and methodological skills for studying minority communities. Greater Los Angeles is the laboratory. Emphasis on both ethnographic and survey research techniques. In Progress grading. Mr. Schegloff, Mr. Lue

240. Mathematics of Population. Prerequisite: prior knowledge of matrices, calculus, and probability theory. Discrete and continuous deterministic and probabilistic models of the growth and composition of a one-sexed population classified by age, passenger on topics on more complicated population models. Mr. McFarland

C244A. Conversational Structures I. Lecture, three hours; discussion, one hour. An introduction to some of the central issues within the organization of conversational interaction, such as turn-taking organization, the organization of repair, and some basic sequence structures with limited expansions. Mr. McFarland

C244B. Conversational Structures II. Lecture, three hours; discussion, one hour. Prerequisite: course C244A. A consideration of some of the more expanded sequence structures, story structures, topical sequences, and the overall structural organization of single conversations. May be concurrently scheduled with course C244C. Graduate students have additional assignments and/or meet as a group one additional hour each week. Mr. Schegloff

245. Cultural Studies. Discussion, three hours. Prerequisite: consent of instructor. Allows graduate students to become familiar with the range of contemporary studies of culture. Taking as its assumption that symbolic patterns have relative autonomy vis-a-vis social structure and personality, it examines hermeneutical, structuralist, and functionalist versions of this general argument, proceeding subsequently to contemporary versions of "interpretive" techniques: structuralist, functionalist, Weberian, Durkheimian, and semiotic. Theory, method, and substantive empirical issues. Mr. Alexander

247. Neurosociology. Prerequisites: graduate standing, consent of instructor. Relations between aspects of social structure and higher cortical functions. Mr. Ten-Houten

248. The Sociology of Cognitive Development. Prerequisite: graduate standing or consent of instructor. Analysis of ways in which mental processes are structured and organized by positions and practices in the social world, and by change and development in society, and by change and development in society. Mr. Markman

M249A. Sociocultural Aspects of Health and Illness: Health Professions. (Formerly numbered M249B.) (Same as Public Health M283F.) Lecture, three hours. Prerequisites: Public Health 182, three courses in psychology, sociology, or anthropology, or equivalent, consent of instructor. Sociological examination of the concepts "health" and "illness" and role of various health professionals, especially physicians. Attention to the meaning of professionalization and professional-client relationships within a range of organization settings. Mr. Goldstein

M249B. Sociocultural Aspects of Health and Illness: Health Behavior. (Formerly numbered M249C.) (Same as Public Health M283G.) Seminar, three hours. Prerequisites: Public Health 182, three courses in psychology, sociology, or anthropology, or equivalent, consent of instructor. Sociocultural factors affecting differential patterns of health behavior, illness behavior, and sick role behavior. Mr. Berkano

250. Methodological Problems. Mr. Bailey, Mr. Ten-Houten

251. Topics in the Problem of Social Order. Mr. Garfinkel

252. Criminology. Mr. Katz, Mr. Rabow

253. Quantitative Methods in Sociology. Mr. Bailey, Mr. Bonacich, Mr. Freeman

254. Sociology of Law. (Formerly numbered 254B.) Social control functions of law and legal institutions, with particular attention to the contrast between lawless ways of stateless and tribal societies and contemporary American legal processes and institutions, primarily those of criminal law. Mr. Emerson, Mr. Katz, Mr. Prager

255A-255B. Selected Issues in Sociological Theory. Seminar, three hours. Prerequisite: consent of instructor. Clarification of the status of sociological theory in contemporary sociology. Examination of selected issues and problems in classical or contemporary sociological theory and in the history of the development of sociological theory. Mr. Champagne

256. Demography. Mr. Bailey, Mr. Sabagh

258. Sociology of Religion. Mr. Bailey, Mr. Sabagh

259. Social Structure and Economic Change: Historical and Comparative Perspectives. Mr. Cheng, Mr. Surace, Mr. Zeitlin
260. Economy and Society. Discussion, two hours. Prerequisite: graduate standing or consent of instructor. Review and critique of major analytical traditions in economy and society. Mr. Light, Mr. Zeitlin

261. Ethnic Minorities. Mr. Levine, Mr. Seeman

M262. Selected Problems in Urban Sociology. (Same as Afro-American Studies M240C.) Seminar. Prerequisite: consent of instructor.

Mr. Light, Mr. Oliver

263. Social Stratification. Mr. Treiman

264. Professions in the American Society. Ms. Oppenheimer

265. Problems in Organization Theory. Mr. Gursky, Ms. Zucker

266. Selected Problems in the Analysis of Conversation. Prerequisite: course C144A or consent of instructor. Mr. Scheff

267. Selected Problems in Communication. Mr. Poliner, Mr. Schegloff

268. Selected Problems in Psychoanalytic Sociology. Discussion, three hours. Recommended prerequisite: at least one year of methods courses. Selected problems in the interpretation of sociology and psychoanalysis, which may be substantive (group development, sociology in Chinese society: male-female behavior) or methodological; the latter focuses on clinical fieldwork and experimental use of psychoanalytical sociological techniques. Mr. Rabow

269. Collective Behavior. Mr. Turner

270. Selected Problems in Socialization. Mr. Turner

271. Ethnomethodology. Mr. Garfinkel

272. Topics in Political Sociology. Mr. Roy, Mr. Surace, Mr. Zeitlin

273. Attitudes and Social Structure. Mr. Seeman

274. Selected Problems in the Sociology of Africa. Prerequisite: graduate standing, consent of instructor. Selection of problems in the sociology of Africa from among the following fields: urbanization, racial and ethnic relations, national integration, and political change. Mr. Cheng

275. Selected Topics in the Sociology of East Asia. Prerequisite: graduate standing, consent of instructor. Selected problems in China, or in China and Japan comparatively. Possible topics include: (1) China's Great Proletarian Cultural Revolution; (2) informal conceptions of the self, culture, and social relations, the city and the countryside, minority nationalities, class struggle under socialism, etc.; (3) China and Japan: two models of development. Mr. Light

276. Selected Problems and Issues in Mass Media Research. Seminar, two hours. Prerequisite: graduate standing, consent of instructor. Foci include methodological problems (surveys, panel studies, content analysis); research on audiences; problems of comparative, international media research; exposure and socialization; social, psychological, and political effects of technological innovation. Mr. Levine

277. Seminar in Evaluation Research. Prerequisite: graduate standing. The technical and political aspects of implementation of evaluation research studies. The role of evaluation research in social policy development, as well as procedures for undertaking process and impact evaluations. S/U or letter grading. Mr. Freeman

281. Selected Problems in Mathematical Sociology. Prerequisite: consent of instructor. An exploration of some mathematical models of sociological processes. Possible topics include models of small groups, social mobility, kinship relations, organizations, social interaction. Mr. Bonacich, Mr. McFarland

282. Organizations and the Professions.

284. Topics in Mental Health and Illness. Prerequisites: course 157 or equivalent, graduate standing. Mr. Emerson, Mr. Gursky, Mr. Poliner

285A-285Z. Special Topics in Sociology. Seminar, three hours. Prerequisite: graduate standing. A seminar on selected current topics of sociological interest. See Schedule of Classes for topics and instructors. May be repeated for credit.

286A-M287B. Population Policy and Fertility. (Same as Public Health M274A-M274B.) Lecture, three hours; discussion, one hour. Prerequisites: Public Health 100A, 112, 171A, 171B, or equivalent, graduate standing, consent of instructor. Course M287A: Pre-requisite: course M287B. Analysis of current research concerning major issues in population policy, with special emphasis on human fertility. Ms. Blake

M287C. Seminar in Population Policy and Fertility. (Same as Public Health M274C.) Seminar, three hours; discussion, one hour. Prerequisites: courses M287A-M287B or equivalent, graduate standing, consent of instructor. Review of current literature in population policy and fertility in conjunction with student research reports. May not be repeated for credit. Mr. Blake

289A-289B-289C. Social Psychology Seminar (2 units each). Lecture, one hour; discussion, one hour. Prerequisite: graduate standing. Required of students in the social psychology area program, but open to all graduate students in good standing. A forum for the presentation of advanced work in social psychology designed to develop an ability to understand, critically evaluate, and present research in fields relevant to the study of social psychology. May be repeated for credit. S/U grading.

290A-290B-290C. Social Organization and Institutions Seminar (2 units each). Lecture, one hour; discussion, one hour. Prerequisite: graduate standing. Required of students in the social organization and institutions area program, but open to all graduate students in good standing in the department. A seminar for the presentation of advanced work in sociological organization and institutions designed to contribute to the theoretical and methodological comprehension of work in this area program and to critically evaluate avenues for further research advances. May be repeated for credit. In Progress and S/U grading.

291. Moral Solidarity in Communities. Comparative analysis of social solidarity and the collapse of social solidarity in voluntary and traditional communities. Contrasts more and less solidarity types, with special reference to urban communities and developmental processes. Mr. Light

292A-292B-292C. Research Development. 293A-293B-293C. Colloquium in Ethnomethodological, Phenomenological, and Observational Sociologies (2 units each). Prerequisites: courses C144A and C144B or C174A-C174B or C184B-C184B and 222, or consent of instructor. Participants present ongoing work and read and discuss exemplary past going work and read and discuss exemplary past going work and read and discuss exemplary past going work and read and discuss exemplary past going work and read and discuss exemplary past going work and read and discuss exemplary past going work and read and discuss exemplary past going work and read and discuss exemplary past. Mr. Seymour

295A-295B-295C. Seminar in Methods and Models (2 units each). Ongoing seminar in the methods and models area program. A forum in which faculty, students, and visitors make presentations and obtain feedback on research being planned or conducted or recently completed, including didactic presentations on important developments in the area. Students are required to make a presentation each quarter they are enrolled for credit. S/U grading.

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the active guidance and supervision of a regular faculty member responsible for current research students at the University. May be repeated for credit. S/U grading.

495A-495B. Supervised Teaching of Sociology (2 units each). Prerequisite: appointment as a teaching assistant in the Sociology Department or equivalent. A special course for teaching assistants designed to deal with the problems and techniques of teaching introductory sociology. 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. Course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596. Directed Individual Study and Research in Sociology (2 to 12 units).

597. Individual Study for Examinations (4 to 12 units). Preparation for M.A. degree paper or Ph.D. qualifying examinations.

599. Research in Sociology for Ph.D. Candidates (4 to 12 units).

Spanish and Portuguese

5303 Rolfe Hall, (213) 625-1036

Professors

Shirley L. Arora, Ph.D. (Spanish), Chair
José R. Barcia, Lic. F. y L. (Spanish)
Rubén A. Benitez, Ph.D. (Spanish)
Joaquín Gimeno, Ph.D. (Spanish)
Claude L. Hulet, Ph.D. (Spanish and Portuguese)
Carroll B. Johnson, Ph.D. (Spanish)
Gerardo Luzuriaga, Ph.D. (Spanish)
C. B. Morris, Lic. D. (Spanish)
C. P. Otero, Ph.D. (Spanish and Romance Linguistics)
José Miguel Oviedo, Ph.D. (Spanish)
John A. Crow, Ph.D., Emeritus
Stanley L. Robe, Ph.D., Emeritus
Aníbal Sánchez-Feulet, Ph.D., Emeritus
Marion A. Zeitlin, Ph.D., Emeritus

Associate Professors

E. Mayone Dias, Ph.D. (Portuguese)
Susan Piann, Ph.D. (Spanish)
A. Carlos Quicoli, Ph.D. (Portuguese and Romance Linguistics)
Richard M. Reeve, Ph.D. (Spanish)
Enrique Rodríguez-Cepeda, Ph.D. (Spanish)
A. John Skinns, Ph.D. (Spanish)
Paul C. Smith, Ph.D. (Spanish)

Assistant Professors

Guillermo Hernández, Ph.D. (Spanish)

Lecturers

José M. Cruz-Salvadores, M.A. (Spanish)
George L. Voty, J.D. (Spanish)
Scope and Objectives

The Department of Spanish and Portuguese is dedicated to the study and teaching of the languages, literatures, and cultures of the Hispanic heritage in all areas of the world, particularly on the continents of Europe and America. It maintains a strong commitment to the value of original research and professional instruction at all levels of its activities.

Whether studying for the B.A., M.A., or Ph.D. degree, students are given careful guidance in the choice of courses and in the preparation of a study program. The richness of Hispanic culture is amply represented in the extensive range of courses in language, linguistics, and literature. Although the literatures of Spain, Portugal, Brazil, and Spanish America predominate, courses are also offered in Chicano literature. The breadth of courses offered by the department allows undergraduate students to pursue many possible interests and enables graduate students to concentrate in depth in several areas of specialization.

The department’s courses are primarily designed to serve the four B.A. programs: the B.A. in Spanish (Plan A), the B.A. in Spanish and Linguistics (Plan B), the B.A. in Portuguese, and the B.A. in Spanish and Portuguese, as well as to prepare students for its three graduate programs: the M.A. in Spanish, the M.A. in Portuguese, and the Ph.D. in Hispanic Languages and Literatures. The courses are also functionally supportive of such interdepartmental programs as the Teaching Credential in Spanish, the B.A. and M.A. programs in Latin American Studies, the M.A. program in Folklore and Mythology, and the 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 who have taken Spanish elsewhere and wish to enroll in UCLA Spanish classes for the first time must take the placement test given each quarter during the week before classes begin. Consult the Schedule of Classes.

Preparation for the Majors

Required: Spanish 25 or equivalent as determined by the placement test; courses M35, M42, M44, or equivalent.

The Major, Plan A (Spanish Language and Literature)


The Major, Plan B (Spanish and Linguistics)

Required: Completion of six quarters of study in one other foreign language or three quarters in each of two other foreign languages, in addition to the preparation for the major courses. Portuguese is recommended.

The major consists of 15 upper division courses, including Spanish 100A, 100B, 105A, 105B, 115, M118A, M118B, Linguistics 100, 103, 110, 120A, 120B, and three electives in Spanish, at least one of which must be in literature.

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, M44, 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 quarters of study in one other foreign language or three quarters in each of two other foreign languages, in addition to the preparation for the major courses listed above. 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, M44, 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 105A 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 C (Spanish-American and Brazilian literature to 1900) — Spanish 137, 139, 140, Portuguese C131, C132, C133, and three other literature courses, one of which must be in Spanish and one in Portuguese; group D (Spanish-American and Brazilian literature from 1900 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 a 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) Aptitude 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, 5303 Rolfe Hall, UCLA, Los Angeles, CA 90024.
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 Educational Testing Service (ETS) language examination with a score of 500 or better, (2) passing the University reading examination in one of these languages when no ETS examination is available, or (3) passing at least a level three course at UCLA.

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): Spanish M200, one graduate course in literature offered by the department, and nine 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. One additional course must be selected from an area outside your major and minor fields.

Plan B (Literature): Spanish M200, one course from 202 through 209, and nine 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 beginnings to 1700; Spanish literature from 1700 to the present; Spanish-American literature from its beginnings to 1900; Spanish-American literature from 1900 to the present. One additional course must be selected from each of the two areas outside your major and minor fields.

Plan C (Linguistics and Literature): Spanish M200 and 10 elective graduate courses, five in literature and five in linguistics, are required. The five literature courses are to be selected from three of the fields specified in Plan B, two courses from each of two areas and one from another. 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 quarter 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 Educational Testing Service (ETS) language examination with a score of 500 or better, (2) passing the University reading examination in one of these languages when no ETS examination is available, or (3) passing at least a level three course at UCLA.

Course Requirements
Portuguese M200, M201, 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 quarter 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 six authors and 15 works). The reading lists are required in 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 Hispanic 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) Aptitude 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; (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;
Course Requirements

After the B.A., a minimum of 20 graduate courses is required. Spanish or Portuguese M201 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 the 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; (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 quarters after receiving the B.A. and six quarters 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.

1. Elementary Spanish. Discussion, five hours; laboratory, one hour. Not open for credit to students who have completed two years of high school Spanish or equivalent with grades of C or better. Students are, however, credited with four units toward the minimum progress requirement.

2. Elementary Spanish. Discussion, five hours; laboratory, one hour. Prerequisite: course 1 or equivalent as determined by the placement test. Not open for credit to students who have completed two years of high school Spanish or equivalent. Students are, however, credited with four units toward the minimum progress requirement.

3. Elementary Spanish. Discussion, five hours; laboratory, one hour. Prerequisite: course 2 or equivalent as determined by the placement test. The man grammatical topics include relative clauses; direct vs. indirect speech; imperative; impersonal constructions; subjunctive: present, imperfect; idioms. Vocabulary of about 400 items and idioms dealing with everyday experience and some selected readings of good authors.

4. Intermediate Spanish. Discussion, five hours; laboratory, one hour. Prerequisite: course 3 or equivalent as determined by the placement test. S/U grading.

5. Intermediate Spanish. Discussion, five hours; laboratory, one hour. Prerequisite: course 4 or equivalent as determined by the placement test. Grammar review. Also, conditional; imperative and conditional; indicative vs. subjunctive; past perfect of subjunctive; infinitive. Vocabulary of about 400 items and idioms dealing with everyday experience and some literary pieces.

6. Intermediate Spanish. Discussion, five hours; laboratory, one hour. Prerequisite: course 5 or equivalent as determined by the placement test. S/U grading.

7. Intermediate Spanish. Discussion, five hours; laboratory, one hour. Prerequisite: course 6 or equivalent as determined by the placement test. S/U grading.

8. 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.

9. Advanced Conversation (2 units each). Discussion, three hours. Prerequisite: course 8B or equivalent.

25. Advanced Spanish. Prerequisite: course 5 or equivalent. Concentration on the building of vocabulary and the attainment of a high degree of comprehension in preparation for the courses in literature.


M35. Spanish, Portuguese, and the Nature of Language. (Same as Portuguese M35.) Lecture, three hours. An introduction to language study within the context of Romance languages, focusing on Spanish and Portuguese. The nature of language: its structure, its diversity, its evolution, its social and cultural settings, its literary uses. The study of language and its relation to other areas of human knowledge.

M42. Civilization of Spain and Portugal. (Same as Portuguese M42.) Required of majors. Highlights of the civilization of Spain and Portugal, with emphasis on their artistic, economic, social, and historical development as background for upper division courses. Conducted in English.

Mr. Cruz-Salvadores

Upper Division Courses

Prerequisite to all upper division courses except Spanish 160A-160B-160C is Spanish 25 or equivalent as determined by the placement test.

100A. Introduction to the Study of Spanish Grammar: Phonology and Morphology. (Formerly numbered 100.) Lecture, three hours. Prerequisite: course M35. Analysis of the phonemic and morphological systems of Spanish.

Ms. Plann

100B. Introduction to the Study of Spanish Grammar: Syntax. (Formerly numbered 103.) Lecture, three hours. Prerequisite: course M35. A study of the syntactical systems of Spanish.

Mr. Otero, Ms. Plann

105A. Intermediate Composition. (Formerly numbered 105.) Lecture, three hours. Practice in writing Spanish with appropriate vocabulary, syntactical structures, and stylistic patterns.

105B. Advanced Composition. (Formerly numbered 109.) Lecture, three hours. Practice in writing Spanish with appropriate vocabulary, syntactical structures, and stylistic patterns.

107. The Spanish of Southern California. (Formerly numbered 117.) Lecture, three hours. Prerequisites: courses M35, 100A, and 100B, or consent of instructor. Analysis of pronunciation, word formation, syntax, and lexicography of the Spanish of Southern California, with attention to regional features, social and age levels of speech, and interference from English.

115. Applied Linguistics. Lecture, three hours. Prerequisites: courses M35, 100B. Survey of the major linguistic problems faced by the teacher of Spanish.

Ms. Plann

M118A. The History of Portuguese and Spanish: Phonology. (Formerly numbered 118A.) (Same as Portuguese M118A.) Lecture, three hours. Prerequisites: courses M35, 100A. Major features of the development of the Portuguese and Spanish languages from their origins in Vulgar Latin to modern times.

Ms. Plann, Mr. Quicoli, Mr. Smith

M118B. The History of Portuguese and Spanish: Morphology. (Formerly numbered 118B.) (Same as Portuguese M118B.) Lecture, three hours. Prerequisites: courses M35, 100B. Major features of the development of the Portuguese and Spanish languages from their origins in Vulgar Latin to modern times.

Mr. Otero, Ms. Plann, Mr. Quicoli

119A. Introduction to the Study of Literature: Prose. (Formerly numbered 119A.) Lecture, three hours. An introduction to the study of literary devices, figures of speech, and distinctive stylistic features in the prose literature of Spain and Spanish America, particularly in the novel and essay.

119B. Introduction to the Study of Literature: Poetry and Drama. (Formerly numbered 119B.) Lecture, three hours. An introduction to the study of literary devices, figures of speech, verification, and distinctive stylistic features in the poetry and drama of Spain and Spanish America.

120A-120B. Survey of Spanish Literature. Lecture, three hours. An introduction to the principle periods, concepts, and authors of Spanish literature.

Mr. Gimeno, Mr. Johnson, Mr. Rodriguez-Cepeda

122. Medieval Literature: Prose. Lecture, three hours. Recommended prerequisite: course 120A. A study of the main genres through representative works.

Mr. Gimeno
123. Medieval Literature: Poetry. (Formerly numbered 122.) Lecture, three hours. Recommended prerequisite: course 120A. A study of the main genres through representative works.

Mr. Gimeno

124. The Golden Age: Poetry and Drama. Lecture, three hours. Recommended prerequisite: course 120A. A study, through representative works, of the Golden Age poetry and drama.

Mr. Johnson, Mr. Rodriguez-Cepeda

127. The Golden Age: Don Quijote. Lecture, three hours. Recommended prerequisite: course 120A. The development of the novel in the Golden Age, with particular reference to Don Quijote.

Mr. Johnson, Mr. Rodriguez-Cepeda

128. The Enlightenment and Romanticism in Spain. Lecture, three hours. Recommended prerequisite: course 120B. A study, through representative works, of the 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 prerequisite: course 120B. The development of the main trends of Spanish literature from 1850 to 1896.

Mr. Benitez, Mr. Smith

132. 20th-Century Spanish Prose. (Formerly numbered 132A.) Lecture, three hours. Recommended prerequisite: course 120B. A study of several representative works of Spanish prose literature since 1898.

Mr. Morris

133. 20th-Century Spanish Poetry and Drama. (Formerly numbered 132A.) Lecture, three hours. Recommended prerequisite: course 120B. A study of several representative works of Spanish poetry and drama since 1898.

Mr. Morris

136A-136B. Survey of Spanish-American Literature. (Formerly numbered 121A-121B.) Lecture, three hours. An introduction to the principal periods, currents, and authors of Spanish-American literature.

Ms. Arora, Mr. Luzuriaga, Mr. Oviedo, Mr. Reeve, Mr. Skirius

137. The Literature of Colonial Spanish America. Lecture, three hours. Recommended prerequisite: course 136A. A study of the most important genres and authors from the Conquest to 1810.

Ms. Arora, Mr. Oviedo

139. Romanticism and Realism in Spanish-American Literature. Lecture, three hours. Recommended prerequisite: course 136A. A study, through representative literary works, of the most important currents of thought and literary trends from 1810 to 1880.

Mr. Luzuriaga, Mr. P. Reves, Mr. Skirius

140. Modernismo. Lecture, three hours. Recommended prerequisite: course 136A. A study, through representative works, of the principal characteristics of modernismo in Spanish-American literature.

Mr. Luzuriaga


Mr. Luzuriaga, Mr. Reeve, Mr. Skirius


Mr. Reeve, Mr. Skirius

144. Mexican Literature. (Formerly numbered 141.) Lecture, three hours. Recommended prerequisite: course 136B. A study of the major movements as authors of Mexican literature.

Mr. Reeve, Mr. Skirius

145. Introduction to Chicano Literature. (Same as Chicano Studies M145.) Lecture, three hours. Prerequisite: course 25 or 26. Recommended: course 136B. Introduction to texts representative of the Chicano literary heritage. A sampling of genres, as well as historical and geographical settings and points of view characteristic of works written by Chicanos during the 20th century. Most of the required reading is in Spanish. Bilingual and English works are included and discussed. Reading and analysis of the number of important scholarly and critical statements pertaining to the characteristics and development of the Chicano literary corpus.

Mr. Hernandez-M149. Folk Literature of the Hispanic World. (Same as course 136A) Lecture, three hours. A study of the history and present dissemination of the principal forms of folk literature throughout the Hispanic countries.

Ms. Arora

160A-160B-160C. Hispanic Literatures in Translation. Lecture, three hours. Class readings and analysis of selected works in translation. Classroom discussion, papers, and examinations in English:

160A. Spain and Portugal.

160B. Spanish America and Brazil.

160C. Don Quijote in English Translation. Class reading and analysis of Cervantes' Don Quijote.

Mr. Johnson

161. Film and Literature of the Spanish-Speaking World. Lecture, three hours. A topical analysis (conducted in English) of the main literary and historical themes of Hispanic culture through films and literary texts. Course 197 may not be taken concurrently for credit.

Ms. Morris

170A. Senior Honors Seminar: Topics in Spanish Literature. Lecture, three hours. Prerequisite: senior Spanish major with a 3.5 GPA in the major. Directed research on topics within the 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 a 3.5 GPA in the major. Directed research on topics within the general area of Spanish-American literature. Two senior seminars required for departmental honors.

197. Undergraduate Seminar. Lecture, three hours. Prerequisite: upper division Spanish major or consent of instructor. Limited to 15 students. A variable topics course with readings, discussions, and papers; conference and individual research.

Mr. Johnson

197A. Studies in Hispanic Culture and Civilization. Lecture, three hours. Required of students preparing for a California state teaching credential in Spanish. An advanced course that studies diverse aspects of Hispanic culture, 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

M201. Literary Theory and Criticism. (Same as Portuguese M201.) Lecture, three hours. Definition, discussion, and application of the main currents of contemporary literary theory and criticism.

Mr. Benitez, Mr. Otero

202. Phonology and Morphology. (Formerly numbered 206.) Lecture, three hours. The phonological and morphological systems of Spanish and their interrelation.

Mr. Otero, Ms. Plant

204A-204B. Generative Grammar. Lecture, three hours. Recommended prerequisite: course 204A or consent of instructor is prerequisite to 204B. A generative approach to the Spanish language, with some consideration of the bearing of syntax, semantics, and phonology on style, metaphor, and meter.

Mr. Gimeno

M205A-M205B. The Development of the Portuguese and Spanish Languages. (Formerly numbered 205A-205B.) Lecture, three hours. Intensive study of the historical development of the Portuguese and Spanish languages from their origin in spoken Latin.

Mr. Otero, Mr. Smith

209. Dialectology. Lecture, three hours. The major dialect areas of peninsular and American Spanish, with the distinguishing features of each. Influence and contribution of cultural and historical features, including indigenous languages, to their formation.

211. Medieval Lyric Poetry. (Formerly numbered 222.) Lecture, three hours. Readings and lectures on Spanish lyric poetry from the beginning to 1500.

Mr. Gimeno

222. Medieval Epic and Narrative Poetry. (Not the same as course 222 prior to Fall Quarter 1984.) Lecture, three hours. Readings and lectures on Spanish epic and narrative poetry from the beginning to 1500.

Mr. Morris

223. Medieval Prose. Lecture, three hours. Readings and lectures on Spanish prose from the beginning to 1500.

224. Poetry of the Golden Age. Lecture, three hours. Readings and lectures on Spanish poetry from 1500 to 1700.

Mr. Morris, Mr. Rodriguez-Cepeda

225. Drama of the Golden Age. Lecture, three hours. Readings and lectures on the comedias.

Mr. Rodriguez-Cepeda

226. Prose of the Golden Age. Lecture, three hours. Readings and lectures on fiction, fictional, didactic, religious, and historical writings.

Mr. Johnson

227. Cervantes. Lecture, three hours. Readings and lectures on the works of Cervantes.

Mr. Johnson

228. The Enlightenment. Lecture, three hours. Readings and lectures on representative works of the period.

Mr. Benitez

229. Romanticism. (Formerly numbered 230.) Lecture, three hours. Readings and lectures on representative works of the period.

Mr. Morris

230. Realism and Naturalism. (Formerly numbered 231.) Lecture, three hours. Readings 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. An introduction to major literary currents, including symbolism, Surrealism, and the Generation of 1898.

Mr. Morris

232. Spanish Prose Literature from 1898 to the Civil War. Lecture, three hours. Readings and lectures on representative essays, novels, and short stories of the period.

Mr. Morris

233. Spanish Prose Literature after the Civil War. (Formerly numbered 233.) Lecture, three hours. Readings and lectures on representative essays, novels, and short stories of the period.

Mr. Morris

234. Spanish Drama and Poetry from 1898 to the Civil War. Lecture, three hours. Readings and lectures on representative plays and poems of the period.

Mr. Morris

235. Spanish Drama and Poetry after the Civil War. (Formerly numbered 234.) Lecture, three hours. Readings 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 representative texts: chronicles, poems, and indigenous accounts of the Spanish Conquest.

Ms. Arora


M. Arora, Mr. Oviedo


Mr. Oviedo, Mr. Skirius


Ms. Luzuriaga

241A-241B. Contemporary Spanish-American Short Story. (Formerly numbered 244.) Lecture, three hours. A study of the important short story writers from modernism to the present.

Mr. Oviedo, Mr. Reeve

242A-242B. Contemporary Spanish-American Poetry. (Formerly numbered 244.) Lecture, three hours. Intensive study of the important poets of Spanish America from modernism to the present.

Mr. Oviedo

244A-244B. Contemporary Spanish-American Novel. (Formerly numbered 244.) Lecture, three hours. A study of the important novelists from modernism to the present.

Mr. Oviedo, Mr. Reeve


Mr. Skirius


Ms. Luzuriaga

247. Chicoano Literature. Lecture, three hours. A study of the major movements and authors of Mexican-American literature.

Mr. Hernández

249. Folk Literature of the Spanish and Portuguese Worlds. (Same as Folklore M249 and Portuguese M249.) Lecture, three hours. An intensive study of the folk literature of the Spanish and Portuguese cultures as represented in (1) ballad and poetry, (2) narrative and drama, (3) speech.

Ms. Arora

Seminar courses (M251A through M266B) may be taken for a maximum of eight units each with consent of the appropriate guidance committee and with topic change.

M251A-M251B. Studies in Galician-Portuguese and Old Spanish. (Formerly numbered M251.) (Same as Portuguese M251A-M251B.) Lecture, two hours. A study of the problems related to the historical development of Galician-Portuguese and Old Spanish.

Mr. Otero, Mr. Smith


Mr. Otero

257. Studies in Dialectology. (Formerly numbered 257B.) Lecture, two hours.

262A-262B. Studies in Medieval Spanish Literature. (Formerly numbered 262A-262B.) Lecture, two hours.

M. Gimenéz

264A-264B. Studies in Golden Age Spanish Literature. (Formerly numbered 264A-264D.) Lecture, two hours.

Mr. Johnzon, Mr. Morris, Mr. Rodríguez-Cepeda

265. Cervantes. (Formerly numbered 264D.) Lecture, two hours.

Mr. Johnson

270A-270B. Studies in 18th-Century Spanish Literature. (Not the same as course 270A-270B prior to Fall Quarter 1984.) Lecture, two hours.

Mr. Benítez


Mr. Benítez, Mr. Smith

272A-272B. Studies in 20th-Century Spanish Literature. (Formerly numbered 272A-272D.) Lecture, two hours.

Mr. Morris

277A-277B. Studies in Colonial Spanish-American Literature. (Formerly numbered 277A.) Lecture, two hours.

Ms. Arora

278A-278B. Studies in 19th-Century Spanish-American Literature. (Formerly numbered 278A-278B.) Lecture, two hours.

Mr. Oviedo


Ms. Luzuriaga, Mr. Oviedo

281. Studies in Chicano Literature. Discussion, two hours.

Mr. Hernández

M286A-M286B. Studies in Hispanic Folk Literature. (Same as Folklore M286A-M286B.) Lecture, two hours.

Ms. Arora

290. Special Topics. Lecture, two hours. Variable topics; consult the Schedule of Classes or department counselor for topics to be offered in a specific quarter.

310. The Teaching of Spanish in the Elementary School. Lecture, three hours.

370. The Teaching of Spanish in the Secondary School. Lecture, three hours.

373. The Teaching of Composition (2 units). Prerequisite: graduate standing, consent of instructor. Seminar on teaching writing in Spanish language courses. Introduction to composition theory. Instruction and practice in integrating writing into the curriculum, setting goals and standards, designing and sequencing course materials, evaluating and commenting on papers. May not be repeated for credit. S/U grading.

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the 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. The Teaching of Spanish at the College Level. Prerequisite: graduate standing in the major field. Basic concepts of modern theories of language and language acquisition which underlie modern methods of second language teaching. 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 four units may be applied toward the M.A. course requirements.

597. Preparation for Graduate Examinations (4 to 8 units). Prerequisites: successful completion of all coursework for the degree, 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 the quarter that comprehensive 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. Prerequisite: course 2 or equivalent.

2. Elementary Portuguese. Discussion, five hours; laboratory, one hour. Prerequisite: course 3 with a grade of B or better.

25. Advanced Portuguese. Prerequisite: course 3 or equivalent.

M35. Spanish, Portuguese, and the Nature of Languages. (Same as Spanish M35.) Lecture, three hours. An introduction to language study within the context of Romance languages, focusing on Spanish and Portuguese. The nature of language: its structure, its diversity, its evolution, its social and cultural settings, its literary uses. The 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. Highlights of the civilization of Spain and Portugal, with emphasis on their artistic, economic, social, and historical development as background for upper division courses. Conducted in English.

Mr. Cruz-Salvadores

M44. Civilization of Spanish America and Brazil. (Same as Spanish M44.) Required of majors. Highlights of the civilization of Spanish America and Brazil, with emphasis on their artistic, economic, social, and historical development as background for upper division courses. Conducted in English.

Mr. Reeve, Mr. Skirius

Upper Division Courses

100A. Phonology and Morphology. (Formerly numbered 100A.) Lecture, three hours. Analysis of the phonetic, phonemic, and morphological systems of Portuguese.

Mr. Quicoli

100B. Syntax. (Formerly numbered 100B.) Lecture, three hours. A review of the 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 the three quarters of the traditional pattern and to meet the special needs of advanced undergraduate and graduate students.

105. Advanced Composition and Style. (Formerly numbered 105B.) Practice in writing Portuguese with appropriate vocabulary, syntactical structures, and stylistic patterns.

M118A. The History of Portuguese and Spanish: Phonology. (Formerly numbered 118A.) Lecture, three hours. Prerequisites: courses M35, 100A. Major features of the development of the Portuguese and Spanish languages from their origins in Vulgar Latin to modern times.

Ms. Plann, Mr. Quicoli, Mr. Smith
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M118B. The History of Portuguese and Spanish: Morphology and Syntax. (Formerly numbered M118B.) (Same as Spanish M118B.) Lecture, three hours. Prerequisites: courses M35, 100B. Major features of the development of the Portuguese and Spanish languages from their origins in Vulgar Latin to modern times. Ms. Plann, Mr. Quicoli, Mr. Smith 120A-120B. Survey of Portuguese Literature. Lecture, three hours. An introduction to the principal periods, currents, and authors of Portuguese literature. Mr. Dias C124, Medieval Portuguese Literature. Lecture, three hours. A study of the main genres of medieval Portuguese and Galician literature through representative works. May be concurrently scheduled with course C224. Mr. Dias C125, Renaissance Portuguese Literature. (Formerly numbered C126.) Lecture, three hours. A study of the main genres of Renaissance Portuguese literature, with particular emphasis on the works of Luis de Camoens. May be concurrently scheduled with course C225. Mr. Dias C126, Baroque and Neoclassical Portuguese Literature. (Not the same as course C126 prior to Fall Quarter 1985.) Lecture, three hours. A study of the main genres of baroque and neoclassical Portuguese literature through representative works. May be concurrently scheduled with course C226. Mr. Dias C127, Romanticism and Realism in Portuguese Literature. (Formerly numbered C128.) Lecture, three hours. A study of the principal features through representative works. May be concurrently scheduled with course C227. Mr. Dias C128, Post-Romanticism and Naturalism in Portuguese Literature. (Not the same as course C128 prior to Fall Quarter 1985.) Lecture, three hours. A study of the principal features through representative works. May be concurrently scheduled with course C228. Mr. Dias C129, 20th-Century Portuguese Literature. (Formerly numbered C136.) Lecture, three hours. A study of representative trends and authors. May be concurrently scheduled with course C229. Mr. Dias 130A-130B. Survey of Brazilian Literature. (Formerly numbered 121A, 121B.) Lecture, three hours. An introduction to the principal periods, currents, and authors of Brazilian literature. Mr. Hulet C131, Colonial Brazilian Literature. (Formerly numbered C127.) Lecture, three hours. A study of the most important authors to 1830. May be concurrently scheduled with course C231. Mr. Hulet C132, Romanticism in Brazilian Literature. (Formerly numbered C129.) Lecture, three hours. A study of representative trends and authors. May be concurrently scheduled with course C232. Mr. Hulet C133, Naturalism, Realism, and Symbolism in Brazilian Literature. (Formerly numbered C135.) Lecture, three hours. A study of representative trends and authors. May be concurrently scheduled with course C233. Mr. Hulet C134, 20th-Century Brazilian Literature: Poetry and Drama. (Formerly numbered C137.) Lecture, three hours. A study of representative trends and authors. May be concurrently scheduled with course C234. Mr. Hulet C135, 20th-Century Brazilian Literature: Novel. (Formerly numbered C137.) Lecture, three hours. A study of the most important Brazilian novelists. May be concurrently scheduled with course C235. Mr. Hulet 140, Portuguese, Brazilian, and African Literature in Translation. (Formerly numbered 140A-140B.) Lecture, three hours. Reading and discussion of selected works in translation. Papers and examinations in English. Mr. Dias, Mr. Hulet 141, Film and Literature of the Portuguese-Speaking World. (Formerly numbered 141B.) Lecture, three hours. Not open for credit to students with credit for course 197. A topical analysis (conducted in English) of the 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. A variable topics course with readings, discussions, and papers; consult the Schedule of Classes or department counselor for topic to be offered in a specific quarter. 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. Mr. Benitez, Mr. Smith M201. Literary Theory and Criticism. (Same as Spanish M201.) Lecture, three hours. Definition, discussion, and application of the main currents of contemporary literary theory and criticism. Mr. Benitez, Mr. Otero 202. Synchronic Morphology and Phonology. (Formerly numbered 206.) Lecture, three hours. A study of theoretical synchronic linguistics as applied to Portuguese. Mr. Quicoli 204A-204B. Generative Grammar. Lecture, three hours. Prerequisite: consent of instructor. Course 204A or consent of instructor is prerequisite to 204B. A generative approach to the Portuguese language, with some consideration of the bearing of syntax, semantics, and phonology on style, metaphor, and meter. Mr. Quicoli, Mr. Otero M205A-M205B. The Development of the Portuguese and Spanish Languages. (Formerly numbered M203A-M203B.) (Same as Spanish M205A-M205B.) Lecture, three hours. Intensive study of the historical development of the Portuguese and Spanish languages from their origin in spoken Latin. Mr. Otero, Mr. Smith M224, Medieval Portuguese Literature. (Formerly numbered C242.) Lecture, three hours. A study of the main genres of medieval Portuguese and Galician literature through representative works. May be concurrently scheduled with course C124. Mr. Dias C225, Renaissance Portuguese Literature. (Formerly numbered C242B.) Lecture, three hours. A study of the main genres of Renaissance Portuguese literature, with particular emphasis on the works of Luis de Camoens. May be concurrently scheduled with course C125. Mr. Dias C226, Baroque and Neoclassical Portuguese Literature. (Formerly numbered C242C.) Lecture, three hours. A study of the principal features through representative works. May be concurrently scheduled with course C126. Mr. Dias C227, Romanticism and Realism in Portuguese Literature. (Formerly numbered C242C.) Lecture, three hours. A study of the principal features through representative works. May be concurrently scheduled with course C127. Mr. Dias C228, Post-Romanticism and Naturalism in Portuguese Literature. (Formerly numbered C242C.) Lecture, three hours. A study of representative trends and authors. May be concurrently scheduled with course C128. Mr. Dias C231, Colonial Brazilian Literature. (Formerly numbered C243A.) Lecture, three hours. A study of the most important authors to 1830. May be concurrently scheduled with course C131. Mr. Hulet C232, Romanticism in Brazilian Literature. (Formerly numbered C243B.) Lecture, three hours. A study of representative trends and authors. May be concurrently scheduled with course C132. Mr. Hulet C233, Naturalism, Realism, and Symbolism in Brazilian Literature. (Formerly numbered C243C.) Lecture, three hours. A study of representative trends and authors. May be concurrently scheduled with course C133. Mr. Hulet C234, 20th-Century Brazilian Literature: Poetry and Drama. (Formerly numbered C243D.) Lecture, three hours. A study of representative trends and authors. May be concurrently scheduled with course C134. Mr. Hulet C235, 20th-Century Brazilian Literature: Novel. (Formerly numbered C243D.) Lecture, three hours. A study of the most important Brazilian novelists. May be concurrently scheduled with course C135. Mr. Hulet M240, Folk Literature of the Spanish and Portuguese Worlds. (Same as Folklore M240 and Spanish M240.) Lecture, three hours. An intensive study of the folk literature of the Spanish and Portuguese cultures as represented in (1) ballad and poetry, (2) narrative and drama, and (3) speech. Ms. Arora M251A-M251B. Studies in Galician-Portuguese and Old Spanish. (Formerly numbered M251.) (Same as Spanish M251A-M251B.) Lecture, two hours. A study of the problems related to the historical development of Galician-Portuguese and Old Spanish. Mr. Otero, Mr. Smith M252. Studies in Early Portuguese Literature. (Formerly numbered 252A-252B-252C.) Lecture, two hours. Mr. Dias M253. Studies in Modern Portuguese Literature. (Formerly numbered 252A-252B-252C.) Lecture, two hours. Mr. Dias M254. Studies in Early Brazilian Literature. (Formerly numbered 253A-253B-253C.) Lecture, two hours. Mr. Dias M370. The Teaching of Portuguese in the Secondary School. For future teachers in this field. Mr. Hulet 375, Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the 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. Quidli 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 the M.A. course requirements. Mr. Hulet 597, Preparation for Graduate Examinations (4 to 8 units). Prerequisites: official acceptance of candidacy by the 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 the quarter that comprehensive or qualifying examinations are to be taken. S/U grading. 598, Research for M.A. Thesis (4 to 8 units). Prerequisite: consent of guidance committee. Research in preparation of M.A. thesis. S/U grading. 599, Research for Ph.D. Dissertation (4 to 8 units). Limited to students who have passed the Ph.D. qualifying examinations. Research for and preparation of Ph.D. dissertation. S/U grading.
Speech

232 Royce Hall, (213) 825-3303

Professors
Donald E. Hargis, Ph.D., Emeritus
Charles W. Lomas, Ph.D., Emeritus

Associate Professors
Neil M. Malamuth, Ph.D. (Communication Studies), Chair
Paul Irwin Rosenthal, Ph.D. (Communication Studies)
Ralph Richardson, Ph.D., Emeritus

Lecturers
Dale V. Atkins, Ph.D.
Dee A. Bridgewater, Ph.D.
Stephen A. Doyle
Eugenie Dye, Ph.D.
Marie S. Gregory
Thomas E. Miller
Sonya H. Packer

There is no major in speech; however, the following undergraduate courses are offered for interested students:

Lower Division Courses

1. Principles of Oral Communication. Prerequisite: 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. Prerequisite: course 1. A 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


144. Speech and Community Action. Prerequisite: consent of instructor. An intensive laboratory-based, observation-oriented study of speech and communication practices of action groups, protest groups, and public officials involved with the metropolitan Los Angeles urban crisis.

175. The Speeches of Abraham Lincoln. Introduction to the full span of Lincoln’s speaking career. His methods of preparation, the influence of associates, his style, his delivery, and lastly, his effect on the nation.

190A-190B. Forensics (2 units each). Prerequisite: consent of instructor. May be repeated once for credit.

191. 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 in Rhetoric. Prerequisite: senior standing or consent of instructor. A 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

The College of Letters and Science offers a program of courses through which you may receive credit toward a credential to teach in California elementary schools. For details, see "Diversified Liberal Arts" earlier in this chapter.

Urban Studies or Organizational Studies (Interdepartmental)

4289 Bunche Hall, (213) 825-4331

Scope and Objectives

Cities and organizations are multifaceted and can usefully be explored from more than one disciplinary perspective. The Special Program in Urban Studies or Organizational Studies brings together students and faculty from the Departments of History, Political Science, Economics, Sociology, Psychology, and Geography who share an interest in the modern city or in modern organizations. The programs give students a solid grounding in the urban or organizational perspectives and methods of at least two departments. Each of the programs must be taken in conjunction with a major in the social sciences.

Special Undergraduate Programs

You may elect to combine one of these programs 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 or 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 each specialization must be taken for a letter grade. The specializations must be taken in conjunction with a major in the division of social sciences.

Preparation for the Programs

Required: At least five of the following courses appropriate to the courses to be taken in the specialization: Economics 1 and 2; Sociology 18 and 109 or equivalent; Political Science 40 (urban studies), 80 (organizational studies); Psychology 10; Sociology 1; Geography 4.

Consult the Political Science departmental counselor regarding pending changes in the following programs.

Urban Studies Specialization

Required: (1) At least three courses outside the major department selected from Political Science 182A, Sociology 125, Economics 120, Geography 150, Anthropology 167, Psychology 168; (2) a minimum of three courses selected from the following suites outside the major department: Political Science 180, 182B, 188B; Economics 121, 130, 133; Sociology 124, 154, 155; Geography 145, 146, 150, 151, 152, 156; History 154A, 154B, 154C, 154D; Psychology 127, 135, 137A; (3) internship experience in an urban governmental or community service organization.

Organizational Studies Specialization

Required: (1) At least three courses outside the major department selected from Political Science 190, Sociology 121, 141, Management 190; (2) a minimum of three courses selected from the following suites outside the major department: Political Science 142, 145, 146, 186; Economics 101A, 147A, 147B, 170, 171; Sociology 124, 140, 152, 154; Geography 146, 148, 149; Psychology 135, 137A, 148; (3) internship experience in a governmental or service organization.

For further information, contact Professor Robert Fried at the program address.

Women’s Studies (Interdepartmental)

240 Kinsey Hall, (213) 206-8101

Professors
Edward A. Alpers, Ph.D. (History)
Helen S. Astin, Ph.D. (Education)
Martha Banta, Ph.D. (English)
Jeanne M. Giovannoni, Ph.D. (Social Welfare)
Dorothea Hayden, M.Arch. (Architecture and Urban Planning)
Nancy M. Henley, Ph.D. (Psychology)
Christine Littleton, J.D., Acting Law
Anne K. Mellor, Ph.D. (English), Acting Director
L. Anne Peplau, Ph.D. (Psychology)
Kathryn Kish Sklar, Ph.D. (History)
Ruth B. Yeazell, Ph.D. (English)
Special Undergraduate Program

Admission

A women's studies committee composed of the director, faculty members, and a student representative sets program policies and curriculum. To be admitted to the specialization, you must have a grade-point average of 2.0 or better and must formally register with the program. You are encouraged to declare your specialization in women's studies as early as possible and to discuss your proposed course of study with the director or undergraduate advisor.

Requirements for the Specialization

Students participating in this program are required to complete both a departmental major and the women's studies specialization. There are no lower division prerequisites. You must take two core courses (Women's Studies 100 and M197), plus six upper division courses from the "Supporting Courses" list. At least two of the six courses must be taken in departments other than the major department, and two may be experimental courses offered by the Council on Educational Development (CED). No more than four units of course 199 may be applied.

You are encouraged to draw on the University's diverse resources in creating your 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. You may petition to have diverse courses accepted, including courses outside the College of Letters and Science, independent studies, or field study courses.

All courses applied to the specialization must be taken for a letter grade, and you must have a GPA of 2.5 or higher 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.

Upper Division Core Courses

100. Introduction to Women's Studies. Lecture, three hours. Intended for sophomores and first-quarter juniors; required of students who wish to graduate with a specialization in women's studies. Introduction to the interdisciplinary and cross-cultural study of women in preparation for further investigation within traditional disciplines. (W)

M197. Senior Seminar in Women's Studies. (Same as Education M197.) Discussion, three hours; laboratory, one hour. Prerequisites: upper division standing. Designed with the intent of examining the role that women have played in Italian society. Concentration alternatively on the world of the medieval and Renaissance "matriarch" and on the "feminization" of our time. Legal and political documents and social and religious taboos presented and discussed, together with other data derived from literature and art. Italian majors are required to read texts in Italian and to prepare papers written in Italian.

215. Women in Culture and Society. (Same as Anthropology M163.) Lecture, three hours. Designed with the intent of examining the role that women have played in Italian society. Concentration alternatively on the world of the medieval and Renaissance "matriarch" and on the "feminization" of our time. Legal and political documents and social and religious taboos presented and discussed, together with other data derived from literature and art. Italian majors are required to read texts in Italian and to prepare papers written in Italian.

M126. American Woman in the U.S. (Same as English M126.) Lecture, three hours; discussion, one hour. 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 the impact of gender on social interaction. Me. Peplau

170. Jurisprudence of Sexual Equality. Prerequisite: course 100 or Political Science 10 Historical and political documents and social and religious taboos presented and discussed, together with other data derived from literature and art. Italian majors are required to read texts in Italian and to prepare papers written in Italian.

M172. The Afro-American Woman in the U.S. (Same as Afro-American Studies M172 and Psychology M172.) Lecture, three hours; discussion, one hour. 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 the impact of gender on social interaction. Me. Peplau

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. Ms. Mays

Supporting Upper Division Courses

M102. Sex Roles and Society. (Same as Sociology M102A.) Lecture, three hours; discussion, one hour. Prerequisite: course 100 or Sociology 1 or consent of instructor. Consideration of sociological literature pertaining to the development and functioning of sex roles in society from a critical perspective. Topics include socialization and gender norms, contemporary sex role strain, and the challenge to traditional notions of sex roles posed by feminist critique.

M107. Women in Literature. (Same as English M107.) Prerequisite: satisfaction of Subject A requirement. A survey of literary works by and about women. The delineation of women in English and American literature, studies in historical and contemporary themes, and the evolution of forms and techniques in poetry, fiction, and biography. Ms. Brennan, Ms. Mellor, Ms. Rowe, Ms. Yeazell

M137E. Work Behavior of Women and Men. (Same as Psychology M137E.) Prerequisites: courses 100 or Psychology 10, junior or senior standing. Examination of work behavior of men and women. Topics include antecedents of career choice, job finding, leadership, performance evaluation, discrimination and evaluation bias, job satisfaction, and interdependence of work and family roles.

M148. Women in Higher Education. (Same as Education M148.) Prerequisite: upper division standing. The education and career development of women in higher education. Specifically, emphasis on understanding and graduate and postgraduate 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

M158. Women in Italian Culture. (Same as Comparative Literature M158A.) Lecture, three hours. Designed with the intent of examining the role that women have played in Italian society. Concentration alternatively on the world of the medieval and Renaissance "matriarch" and on the "feminization" of our time. Legal and political documents and social and religious taboos presented and discussed, together with other data derived from literature and art. Italian majors are required to read texts in Italian and to prepare papers written in Italian.

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. Ms. Mays

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. A directed program of independent readings and/or research on a specific topic within women's studies. No more than four units may be applied toward the women's studies specialization.
Supporting Courses in Other Departments

Check with the program office for additional course listings.

**Anthropology** 151. Marriage, Family, and Kinship
**Asian American Studies** 105. Asian American Women
**Classics** 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
**English** 180X. Specialized Studies in Literature
**French** 145. Topics in French Literature: From Nature (Female?) to Culture (Male?)
158. Woman in French Literature

**History** 136I. Topics in European History: Prostitution in the Western World, 1550 to the Present
136J-136K-136L. History of Women in Europe
156C-156D-156E. Social History of American Women
197. Undergraduate Seminars

**Philosophy** 192. Philosophical Analysis of Issues in Women's Liberation

**Political Science** 149A-149Z. Special Studies in Politics: Women and the Political Process
C197A-C197F. Seminars for Majors

**Psychology** 137C. Interpersonal Relations
137F. Special Topics in Social Psychology: Gender and Close Relationships

**Public Health** 176E. Family and Sexual Violence

**Sociology** 102A-102Z. Special Topics in Sociology: Sociology of Women
160. The Demography and Sociology of Women's Economic Roles
197. Undergraduate Seminar

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**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 College of Fine Arts. You enroll in the college of your choice and fulfill the general education requirements of that college. For details on this undergraduate major, see Chapter 6 on the College of Fine Arts.
UCLA's College of Fine Arts, the only undergraduate college of its kind in the University of California system, is a young, dynamic center for higher education in the arts. Its distinguished faculty of more than 200 includes visiting artists and scholars who bring a variety of exciting viewpoints to enrich the study of the arts. Its goal is to educate the artist who is connected to society.

The College of Fine Arts consists of four departments: Art, Design, and Art History; Dance; Music; and Theater, Film, and Television. The curriculum is designed to provide fine arts students with intensive training in their major within the broader liberal arts education of the University. The creative or performing artist, as well as the historian or critic, is provided an outstanding academic program.

Fine arts majors explore, through research and practice, the unique creativity of world cultures. Nonmajors are offered an educational program intended to foster a better understanding of the visual and performing arts. The college continues to support extracurricular programs in the arts for the benefit not only of the University community, but for the public as well. Such efforts include art gallery and museum exhibits, plays, films, and music and dance concerts.

Photo: Anna Mahler's impressive Tower of Masks dominates the Macgowan Hall courtyard.
College of Fine Arts

A265 Murphy Hall, (213) 206-6465

The four departments of the College of Fine Arts both borrow from and add to the rich and varied cultural life of the campus. Students in the Department of Art, Design, and Art History are taught to understand the broad panorama of the visual arts, while those in the Dance Department have an opportunity to study ballet, modern, and ethnic dance forms. The Music Department offers specializations in composition and theory, music education, ethnomusicology, history and literature, performance, and systematic musicology. Students in the Theater, Film, and Television Department major in either theater or motion picture/television.

History/art history is a new undergraduate interdisciplinary major offered jointly by the College of Fine Arts and the College of Letters and Science. World arts and cultures (formerly ethnic arts) is an undergraduate major which integrates art, dance, music, theater, anthropology, and folklore and mythology into one unique program. This interdisciplinary major is offered jointly by the College of Fine Arts and the College of Letters and Science.

An informative brochure on the UCLA College of Fine Arts is available from the Student Services Office, A239 Murphy Hall, UCLA, Los Angeles, CA 90024.

If you are interested in obtaining teaching credentials for California elementary and secondary schools, consult the Graduate School of Education, 201 Moore Hall.

Bachelor of Arts Degrees

Admission

In addition to the University of California Undergraduate Application, departments in the College of Fine Arts require auditions, portfolios, or evidence of creativity. Detailed information on departmental requirements will be mailed to you on receipt of the application. Deadline date for applications is November 30, 1986, for admission in Fall Quarter 1987.

The Study List

Each quarter the student Study List must include from 12 to 17 units. The college has no provision for part-time enrollment. After your first quarter, 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 quarter with all courses passed. The petitions must be filed and approved by the dean of the college 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 college to continue for that quarter.

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 college 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 University Extension while enrolled at UCLA is not permitted.

Degree Requirements

Each student must meet six kinds of requirements for the B.A. degree: University, college, 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.

College of Fine Arts students enrolled in English (ESL) 33A, 33B, 33C must take the courses for a letter grade.

College Requirements

The general requirements of the College of Fine Arts must be completed with a grade-point average of 2.0 or better.

For specific courses that fulfill the general college requirements and for courses preceded by M or C, consult the college office before enrolling. Courses listed below are used only as a guideline for 1986-87. Note: Courses that include the review of film or television may not be applied toward any general college requirements.

English Composition and Rhetoric (4 Units)

English 3 with a grade of C (2.0) or better must be completed by the end of the freshman year and may not be taken on a Passed/Not Passed basis.

Critical Reading and Writing (4 Units)

One course from English 4, *Humanities 2A, 2B, or 2C with a grade of C (2.0) or better must be completed by the end of the sophomore year and may not be taken on a Passed/Not Passed basis.

*If Humanities 2A, 2B, or 2C is taken to meet the critical reading and writing requirement, it may not also satisfy the literature requirement; English 4 may never be applied toward the literature requirement.

Foreign Language (12 Units)

Three quarters of one foreign language through level three are required. This requirement must be completed by the end of your sophomore year. If at least four quarter units of

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<td>Theater</td>
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<td>Theater Arts (Motion Picture/Television, Theater)</td>
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<tr>
<td>World Arts and Cultures</td>
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level three are completed without taking level one or two, an additional eight units must be completed from courses listed below in science, social science, or humanities. International students whose entire secondary education has been taken in a language other than English may petition to be exempt from the foreign language requirement.

Proficiency examinations may not be used to complete the foreign language requirement. Some majors may require completion of the language prior to entry into the major.

Science/Mathematics (8 Units)

One course in physical or biological science and one course in natural science, mathematics, or another physical/biological science are required.

Physical and Biological Science Courses: Astronomy 3, 4, 81, 82; Atmospheric Sciences 2, 3, 101, 11; biology (except Biology 10, 30, 35); chemistry (except Chemistry 2 for students with high school chemistry); earth and space sciences (except Earth and Space Sciences 8, 20, 115); Honors Collegium 44; Kinesiology 12A, 12B, 13, 14; microbiology; physics (except Physics 10).

Other Natural Science and Mathematics Courses: Anthropology 1, 2, 11, 124, 127P; Atmospheric Sciences 1, 5, 6, 8; Biology 10, 35; Earth and Space Sciences 8, 20, 115; Geography 1, 2, 5; Honors Collegium 40, 41, 45; mathematics (no remedial, historical, or statistical); Physics 10; Psychology 15, 115, 116.

Social Science (12 Units)

Two courses from the Department of History (one in any period prior to 1600, one in any period after 1600) and one other social science course are required. Note: Survey courses in history which cover "antiquity to present" may be applied only on history after 1600 or on other social science courses.

Other Social Science Courses: Anthropology (except Anthropology 1, 2, 11, 124, 127P, 136); economics (principles, history, and theory only); geography (except Geography 1, 2, 5); history (except medical or geological); Honors Collegium 42, 56, 60, 61, 63, 64, 65; Near Eastern languages (Ancient Near East 163A, 163B, Jewish Studies 140A, 140B, 141, 142); political science (except courses dealing with civil rights and law); psychology (except Psychology 15, 115, 116, education, counseling, family life, or child care); sociology (except mass communications, civil rights, education, law, criminology, marriage, family life, or child care).

Humanities (12 Units)

One course in the arts, one course in literature, and one course in philosophy and/or religion are required. Performance, studio, or film/television courses and those in your major department do not meet this requirement.

The Arts Courses: Art History 50 series or 101A through 121B; Classics 151A, 151B, 151C, 151D (except art history majors); Dance 134A, 134B, 180A through 187A; Folklore and Mythology 118, 124; Motion Picture/Television 189; Music 2A, 2B, 113A, 113B, 130 through 135C, 138 through 146, 151A through 153C, 157 through 159, 186A through 186F; Theater 5A, 5B, 5C, 102A through 103B, 104D through 105.

Literature Courses: Selected courses in English, ethnic, American, or foreign literature, including works in translation; Classics 10, 20; East Asian Languages and Cultures 129; Folklore and Mythology 15, 101, 108, 113, 130, 131; German 119 through 119F; Honors Collegium 51, 52, 54; humanities, except those that are M or C courses; Near Eastern languages (Hebrew 120, Iranian 140, Jewish Studies 150B, 151A, 151B).

Philosophy/Religion Courses: Anthropology 156; Classics 166A, 166B; East Asian Languages and Cultures 139, 172, 173, 174, 183, 184, 185; Honors Collegium 50, 57; Near Eastern languages (Ancient Near East 130, Iranian 170, Islamics 110); Philosophy 1 through 32 and selected upper division courses.

A few course areas that may NOT be applied toward the general college requirements are cross-listed courses (M or C), business, communications, creative writing, criminology, education, engineering, family life, marriage and child care, field studies, home economics, independent studies, interdisciplinary studies, journalism, law, mass media, public health, and speech. Also no 198, 199, or CED courses and no seminars, proseminars, or freshman seminars may be applied toward the general requirements of the college.

Additional Nonmajor Department Requirements

Three upper division courses (12 units) must be completed outside your major department. These courses may not be applied toward the general college requirements. Studio, performance, activity, independent study, debate courses, children's theater, creative dramatics, internships, and field studies courses may not be applied as additional nonmajor courses.

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 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.

University Extension courses with the prefix X toward the general college 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 College of Fine Arts. Of the last 45 units completed for the bachelor's degree, 35 must be earned in residence in the College of Fine Arts (28 units must be upper division — 16 of which must be in the major department). No more than 18 of the 35 units may be completed in UCLA Summer Sessions.

Courses in University 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). Most 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 college when necessary.

Any department offering a major in the College of Fine Arts may require a general 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 University 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 applying to the general college and University requirements.

Minimum Progress: You are expected to complete satisfactorily at least 36 units during any three consecutive quarters 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 quarters in residence.
History/Art History and World Arts and Cultures

Intercollegiate, interdepartmental majors in history/art history and world arts and cultures are open to students in both the College of Fine Arts and the College of Letters and Science. You enroll in the college of your choice and fulfill the general education requirements of that college. Counseling is available in the department of your concentration. For details on the majors, see the respective sections later in this chapter.

Honors

To receive Dean's Honors in the College of Fine Arts, you must have at least 12 graded units per quarter 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 quarter. You are not eligible for Dean's Honors in any given quarter if you receive an Incomplete or a Not Passed (NP) grade, change a grade, or repeat a course.

Honors with the Bachelor's Degree 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 3.55; Magna cum laude, 3.65; Summa cum laude, 3.77.

Counseling and Program Planning

The College of Fine Arts offers preadmission advising, program planning in the major and general degree requirements, and individual meetings with departmental counselors and faculty, 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, College of Fine Arts, A239 Murphy Hall (825-9705).

Graduate Study

The advanced degree programs offered in the College of Fine Arts provide graduate students with unique research opportunities when combined with special resources, such as the Film, Television, and Radio Archives, the University Research Library, the special collections of the Art, Music, and Theater Arts Libraries, and the University's exhibition and performance halls. The College of Fine Arts cooperates with UCLA's Graduate School of Management in offering a Master of Business Administration (M.B.A.) in Arts Management. Participating students serve quarter-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 a relatively new M.F.A. management program in the Department of Theater, Film, and Television, with options in either theater or motion picture/television.

A program in teaching is offered by the Graduate School of Education in each of the fine 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 college has limitations and additional requirements. In general, samples of your work (dance audition, art portfolio, playwriting sample, 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, Design, and Art History

1300 Dickson Art Center, (213) 825-3281

Professors

Samuel Amato, B.F.A. (Art)
Albert Boime, Ph.D. (Art History)
William J. Brice (Art)
Raymond B. Brown, M.A. (Art), Chair
Jack B. Carter, M.A. (Design)
Susan B. Downey, Ph.D. (Art History)
Elliot J. Elgart, M.F.A. (Art)
Robert H. Gray, M.F.A.
Robert F. Heinecken, M.A. (Art)
J. Bernard Kester, M.A. (Design)
David M. Kunze, Ph.D. (Art History)
Vasa Minich (Design)
Lee Mullican (Art)
Carlo Pedretti, M.A. (Art History and Armand Hammer Professor of Leonardo Studies)

Donald A. Preziosi, Ph.D. (Art History)
Jan Stussy, M.F.A. (Art)

Emeritus Professors

Laura F. Anderson, M.A.
Alexander Badawy, D.I.A., Ph.D.
E. Maurice Bloch, Ph.D.
Archie V. Fatty, M.A.
Thomas Jennings, M.A.
Lester D. Longman, Ph.D., L.H.D., D.F.A.
John A. Neuhart
Gordon M. Nurses, M.A.
Katharina Otto-Dorn, Ph.D.
Frederick S. Wight, M.A.

Associate Professors

James W. Bassler, M.A. (Design)
William C. Brown, M.A. (Design)
Chris Burden, M.F.A. (Art)
Iool Kalavrezou-Maxeiner, Ph.D. (Art History)
Mitsuru Kataoka, M.A. (Design)
Cecelia F. Klein, Ph.D. (Art History)
Donald F. McCallum, Ph.D. (Art History)
Martin J. Powers, Ph.D. (Art History)
Arnold Rubin, Ph.D. (Art History)
Adrian Saxe, B.F.A. (Design)
Nathan Shapira, Dottore in Architettura (Design)

Assistant Professors

Kathleen A. Bick (Design)
Irene A. Bierman, Ph.D. (Art History)
Robert L. Brown, Ph.D. (Art History)
Barbara Drucker, M.F.A. (Art)
Roger Herman, M.F.A. (Art)
Mark McCauley, M.F.A. (Art)
Charles Ray, M.F.A. (Art)
Patricia Wickman, M.F.A. (Art)
Joanna Woods-Marsden, Ph.D. (Art History)
Alice E. McCluskey M.A., Emeritus
Madeleine Sunkees, B.Ed., Emeritus

Adjunct Assistant Professors

James Cuno, Ph.D. (Art History)
Edith A. Tonelli, Ph.D. (Art History)

Visiting Lecturers

Shelley M. Bennett, Ph.D. (Art History)
Leslie Biler, M.A. (Art)
Carol Blake, M.F.A. (Art)
Jerold Burchman, M.A. (Art)
Don Chadwick (Design)
Laddie John Dill (Art)
Art Durinski, M.F.A. (Design)
Avi Engel, M.F.A. (Design)
Clayton Lee, M.F.A. (Design)
Paul McCarthy, M.F.A. (Art)
Alexis Smith (Art)
Don Suggs, M.F.A. (Art)
Los Swinford, M.F.A. (Design)
Jeff Weiss, M.F.A. (Art)
Jean S. Weisz, Ph.D. (Art History)
Rush White, M.F.A. (Art)

Scope and Objectives

As the department name indicates, art, design, and art history are largely autonomous divisions. Scope and objectives are different for each, although all fields lead to Bachelor of Arts and Master of Arts degrees and all benefit from the rich and varied art resources at UCLA and in the Los Angeles community. Also offered are a Master of Fine Arts in Art and a Ph.D. in Art History.

Art courses include painting and drawing, sculpture, printmaking, photography, and new forms and concepts (which include perfor-
mance, installation, and video). 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.

Art history courses survey Western and non-Western art from earliest human history to the present. Students learn to treat artistic monuments and trends from a historical point of view, analytically rather than subjectively. This curriculum prepares students for careers in which a broad knowledge of art is important and provides students preparing for graduate study with a foundation for research requiring independent critical judgment.

Design courses teach skills and organizational concepts necessary to application of art in contemporary life, including studies in visual communication (graphics, video, electronic imagery), ceramics, textiles, fiber, industrial, product, and interior space design.

Bachelor of Arts in Art

Preparation for the Major

Required: Art 5A, 5B, 5C, 15A, 15B, 22, and one course from Art History 50, 51, 54, 55, 56, 57.

The Major

Required: A minimum of 14 upper division courses, including Art 130, 133, 137, 140, 145, 147, 148, and 149, one course from Art History 101A through 121B, and five courses of art electives. It is recommended that you have each quarter's program approved by a departmental adviser.

Bachelor of Arts in Art History

Preparation for the Major

Required: Art History 50, 51, 54, 55, 56, 57.

The Major

Required: Eleven courses of upper division art history as follows:

(1) A total of eight courses (32 units) from the following 13 areas (at least one course in six of the 13 areas, with at least three from Group A and three from Group B):


(2) Three art history electives which may include courses 125, 197, 199 (design or studio courses do not apply as electives), and no more than four units of Classics 151A, 151B, 151C, 151D.

(3) Two quarters of one foreign language or equivalent. The language is in addition to the college foreign language requirements.

It is recommended that you have each quarter's program approved by a departmental adviser.

Bachelor of Arts in Design

Preparation for the Major

Required: Design 30A, 30B, 31A, 31B, 32A, 32B, four courses from 33A through 33G, and one course from Art History 50, 51, 54, 55, 56, 57.

The Major

Required: A minimum of 12 upper division courses, including eight courses from Design 161A through 172B and four courses of art electives.

It is recommended that you have each quarter's program approved by a departmental adviser.

Note: Check the Schedule of Classes for courses restricted to majors only.

Master of Arts in Art

Art Specialty

Admission

Students are admitted in Fall Quarter only. Regular admission requires a B.A. or equivalent and faculty consent following the annual review of creative work in February. Applicants must submit slides (maximum 20) or videotape (if applying to the video field) to the Graduate Assistant, Department of Art, Design, and Art History, 1300 Dickson, UCLA, Los Angeles, CA 90024.

Provisional admission may be granted for work with faculty sponsors for three quarters, pending reconsideration of regular admission.

Major Fields or Subdisciplines

Drawing, painting, sculpture, printmaking, photography, video, new forms and concepts. No limit to the variations, extent, or value of these designations is intended.

Course Requirements

A minimum of 36 quarter units in the department in courses 101A through 295 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 the field of specialization.

An additional 36 quarter units of art history, theory, and criticism in undergraduate and/or graduate study are required (for students with little or no art history in undergraduate work, some or all of these units may be taken as electives beyond the 20 units of graduate coursework required). 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 exhibition 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.

Design Specialty

Admission

Students are admitted in Fall, Winter, and Spring Quarters. 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 who have a B.A. degree or equivalent may be admitted on an unconditional basis or on a provisional basis. If you are admitted on an unconditional basis, an initial advisory committee is formed to guide you in your studies. Provisional admission is recommended for two quarters when you show great promise, but your grade-point average is below 3.0, preparation for the graduate area of specialization is insufficient as demonstrated in your portfolio, or undergraduate preparation is inadequate as indicated in transcripts. An advisory committee is formed to outline a program of study that will allow you to continue on an unconditional basis.

Major Fields or Subdisciplines

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) in courses 101A through 295 (and possibly 596) is required, with a B average. These must include a minimum of 20 quarter units of design courses numbered above 200, of which at least eight units must be from Design 290A-290B-290C 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 comprehensive examination (offered each quarter) consists of an oral examination and a concentrated body of work which is presented as the master's statement. Also required is an accompanying record of the project, consisting of documentation in the form of slides of physical work, research materials, and other visual material, and which may include a written statement as determined by the graduate guidance committee.

**Master of Arts in Art History**

**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. The statement of purpose submitted with the application is given weight in the evaluation and should be as specific as possible about your interests in art history. In addition, you must have completed six full courses in the history of art (grades of B or better and not including studio courses), with at least two courses in each group noted below. Specific areas may not be offered in satisfaction of more than one requirement.

**Group A:** (1) Egyptian, (2) ancient Near East, (3) classical, (4) medieval, (5) Renaissance, (6) baroque, (7) modern, and (8) American.


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 the first two quarters in residence and may not be applied toward the 10 courses required for the degree. Instead of taking a course, you may substitute a competency examination in the deficient area.

Prospective students may contact the Graduate Assistant, Department of Art, Design, and Art History, 1300 Dickson, UCLA, Los Angeles, CA 90024, for brochures and information. The department has no special departmental application.

**Major Fields or Subdisciplines**
Sixteen fields in two groups, 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 an Asian (i.e., Chinese, Japanese, South Asian), pre-Columbian, or Islamic art history area. Students majoring in Chinese or Japanese art history must substitute either Chinese or Japanese respectively for either French or German. Those majoring in a South Asian or Islamic art history area must substitute, for either French or German, an appropriate classical research language of South Asia or Islamic culture respectively. 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 in any of the following ways: (1) by passing the department language examination, (2) by passing the Educational Testing Service (ETS) examination with a minimum score of 600, (3) by enrolling in and completing with a minimum grade of B, UCLA’s French 5, German 6, and/or Spanish 25. One of these language requirements must be satisfied by the end of the second quarter in residence and the other by the end of the fifth.

Students majoring in an Asian or Islamic art history area must satisfy their European language requirement by the end of the fifth quarter in residence and may do so in any of the three ways listed above. The Asian or Islamic language requirement, however, is normally satisfied by enrolling in an appropriate course sequence for six consecutive quarters (typically beginning with the first quarter 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. You must select an unrelated minor from the group (A or B) which does not include your major area, and 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 (in the 200 and 500 series). At least four of these must be in the 200 series. No more than two 596 courses may be applied toward the graduate or elective course requirement. You must take Art History 201, four courses in the major, and two courses in each minor.

**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.

**Master of Fine Arts in Art**

**Art Specialty**

**Admission**
Students are admitted in Fall Quarter only. See "Admission" under the Master of Arts degree in Art (art specialty) 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, printmaking, photography, video, new forms and concepts. No limit to the variations, extent, or value of these designations is intended.

**Course Requirements**
A minimum of 72 quarter units in the department in courses 101A through 295 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 the field of specialization.

An additional 40 quarter units of art history, theory, and criticism in undergraduate and/or graduate study are required (for students with little or no art history in undergraduate work, some or all of these units may be taken as electives beyond the 40 units of graduate coursework required). 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 in Art (art specialty), as noted above.

**Design Specialty**

**Admission**
Admission requirements and procedures are essentially the same as for the M.A. (design specialty), 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. M.F.A. applicants are not admitted on a provisional basis when there are deficiencies in the portfolio, preparation, or academic record.

**Major Fields or Subdisciplines**

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 eight units must be from Design 290A-290B-290C 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 series must be taken in the field of specialization.

A minimum of 40 quarter units of art history in undergraduate or graduate study is also required. For students with little or no art history in undergraduate work, some or all of these units may be taken in electives beyond the 40 units of graduate coursework required. 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**

Same as the plan offered for the Master of Arts degree in Art (design specialty), as noted above.

**Ph.D. in Art History**

**Admission**

The M.A. in Art History is required for admission to the Ph.D. degree program. 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. in Art History course requirements). Deficiencies must be made up during the first two quarters in residence and may not be applied toward the eight courses required for the Ph.D.

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).
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 (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 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 graduate assistant.

Reading knowledge of French and German is requisite for admission at the Ph.D. level for those majoring in all areas except Asian, Islamic, or pre-Columbian. You may demonstrate this knowledge by submitting an Educational Testing Service (ETS) score of 600 or better, taking and passing the relevant department language examination(s), or completing UCLA’s German 6 and/or French 5 with a grade of B or better.

Students intending to major in an Asian or Islamic art history area must demonstrate, by the means outlined above, reading fluency in either French or German. In addition, they must complete with a grade of B or better six consecutive quarter courses (or equivalent) in an appropriate Asian or Islamic language. Determination of the appropriate language and acceptable equivalencies should be worked out in advance with the intended major adviser.

Students intending to major in pre-Columbian art history must demonstrate, by the means outlined 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 should consult the chair of the department’s language committee to determine if their previous examination is acceptable.

Prospective students may contact the Graduate Assistant, Department of Art, Design, and Art History, 1300 Dickson, UCLA, Los Angeles, CA 90024, for brochures and information. The department has no special departmental application.

**Major Fields or Subdisciplines**

See “Admission” under the Master of Arts degree in Art History above.

**Foreign Language Requirement**

You are normally required to demonstrate, no later than the time of your University Oral Qualifying Examination, reading fluency in one or more foreign languages in addition to those required for admission. Among those fields requiring such reading fluency are Egypt, ancient Near East, classical, medieval, Renaissance, Islamic, pre-Columbian, and all Asian areas. The applicability of this requirement, the language(s) required, and the exact means of satisfying the requirement are determined in consultation with the major adviser.

**Course Requirements**

The Ph.D. requires demonstrated competence in a major and two minors. If you choose two art history minors, one must be selected from the group (A or B) which does not include the major area (see group listings under Master of Arts in Art History above). If you choose one extra-departmental minor, it must be related to the major field in art history. The other minor may or may not be related to the major area.

You must have taken a minimum of four courses (at least one a graduate course) in one or more unrelated areas during the M.A. and/or Ph.D. program. Credit may be given for coursework at another institution.

In all, a minimum of eight graduate and upper division courses are required, of which at least three must be art history courses on the graduate (200 and 500) level. Of this total, you must take at least three, and may take up to five, extra-departmental upper division and/or graduate courses, which have to be approved by the major adviser.

**Qualifying Examinations**

After completion of coursework and language study, you must take the Ph.D. written comprehensive examination to test your breadth and depth of knowledge in the major and both minor fields of study. If you fail the examination, or any part thereof, that portion may be repeated during the subsequent quarter in residence. 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 committee. 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 unanimous agreement, to waive the final oral examination (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 failure, the doctoral committee decides, by unanimous agreement, whether or not you may be reexamined.
Art

Lower Division Courses

5A. Introduction to Art. Studio, eight hours; five hours arranged. Creative work in fine arts related to historical and contemporary issues selected from media such as drawing, painting, sculpture, printmaking, photography, and new forms and concepts (performance, video, nonobject art).

5B. Introduction to Art. Studio, eight hours; five hours arranged. Prerequisite: course 5A. Continuation of course 5A.

5C. Introduction to Art. Studio, eight hours; five hours arranged. Prerequisites: courses 5A, 5B. Continuation of courses 5A, 5B.

15A. Intermediate Art. (Formerly numbered 15.) Six to eight hours; five hours arranged. Prerequisites: courses 5A, 5B, 5C. Continuation of courses 5A, 5B, 5C, with increased emphasis on individual creative development.

15B. Intermediate Art. Studio, eight hours; five hours arranged. Prerequisites: courses 5A, 5B, 5C, and 15A. Continuation of courses 5A, 5B, 5C, 15A, with increased emphasis on individual creative development.

22. Art and Artists/History and Theory. Lecture/discussion, three hours; quiz, one hour. Art and architecture. Being an artist. Sources, ideas, processes, development, individual study visits and consultation.

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. Graduate Painting. (2 to 8 units). Tutorial studies in traditional and experimental printmaking. Selected studies in intaglio, lithograph, woodcut, silk screen, photo printmaking, and mixed media. Prerequisite: 3.0 GPA in major, consent of instructor. A tutorial/semianr course concerned with the particular artistic development of each student's personal work. May be repeated for a maximum of 16 units.

Upper Division Courses

130. Drawing. Studio, eight hours; five hours arranged. Prerequisites: courses 5A, 5B, 5C, 15, and 21, or consent of instructor. Varied media and subject; drawing as an intrinsically expressive mode. May be repeated for a maximum of 16 units.

133. Painting. Studio, eight hours; five hours arranged. Prerequisites: courses 5A, 5B, 5C, 15, and 21, or consent of instructor. Varied media, purposes, structures; presentation and meaning. May be repeated for a maximum of 16 units.

145. Sculpture. Studio, eight hours; five hours arranged. Prerequisites: courses 5A, 5B, 5C, 15, and 21, 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.

147. Photography. Studio, eight hours; five hours arranged. Prerequisites: courses 5A, 5B, 5C, 15, and 21, or consent of instructor. Selected studies in photography, historical and contemporary: documentation, non-silver methods, extended forms, color, mixed media. Photography as a medium of artistic expression. May be repeated for a maximum of 16 units.

148. Advanced Analysis and Criticism. Discussion, four hours; studio, nine hours arranged. Prerequisites: courses 5A, 5B, 5C, 15, and 21, or consent of instructor. Analysis and criticism of individual creative work and ideas. May be repeated for a maximum of 16 units.

149. Advanced Art and Artists/History and Theory. Lecture/discussion, three hours. Prerequisite: consent of instructor. Discussion and analysis of artists and art, historical and contemporary. May be repeated twice for credit.

197. Honors Course. Hours to be arranged. Prerequisites: 3.0 GPA overall, 3.5 in major, consent of instructor, junior or senior standing. Individual studies for majors. May be repeated once for credit.

299. 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.

Upper Division Courses

101A. Egyptian Art and Archaeology. (Formerly numbered Art 101A.) Lecture, three hours. A study of architecture, sculpture, painting, and minor arts during the Predynastic period and Old Kingdom.

101B. Egyptian Art and Archaeology. (Formerly numbered Art 101B.) Lecture, three hours. A study of architecture, sculpture, painting, and minor arts during the First Intermediate period, Middle Kingdom, and Second Intermediate period.

101C. Egyptian Art and Archaeology. (Formerly numbered Art 101C.) Lecture, three hours. A study of architecture, sculpture, painting, and minor arts during the Empire (or New Kingdom).

102. Art of the Ancient Near East. (Formerly numbered Art 102.) A study of architecture, sculpture, painting, and minor arts in Mesopotamia, Asia Minor, North Syria, Phoenicia, Palestine, Persia, and Cyprus from the origins to the 5th century B.C.

103A. Greek Art. (Formerly numbered Art 103A.) Lecture, three hours. Prerequisite: course 50. A survey of the art and architecture of Greece from the Archaic period through the 5th century B.C.

103B. Hellenistic Art. (Formerly numbered Art 103B.) Lecture, three hours. Prerequisites: courses 50, 103A. The art and architecture of the Greek world from the 4th through the 1st century B.C., including the transmittal of Greek art forms to the Roman world.

103C. Roman Art. (Formerly numbered Art 103C.) Lecture, three hours. Prerequisite: course 50. The art and architecture of Rome and its Empire from ca. 300 B.C. to A.D. 300.

103D. Etruscan Art. (Formerly numbered Art 103D.) Lecture, three hours. Prerequisite: course 50. The arts of the Etruscan peninsula from ca. 1000 B.C. to the end of the Roman Republic.

103E. Late Roman Art. (Formerly numbered Art 103E.) Lecture, three hours. Prerequisites: courses 50, 103C. The art of the Roman Empire from the 2nd through the 4th century (A.D.).

104A. Western Islamic Art. (Formerly numbered Art 104A.) Lecture, three hours. Not open for credit to students with credit for former courses 104B. From the Tigris and Euphrates Rivers to Spain, 7th to 17th century.

Art History

Lower Division Courses

50. Ancient Art. (Formerly numbered Art 50.) Lecture, three hours; quiz, one hour. Prehistoric, Egyptian, Mesopotamian, Aegean, Greek, Hellenistic, and Roman art and architecture.

51. Medieval Art. (Formerly numbered Art 51.) Lecture, three hours; quiz, one hour. Early Christian, Byzantine, Islamic, Carolingian, Ottonian, Romanesque, and Gothic art and architecture.

54. Modern Art. (Formerly numbered Art 54.) Lecture, three hours; quiz, one hour. Art and architecture from 1900 to the present in Europe and the United States.

55. African, Oceanian, and Native America. (Formerly numbered Art 55.) Lecture, three hours; quiz, one hour. Comparative approach, emphasizing economic, cultural, and historical aspects of selected artistic traditions which developed outside the spheres of influence of the major European and Asiatic civilizations.

56. Asian Art. (Formerly numbered Art 56.) Lecture, three hours; discussion, one hour. A survey of the major artistic monuments of the Indo-Iranian, Southeast Asian, and East Asian cultures, concentrating on formal and iconographical problems, as well as the social and political conditions under which artworks were patronized and produced.

57. Renaissance and Baroque Art. (Formerly numbered Art 57.) Lecture, three hours; discussion, one hour. History of art and architecture in Western Europe from 1400 to 1700.

Ms. Weisz, Ms. Woods-Marsden
104B. Eastern Islamic Art. (Formerly numbered Art 104B.) Lecture, three hours. Not open for credit to students with credit for former course 104C. From the Tigris and Euphrates Rivers through Afghanistan and parts of central Asia; the Ottoman Empire.

Ms. Bennett

C104C. Problems in Islamic Art. (Formerly numbered Art C104C.) Lecture, three hours. Not open for credit to students with credit for former course 104D. Monuments or theoretical problems related to Islamic culture and artistic production. Concurrently scheduled with course C214.

Ms. Bierman

105A. Early Christian Art. (Formerly numbered Art 105A.) Lecture, three hours. Prerequisite: course 51 or consent of instructor. The origins and development of art, architecture, sculpture from late antiquity and early Christianity to the iconoclastic controversy.

Ms. Kalavrezou-Maxeiner

105B. Early Medieval Art. (Formerly numbered Art 105B.) Lecture, three hours. Prerequisite: course 51 or consent of instructor. The development of art, architecture, sculpture from late antiquity and early Christianity to the iconoclastic controversy.

Ms. Kalavrezou-Maxeiner

105C. Romanesque Art. (Formerly numbered Art 105C.) Prerequisite: course 51. Art and architecture of Western Europe in the 11th and 12th centuries.

105D. Gothic Art. (Formerly numbered Art 105D.) Lecture, three hours. Prerequisite: course 51. Art and architecture of Western Europe in the 13th century.

105E. Byzantine Art. (Formerly numbered Art 105E.) Lecture, three hours. Prerequisite: course 51 or consent of instructor. The theory and development of Byzantine art from the iconoclastic controversy to 1453 and the diffusion of Byzantine art in Armenia, Georgia, the Caucasus, and Russia.

Ms. Kalavrezou-Maxeiner

106A. Italian Art of the Trecento. (Formerly numbered Art 106A.) Lecture, three hours. Prerequisite: course 57 or consent of instructor. Art and architecture of the 14th century.

Ms. Weisz

106B. Italian Art of the Quattrocento. (Formerly numbered Art 106B.) Lecture, three hours. Prerequisite: course 57. Art and architecture of the 15th century.

Ms. Weisz, Ms. Woods-Marsden

106C. Italian Art of the Cinquecento. (Formerly numbered Art 106C.) Lecture, three hours. Prerequisite: course 57. Art and architecture of the 16th century.

Ms. Weisz, Ms. Woods-Marsden

108A. Northern Renaissance: Imperial Art. (Formerly numbered Art 108A.) Lecture, three hours. Prerequisite: course 57. Painting and sculpture in the Northern Renaissance.

108B. Northern Renaissance Art. (Formerly numbered Art 108B.) Lecture, three hours. Prerequisite: course 57. Painting and sculpture in the Northern Renaissance.

Ms. Powers

109A. Baroque Art. (Formerly numbered Art 109A.) Lecture, three hours. Prerequisite: course 57. Art and architecture of Italy and Spain, 16th to late 17th century.

Ms. Weisz

109B. Baroque Art. (Formerly numbered Art 109B.) Lecture, three hours. Prerequisite: course 57. Art and architecture of Italy and Spain, 16th to late 17th century.

Ms. Weisz

110B. European Art of the 19th Century: Realism and Impressionism. (Formerly numbered Art 110B.) Lecture, three hours. Prerequisite: course 54. An inquiry into the problem of realism, with emphasis on French art, but including developments in England and the United States. Concurrently scheduled with course C215.

Dr. Kunzle

110C. European Art of the 19th and 20th Centuries: Postimpressionism to Surrealism. (Formerly numbered Art 110C.) Lecture, three hours. Prerequisite: course 54. A study of the major developments in modern art. 1880s to 1970s. Ms. Zannane, Gauguin, Van Gogh, Art Nouveau, Fauvism, German expressionism.

Mr. Kunzle

110D. Contemporary Art. (Formerly numbered Art 110D.) Lecture, three hours. Prerequisite: course 54. European and American art since World War II.

Mr. Boime, Mr. Kunzle

110E. Political Perspectives on Contemporary Art (Post-War World II). (Formerly numbered Art 110E.) Prerequisite: course 54. Vanguard painting in the U.S. (Picasso, abstract expressionism, and pop art, etc.) and the popular media of posters, comic strips, and murals, all of which are analyzed according to the dominant values under capitalism: alienation, consumerism, racism, sexism. Antidotal emphasis on protest art and women's art in the U.S. and the art of the socialist cultures of Cuba since 1959 and China from 1970 to 1973.

Mr. Kunzle

110F. Selected Topics in Modern Art. Lecture, three hours. Prerequisite: course 54. Changing topics in modern art (post-1970) which reflect the interests of individual regular and visiting faculty members.

Mr. Kunzle

112A. American Art. (Formerly numbered Art 112A.) Lecture, three hours. Architecture in the United States from the Colonial period to the 19th century.

Mr. Powers

112B. American Art. (Formerly numbered Art 112B.) Lecture, three hours. Painting and sculpture in the United States from the Colonial period to the 19th century.

Mr. Kunzle

112C. American Art. (Formerly numbered Art 112C.) Lecture, three hours. Art and architecture in the United States in the 20th century.

Mr. Kunzle

114A. The Early Art of India. (Formerly numbered Art 114A.) Lecture, three hours. Not open to freshmen. Survey of Indian art from the Indus Valley cultures to the 18th century. Emphasis on the Buddhist and Hindu backgrounds of the arts.

Mr. R.L. Brown

114B. Chinese Art. (Formerly numbered Art 114B.) Lecture, three hours. Not open to freshmen. Survey of Chinese art during the Chalcolithic times to the 18th century. The various arts, related to the developing historical background of the country.

Mr. Powers


Mr. McCallum

114D. The Later Art of India. (Formerly numbered Art 114D.) Lecture, three hours. Prerequisite: course 114A or consent of instructor. Survey of Indian art from the 10th to the 19th century. The decline of Buddhist art, the last efflorescence of Hindu architecture, Muslim painting and architecture, and Rajput painting.

Mr. R.L. Brown

C115A. Advanced Indian Art. (Formerly numbered Art C115A.) Lecture, three hours. Prerequisite: course 114A. Study in Indian sculpture and architecture. Concurrently scheduled with course C255.

Mr. R.L. Brown

C115B. Advanced Chinese Art. (Formerly numbered Art C115B.) Lecture, three hours. Prerequisite: course 114B. Study in Chinese painting and sculpture. Concurrently scheduled with course C256.

Mr. Powers

C115C. Advanced Japanese Art. (Formerly numbered Art C115C.) Lecture, three hours. Prerequisite: course 114C. Study in Japanese painting and sculpture. Concurrently scheduled with course C259.

Mr. McCallum

115D. Art of Early China, Neolithic to A.D. 500. Lecture, three hours. Prerequisite: course 114B or consent of instructor. The period generally known as "early China," ranging from the earliest Neolithic artifacts to the end of the T'ang dynasty (618-906). Concurrently scheduled with course C261A.

Mr. POWERS

C115E. Chinese Art of the Sung and Yuan Dynasties, 906-1368. Lecture, three hours. Prerequisite: course 114B or consent of instructor. The evolution of Chinese painting and graphic art from the Ming dynasty through the late 1970s. Concurrently scheduled with course C261C.

Mr. McCallum

C117A. Advanced Studies in Pre-Columbian Art: Mexico. (Formerly numbered Art C117A.) Lecture, three hours. Prerequisite: course 114B or consent of instructor. A study of the 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

C117B. Advanced Studies in Pre-Columbian Art: Central America. (Formerly numbered Art C117B.) Lecture, three hours. Prerequisite: course 114B or consent of instructor. A study of the art of selected cultures of southern Mesoamerica and the remainder of Central America from ca. 2000 B.C. to the Conquest, with emphasis on historical and iconography of the art of the Maya. Concurrently scheduled with course C218B.

Ms. Klein

C117C. Advanced Studies in Pre-Columbian Art: The Andes. (Formerly numbered Art C117C.) Lecture, three hours. Prerequisite: course 114B or consent of instructor. A study of the art of selected cultures of Colombia, Ecuador, Peru, and Bolivia from ca. 4000 B.C. to the Conquest, with particular emphasis on the history and iconography of art of Peru. Concurrently scheduled with course C218C.

Ms. Klein

118A. The Arts of Oceania. (Formerly numbered Art 118A.) Lecture, three hours. Prerequisite: course 55 or consent of instructor. Survey of the arts of the major island groupings of the Pacific, emphasizing style-regions and broad historical relationships.

Ms. Klein, Mr. Rubin

118B. The Arts of Pre-Columbian America. (Formerly numbered Art 118B.) Lecture, three hours. Prerequisite: course 55 or consent of instructor. Survey of the sequence of cultures which developed in the area between (and including) Mexico and Peru from ca. 1000 B.C. to the Conquest.

Ms. Klein

118C. The Arts of Sub-Saharan Africa. (Formerly numbered Art 118C.) Lecture, three hours. Prerequisite: course 55 or consent of instructor. The early arts of Nigeria and a selection of other traditions, emphasizing sculpture.

Mr. Rubin

118D. The Arts of Native North America. (Formerly numbered Art 118D.) Lecture, three hours. Prerequisite: course 55 or consent of instructor. Survey of painting, sculpture, and other arts from the Eskimo to the peoples of the Caribbean and the Southwestern United States.

Ms. Klein, Mr. Rubin

C119A. Advanced Studies in African Art: Western Africa. (Formerly numbered Art C119A.) Lecture, three hours. Prerequisite: course 118C or consent of instructor. Consideration of the network of stylistic, historical, and cultural relationships existing among the peoples of the upper Niger River Valley and adjacent portions of the Western Guinea Coast. Concurrently scheduled with course C216A.

Mr. Rubin
205. Studies in Prints. (Formerly numbered Art 211.) Seminar, two hours. Critical studies in the history and connoisseurship of graphic arts in the Western world. Group or individual studies often culminate in professionally directed exhibitions produced by the Grunwald Center for the Graphic Arts. Ms. Klein

206. Studies in Drawings. (Formerly numbered Art 206.) Seminar, two hours. Critical studies in the history and connoisseurship of draughtsmanship in the Western world. Individual studies emphasizing professional presentation. Group studies may culminate in exhibitions sponsored by the Grunwald Center for the Graphic Arts. Ms. Klein

210. Egyptian Art. (Formerly numbered Art 210.) Seminar, two hours. Prerequisites: courses 102A and 102B, or consent of instructor. The art and architecture of the Egyptian Bronze Age (3000-1000 B.C.). The monuments or theoretical problems related to the art and culture of Crete, Greece, the Cyclades, or Western Anatolia. Ms. Klein

213. Problems in Islamic Art. (Formerly numbered Art 213.) Seminar, two hours. The art and architecture of the Islamic world (Spain to Iran) from the 7th to the 17th century. Monuments or theoretical problems related to Islamic cultural production. Concurrently scheduled with course C104C. Ms. Klein

214. Problems in Islamic Art. (Formerly numbered Art 214.) Lecture, three hours. Prerequisite: consent of instructor. Monuments or theoretical problems related to Islamic culture and artistic production. Concurrently scheduled with course C104C. Ms. Klein

216A. Advanced Studies in African Art: Western Africa. (Formerly numbered Art 216A.) Lecture, three hours. Selected topics in the arts of peoples living west and north of Cameroon, with emphasis on special problems of theory and method. Concurrently scheduled with course C119A. Mr. Rubin

216B. Advanced Studies in African Art: Central Africa. (Formerly numbered Art 216B.) Lecture, three hours. Studies in selected topics of southern, equatorial, and equatorial, southern, and eastern Africa, with emphasis on special problems of theory and method. Concurrently scheduled with course C119B. Mr. Rubin

219B. Pre-Columbian Art. 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. Mr. Rubin

219D. Native North American Art. Discussion, two hours. Prerequisite: consent of instructor. Studies in selected topics in the art of the American Indian. Ms. Klein, Mr. Rubin


221. Topical in Classical Art. (Formerly numbered Art 221.) Lecture, two to three hours. Studies in Parthian art. A site-by-site survey of the Near East (Afghanistan, Iran, Iraq, Syria) during the period of Greek and Parthian control. Ms. Downey


231. Leonardo and Renaissance Theory of Art. (Formerly numbered Art 231.) Seminar, two hours. Prerequisite: knowledge of Italian. A study of various aspects of Leonardo's theoretical approach to art in terms of sources and the impact on followers. Mr. Pedretti

233. Northern Renaissance Art. (Formerly numbered Art 233.) Seminar, two hours. Prerequisite: knowledge of Italian. A study of various aspects of Northern Renaissance theory in terms of sources and the impact on followers. Mr. Pedretti

234. Baroque Art. (Formerly numbered Art 234.) Seminar, two hours. Emphasis on a selected topic (e.g., a particular artist, trend, or problem). Research papers and oral reports required. Mr. Pedretti

235. European Art from 1700 to 1900. (Formerly numbered Art 235.) Seminar, two hours. Emphasis on selected topics (e.g., a particular artist, trend, or problem). Research papers and oral reports required. Mr. Pedretti

236. Art and Architecture of George Washington. (Formerly numbered Art 246.) Seminar, two hours. Mr. Davis

253. Modern Art. (Formerly numbered Art 253.) Seminar, two hours. Changes in the modern art world (including illustration and other popular forms) which result from the development of modern artistic media. Mr. Davis

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Design

Lower Division Courses

30A. Nature of Design. (Formerly numbered Art 30A.) Lecture, three hours; discussion, one hour. Open to nonmajors. Understanding the design process, with emphasis on development of a visual language; a study of historic, scientific, technological, economic, and cultural factors influencing design in our physical environment.

30B. Design Resources. (Formerly numbered Art 30B.) Lecture/discussion, three hours. Prerequisite: course 30A. Investigation of resources for creativity as an introduction to research.

31A. Fundamentals of Design: Color. (Formerly numbered Art 31A.) Lecture, three hours; laboratory, four hours. Course 32A may be taken concurrently. Exploration of color in theory and practice. Development and articulation of sensory concepts.

31B. Fundamentals of Design: Form. (Formerly numbered Art 31B.) Lecture, two hours; laboratory, four hours. Course 32B may be taken concurrently. Interrelation of three-dimensional form concepts as a foundation for creativity: origination and solution of problems.

32A. Perceptual Drawing. (Formerly numbered Art 32A.) Demonstration/discussion/laboratory, eight hours. Course 31A may be taken concurrently. Transliteration of perception through delineation, drawing, and other descriptive media.

32B. Visual Presentation. (Formerly numbered Art 32B.) Demonstration/discussion/laboratory, eight hours. Prerequisite: course 32A. Course 31B may be taken concurrently. Translation of perception through delineation, drawing, and other descriptive media.

33A. Materials and Processes: Ceramics (2 units). (Formerly numbered Art 33A.) Demonstration/discussion/laboratory, four hours. Introduction to processes and media in design. Use of drafting instruments. Measuring and construction methods. Orthographic and isometric projection. Information and visualization necessary to support the design task. May be repeated once.

33B. Materials and Processes: Graphic Processes (2 units). (Formerly numbered Art 33B.) Demonstration/discussion/laboratory, four hours. Introduction to processes and media in design. Use of photographic processes as a means of depicting and recording design concepts. Introduction to photomechanical techniques and photographic generation of images; introduction to graphic presentation production. May be repeated twice.

33C. Materials and Processes: Production Processes (2 units). (Formerly numbered Art 33C.) Demonstration/discussion/laboratory, four hours. Introduction to processes and media in design. Introduction to the use of industrial technology and processes covering the methods of production and handforming. Emphasis on finishing with industrial materials and systems, including plastics, metal, wood, cardboard, and other materials. May be repeated once.

33F. Materials and Processes: Textiles (2 units). (Formerly numbered Art 33F.) Demonstration/discussion/laboratory, four hours. Introduction to media and processes in design. Fundamental methods of textile structure and design. May be repeated once.

34A. History of Design. (Formerly numbered Art 34A-34B.) Lecture, three hours; discussion, one hour. Course 34A is prerequisite to 34B. Analysis of significant concepts of form in relation to social, technological, and historical developments.

Upper Division Courses

(I) Comparative Studies in Design

161A. Ceramics. (Formerly numbered Art 161A.) Lecture, three hours; laboratory, to be arranged. The evolution of ceramic form through geographic, social, and materials science. Mr. Saxe

161B. World Costume. (Formerly numbered Art 161B.) Lecture, three hours; laboratory, to be arranged. Costume and body ornamentation; symbolic significance and evolving forms within their social, cultural, and technological contexts. Ms. McCloskey

161C. Graphica. (Formerly numbered Art 161C.) Lecture, three hours; laboratory, to be arranged. Symbols, signs, and images, within social, cultural, and historical contexts.

161E. Industrialization. (Formerly numbered Art 161E.) Lecture, three hours; laboratory, to be arranged. Industry, design, and society: their evolution and changing relationships.

161G. Shelter. (Formerly numbered Art 161G.) Lecture, three hours; laboratory, to be arranged. The development of shelter spaces in relation to structure, visual quality, function, human needs, and behavior.

161H. Textiles. (Formerly numbered Art 161H.) Lecture, three hours. The development of textile forms through geographic, cultural, stylistic, and technological contexts. Ms. Kester

161J. Video Imagery. (Formerly numbered Art 161J.) Lecture, three hours; laboratory, to be arranged. Analysis of videographic form.

161K. Historic Fashions. (Formerly numbered Art 161K.) Lecture, three hours; discussion, two hours. Fashions and stylistic changes in Western dress from the late medieval period to the present time, studied in relationship to the social and cultural background of each era. Ms. McCloskey

(II) Concept and Form in Design

162A. Ceramics. (Formerly numbered Art 162A.) Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, or equivalent. Critical development of ceramic materials and processes, with emphasis on handbuilding methods; investigation and analysis of formal and expressive content. May be repeated once.

162B. Ceramics. (Formerly numbered Art 162B.) Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, 162A, or equivalent. Emphasis on wheelthrowing methods and the use of scientific sources of aesthetic potential. May be repeated once.

163A. Costume. (Formerly numbered Art 163A.) Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, or equivalent. Introduction to the creative process in designing contemporary costume. May be repeated once.

163B. Costume. (Formerly numbered Art 163B.) Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, 163A, or equivalent. Further development of the design process, with emphasis on the symbolic aspect of contemporary costume. May be repeated once.

164A. Fiber Structure. (Formerly numbered Art 164A.) Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, or equivalent. Design and construction of woven forms. May be repeated once.

164B. Fiber Structure. (Formerly numbered Art 164B.) Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, or equivalent. The derivation of non-loom methods of fabric construction using pliable elements. May be repeated once.
165A. Graphics. (Formerly numbered Art 165A.) Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, or equivalent. The development of letterforms, typog-raphy, and reproduction technology. May be repeated once. Mr. W. Brown

165B. Graphics. (Formerly numbered Art 165B.) Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, or equivalent. Empiric and systematic graphic concepts, including methods, symbols, and graphic technology. May be repeated once. Mr. W. Brown

167A-167B. Form in Industrialized Materials. (Formerly numbered Art 167A-167B.) Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, or equivalent. Course 167A is prerequisite to 167B. Theories and applications of technological materials. Each course may be repeated once.

169A-169B. Product. (Formerly numbered Art 169A-169B.) Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, or equivalent. Course 169A is prerequisite to 169B. Product development in industry; function, aesthetics, and material properties as they relate to human needs. Each course may be repeated once.

170A-170B. Interior Spaces. (Formerly numbered Art 170A-170B.) Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, or equivalent. Systems of fabric surface organization, including the study of color, pattern, and methods of printing. May be repeated once. Mr. Shapiro

171A. Textiles. (Formerly numbered Art 171A.) Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, or equivalent. Systems of fabric surface organization, including the study of color, pattern, and methods of printing. May be repeated once. Mr. Shapiro

171B. Textiles. (Formerly numbered Art 171B.) Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, or equivalent. Systems of fabric surface organization, including the study of color, pattern, and methods of printing. May be repeated once. Ms. McCloskey

172A. Video Imagery. (Formerly numbered Art 172A.) Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, or equivalent. Introduction to electronic image recording: videotape and "live" representation. May be repeated once. Mr. W. Brown, Mr. Kataoka

172B. Video Imagery. (Formerly numbered Art 172B.) Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, or equivalent. Introduction to electronic image recording: videotape and "live" representation. May be repeated once. Mr. W. Brown, Mr. Kataoka

173. Topics in Design. (Formerly numbered Art 169.) Lecture/discussion, three hours; laboratory, to be arranged. Prerequisite: consent of adviser and instructor. Examination of faculty members of specific problems relevant to design theory and performance. Topics announced in advance. May be repeated for a maximum of 16 units.

193. Proseminar in Design: Senior Studies. (Formerly numbered Art 193.) Proseminar, three hours. Prerequisite: consent of adviser. Open to senior and advanced students through design faculty advisers. 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. Prerequisites: 3.0 GPA overall, 3.5 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.

280. Communication Imagery (2 to 8 units). (Formerly numbered Art 280.) Laboratory, two to four hours. Exploration of graphic processes in visual system. Design theory and practice of style and typography, letterform, photography, and the graphic film as they communicate visually (i.e., poster, brochure, book, film, and exhibition).

281. Image Transfer (2 to 8 units). (Formerly numbered Art 281.) Laboratory, two to four hours. Advanced experimental work in print processes. Employment of the fixed image, such as offset lithography, offset or letter press, screen printing, and electron printing, through photof, Bachiann, means.

282. Electronic Imagery (2 to 8 units). (Formerly numbered Art 282.) Laboratory, two to four hours. Development of expressive and design applications in video and computer-generated forms. The manipulation of visual, time, motion, and structural characteristics of electronic imagery, developed with video cameras, VTR, and electronic synthesizers experienced and viewed on television monitors or in print forms: images stored on videotapes for later analysis.

283. Costume (2 to 8 units). (Formerly numbered Art 283.) Seminar, two hours; laboratory, two hours. Advanced formulation and development of design ideas for contemporary fashion, dance, drama, or ritual. Research on the evolution of styles and cultures of expression in historical and modern costumes.

284. Ceramics (2 to 8 units). (Formerly numbered Art 284.) Seminar, two hours; laboratory, two hours. Advanced research and application of ceramic theory and methodology. Emphasis on the development of a responsible personal aesthetic. Includes, but not limited to, investigations of clay and glaze design technology, design for industry, clay as medium, and the historical importance of ceramics as a socially responsible discipline.

287. Design and Structure (2 to 8 units). (Formerly numbered Art 287.) Laboratory, two to four hours. Emphasis on developing methods of critical evaluation. Work of a subjective and expressive nature in areas of fiber, ceramics, graphics, and visual presentation. Exploration of form, with emphasis on experimentation with materials and processes.

288. Fiber Structure (2 to 8 units). (Formerly numbered Art 288.) Laboratory, two to four hours. Advanced formative work in traditional and experimental processes of fabric construction utilizing fiber media.

289. Textiles (2 to 8 units). (Formerly numbered Art 289.) Laboratory, two to four hours. Advanced experimental work with the elements of fabric design, including surface manipulation and methods of fabrication, which may include but are not limited to dye and printing processes.

290A-290B-290C. Design Seminar: A Collaborative View. (Formerly numbered Art 290A-290B-290C.) Seminar, three hours:

290A. Formalization Processes. Critical examination of theoretical concepts underlying the design process, including the initiation of an idea, its interpretation, and execution by the designer.

290B. Design Programming. Critical examination of idea development into model or procedural form for execution and/or production by others.

290C. Visual Communication. Critical examination of imagery in its social context.

292. Shelter (2 to 8 units). (Formerly numbered Art 292.) Development of individual projects to investigate contemporary shelter. Exploration of traditional and contemporary forms, methods, and materials.

293. Interior Space Design (2 to 8 units). (Formerly numbered Art 293.) The concept and practice of designing space under the active guidance and supervision for needs for interior spaces (ranging from personal to social spaces) in two- and three-dimensional projects involving color, light, surface, materials, equipment, furniture, etc.

294. Industrial Design (2 to 8 units). (Formerly numbered Art 294.) Laboratory, two to four hours. In-depth studies in topics such as design and management, person-object compatibility, visual identity programs, containing systems, transportation design for developing countries, economics, urban components, area studies, materials, and processes.

295. Exhibition Design (2 to 8 units). (Formerly numbered Art 295.) Laboratory, two to four hours. Interpretation and presentation of materials for exhibition. Students may elect to work with instructor and gallery staff on regularly scheduled productions or they may outline their own project and proceed by the direction of the instructor. Mr. Carter

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching assistant is responsible for the 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.

Related Courses in Another Department
Classics 251A. Seminar in Classical Archaeology: The Aegean Bronze Age.

251B. Seminar in Classical Archaeology: Greco-Roman Architecture.

251C. Seminar in Classical Archaeology: Greco-Roman Sculpture.

251D. Seminar in Classical Archaeology: Greco-Roman Painting.

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.
Bachelor of Arts Degree

The dance major offered through the College of Fine Arts leads to the Bachelor of Arts degree. Students who wish to confer with the departmental counselor regarding program planning and major requirements should see Wendy Urfrig in the department office.

Preparation for the Major


The Major

Required: A total of 58 units of upper division coursework, including Dance 100A-100B-100C, 113A-113B-113C, C120, 123A, 123B, 132A-132B, 134A, 134B, 141, 144, 148, 149, and eight units selected from upper division dance electives.

Admission to the upper division major is determined by a screening and evaluation conducted during Spring Quarter of your sophomore year. All entering transfer students are auditioned 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 such avenues as studio work. The department has its own application form (in addition to that used by the Graduate Admissions Office); three letters of recommendation and an audition are also required.

The audition looks at your technical proficiency and creative potential, which is expected to be no lower than the level of the UCLA undergraduate junior. 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 (i.e., performance-choreography, education, therapy, or ethnology).

Prospective students may write to the Department of Dance, 124 Dance Building, UCLA, Los Angeles, CA 90024, for departmental brochures which give additional information on the graduate program.

Foreign Language Requirement

There is no foreign language requirement at the graduate level. However, if you specialize in dance ethnology and plan to do fieldwork, it is recommended that, during your graduate study or before, you gain working knowledge of the language of your research area.

Course Requirements

Nine courses (or more depending on your specialization) are required, 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. These may not be classes taken to fulfill deficiencies nor technique or ethnic performance classes.

These requirements are to be partially fulfilled by one of the following patterns: (1) Dance 151, 211A through 211F (choreography/performance); (2) courses 151, 211A-211B-211C, 251A-251B (dance education); (3) courses 280A-280B-280C, 280E (dance ethnology).

Eight units of 500-series courses (596A, 596R, 598) may be applied toward the total course requirement; four units may be applied toward the minimum graduate course requirement.


Other areas such as dance history, philosophy and criticism, dance kinesiology, dance production, dance and media, music for dance, and dance notation may be pursued on the advice of the chair or an adviser after you have been in the graduate program for several quarters and have identified a unique interest and competence in one of these areas.

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 graduating with a focus in dance education.

Thesis Plan

If you select the thesis plan, you prepare a report of the results of your original research or creative work. Before beginning work on the thesis, you must obtain approval of the subject and general plan from the graduate faculty committee. If the thesis plan is accepted, a thesis committee is formed. Conditions for re-examination in case you fail the first presentation are based on the support of several faculty members.

Comprehensive Examination Plan

You must declare your intention to take the comprehensive examination plan in your third or fourth quarter by preparing a written proposal of the plan, which is to be presented and defended before a panel of faculty. The examination, administered by a committee of your choice selected from faculty in your specialization, Dance Department faculty outside your
### Lower Division Courses

**1A-1F. Fundamentals of Modern Dance (2 units each).** (Formerly numbered 10A-10B-10C and 11A-11B-11C.) Studio, three hours. Designed for non-dance majors. Courses must be taken in sequence. Study of dance technique, improvisation, and choreography. Critical viewing, reading, and discussion of modern dance artists' historical/aesthetic styles.

(F,W,Sp)

6F-6W-6S. Fundamentals of Ballet (2 units per year). (Formerly numbered 30BF-30BW-30BS.) Laboratory, four hours. Prerequisite: dance major or consent of instructor. Students admitted in Fall Quarter only. Study of ballet techniques and principles, including dance terminology. In Progress grading (credit to be given only on completion of course 6S).

Ms. Hills (F,W,Sp)

7F-7W-7S. Fundamentals of Ballet (2 units per year). (Formerly numbered 30BF-30BW-30BS.) Laboratory, four hours. Prerequisite: dance major or consent of instructor. Students admitted in Fall Quarter only. Study of ballet techniques and principles, including dance terminology. In Progress grading (credit to be given only on completion of course 7S).

Ms. Hills (F,W,Sp)

**10. Introduction to Dance (2 units).** (Formerly numbered 50.) An introduction to the many and varied theoretical aspects of dance as a discipline.

Mrs. Snyder

**11A-11F. Modern Dance Technique and Choreography (2 units each).** (Formerly numbered 38A-38B-36C and 37A-37B-37C.) 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 an understanding of the creative process of structure and form in dance compositions.

Ms. Kalman, Ms. Leung-Fisher (F,W,Sp)

20. Music Analysis for Dance (2 units). (Formerly numbered 35.) Lecture, two hours; laboratory, one hour. Study of the elements of music, music structures, and their relationship to dance, with emphasis on rhythmic analysis, dance accompaniment, and technique of composers.

(F)

25A. Beginning Labanotation (2 units). (Formerly numbered 38A.) Lecture, two hours; laboratory, one hour. Introduction to writing dance/movement in Labanotation. Basic skills in reading dances from the notated score.

Mrs. Dunin, Ms. Leung-Fisher, Mrs. Scothorn (F,W,Sp)

25B. Intermediate Labanotation (2 units). (Formerly numbered 38B.) Lecture, two hours; laboratory, one hour. Prerequisite: course 25A. Continued studies in Labanotation. Experiences in recording dance/movement and interpreting the notated score.

Ms. Leung-Fisher, Mrs. Scothorn (W,Sp)

40. Introduction to Dance Theater (2 units). (Formerly numbered 52.) Lecture, two hours; laboratory, two hours. Prerequisite: course 11A or consent of instructor. Study of the creative elements of choreography, sound score, and design and how they interact with the practical elements of personnel, materials, and procedures in present dance theater.

Mrs. Siegel (W)

48. Laboratory in Dance Production (1 unit). (Formerly numbered 92.) 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.

(Sp)

70. Survey of Dancing in Selected Cultures (2 units). Studio, three hours. Introduction to dances and their movement characteristics in Western and non-Western cultures.

Ms. Mrs. Dunin (F,Sp)

71B. Dance of Indonesia (2 units). (Formerly numbered 71A and 71H.) Studio, three hours. Dance experience is not required. Introduction to the technique and repertory of dance traditions (e.g., Java, Bali, Sundanese).

Ms. Mitoma (F,Sp)

### Upper Division Courses

**71C. Dance of Japan (2 units).** (Formerly numbered 71G.) Studio, three hours. Dance experience is not required. Technique and repertory from the court dance tradition (e.g., Gagaku).

Mr. Togi (F,W,Sp)

**71D. Dance of India (2 units).** (Formerly numbered 71E.) Studio, three hours. Dance experience is not required. Introduction to technique and repertory on a particular tradition (e.g., Bharata Natyam).

Ms. Yoth (F,W,Sp)

**71E. Dance of Korea (2 units).** (Formerly numbered 71C.) Studio, three hours. Dance experience is not required. Introduction to the technique and repertory of a selected dance tradition (e.g., Korean classical and folk).

Ms. Togi (F,W,Sp)

**72B. Dance of Ghana (2 units).** (Formerly numbered 71B.) Studio, three hours. Dance experience is not required. Introduction to the technique and repertory of a selected region.

Ms. Togi (F,W,Sp)

**72B. Dance of Mexico (2 units).** (Formerly numbered 71J.) Studio, three hours. Dance experience is not required. Introduction to forms and styles in dances of several ethno-regional regions. Emphasis on identifying dance characteristics through actual dancing.

Ms. Togi (F,W,Sp)

**74C. Dance of Spain (2 units).** (Formerly numbered 71M.) Studio, three hours. Dance experience is not required. Technique and repertory of dances from selected ethno-regional regions.

Ms. Marshall (F,W,Sp)

**79A-79Z. Dance of a Selected Culture (2 units each).** Studio, three hours. Introduction to forms and styles in dance of a selected culture area.

Ms. Togi (F,W,Sp)

**80A-80B. Movement as Cultural Behavior (2 units each).** (Formerly numbered 46A-46B.) Studio, three hours. Prerequisite: world arts and cultures major or consent of instructor. Studio/laboratory examination of the individual and cultural factors which affect expressive movement in cultures. Experimental classes which enhance kinesthetic and movement awareness of self and others through cultural perspective.

Ms. Mitoma (W,Sp)
103. Improvisation in Dance (2 units). (Formerly numbered 116.) Studio, four hours. Prerequisite: dance major or consent of instructor. Development of an aesthetic perspective through the use of imagery, sound, and other art. Concentration and concentration in space. Ms. Kalman (W)

106A-106B-106C. Intermediate Ballet (2 units each). (Formerly numbered 131A-131B-131C.) Lecture, one hour; laboratory, three hours. Prerequisites: course 101A or consent of instructor. Discussion of the development of technique in classical ballet, with emphasis on the technical problems of classical ballet. Ms. Hills (F,W,Sp)

107A-107B-107C. Advanced Ballet (2 units each). (Formerly numbered 132A-132B-132C.) Lecture, two hours; laboratory, six hours. Prerequisite: course 106C. Advanced technique in classical ballet, with emphasis on performance skills. Each course may be repeated once. Ms. Hills (F,W,Sp)

113A-113B-113C. Advanced Modern Dance: Technique, Choreography, and Performance Theory (3 units each). (Formerly numbered 153A-153B-153C.) Lecture, three hours; laboratory, four hours. Prerequisite: course 100C. Advanced technique studies, with emphasis on the development of rhythmic concepts, focus, projection, expressive range. Independent work in solo and group choreography culminating in a final performance project. (F,W)

114. Form and Structure in Choreography. (Formerly numbered 114.) Lecture, three hours. Prerequisite: course 101B. Prerequisites: course 111F or consent of instructor. A study of the craft of choreography. Emphasis on breath movement, phrasing, ABA, theme and variations, and rhythm. Learning to discriminate and shape the creative impulse into specific forms, with emphasis on staging. Ms. Scott (Sp)

C120. Music as Dance Accompaniment. (Formerly numbered C154.) Prerequisite: course 20 or consent of instructor. Piano and percussion techniques for accompanying dance. (W)

126. Advanced Labanotation. (Formerly numbered 153.) Lecture, two hours; laboratory, two hours. Prerequisite: dance major or consent of instructor. Advanced analysis of movement notation. (M. Gantz)

134A. History of Dance in Western Culture, Origins to 1600. (Formerly numbered 151A.) The development of dance styles in Western culture; function in society and relationship to contemporary artistic expression; ancient Egypt through European Renaissance. Mrs. Thomas (F)

134B. History of Dance in Western Culture, 1600 to the Present. (Formerly numbered 151B.) Prerequisite: course 134A or consent of instructor. Survey of dance styles in European and American cultures from early baroque to the present. Mrs. Thomas (W)

141. Lighting Design for Dance Theater (2 units). (Formerly numbered 152A.) Lecture, two 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. Mrs. Siegel (F,S)

142. Advanced Studies in Dance Theater Lighting (2 or 4 units). (Formerly numbered 152C.) Lecture, four hours; laboratory, four or more hours. Prerequisite: course 141 or consent of instructor. Analysis of diverse dance theater lighting problems at an advanced level and individual development of creative solutions. May be taken for a maximum of four units. Ms. Siegel (W)

144. Costume and Scenic Design Concepts for Dance Theater (2 units). (Formerly numbered 154B.) Lecture, two hours; laboratory, two hours. Prerequisite: course 11F or consent of instructor. Production of a costume or scenic design for a selected choreography. Ms. Schoezel-Fitz (F,Sp)

148. Advanced Laboratory in Dance Production (1 unit). (Formerly numbered 192.) Laboratory, two hours. Prerequisites or corequisites: courses 141 and 144, consent of instructor. Further development and application of concepts of lighting, sound, costume, scenic design, and stage practices in departmental dance productions. May be repeated once. P/N grading. (Sp)

149. Dance Performance Practicum (1 unit). (Formerly numbered 193.) Laboratory, four hours. Dancing in selected choreography in public performance. P/N grading. (Sp)

151. Foundations of Dance Education. (Formerly numbered 127.) Lecture, two hours; laboratory, three hours. Prerequisites or corequisites: courses 71H and 151G. Foundation of the educational and psychological aspects of dance teaching. May be repeated once. Mrs. Togi (F,W,Sp)

152. Dance as Culture in Education. (Formerly numbered 128.) 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. Mrs. Mitoma (F)

153. Creative Dance for Children. (Formerly numbered 160.) Lecture, three hours; laboratory, one hour. Prerequisite: dance major or consent of instructor. Introduction to movement concepts, skills, and teaching principles for modern dance instruction. Supervised teaching practicum included. Mrs. Leung-Fisher (F,Sp)

160. Introduction to Dance/Movement Therapy (2 units). (Formerly numbered 160A.) Lecture, one hour; laboratory, three hours. Prerequisite: course 100C or consent of instructor. Group processes and dynamics in both nonverbal (movement) and verbal modes of experience, so students achieve a significant level of psychological insight to assist in functioning professionally as effective dance/movement therapists. Mr. Wyman (F)

171B. Dance of Indonesia (2 units). (Formerly numbered 171A and 171H.) 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. Ms. Mitoma (W,Sp)

171C. Dance of Japan (2 units). (Formerly numbered 171G.) Studio, three hours. Prerequisite: course 71C. Technique and repertoire of a selected dance tradition. Dance in relation to music, aesthetic principles, and cultural context. May be repeated once. Mrs. Tors (F,W,Sp)

171D. Dance of India (2 units). (Formerly numbered 171I.) Studio, three hours. Prerequisite: course 71D. Technique and repertoire of a selected dance tradition. Dance in relation to music, aesthetic principles, and cultural context. May be repeated once. Ms. Mitoma (W,Sp)

171E. Dance of Korea (2 units). (Formerly numbered 171J.) Studio, three hours. Prerequisite: course 71E. Technique and repertoire of a selected dance tradition. Dance in relation to music, aesthetic principles, and cultural context. May be repeated once. Ms. Ydhi (F,W,Sp)

174B. Dance of Yugoslavia (2 units). (Formerly numbered 171P.) Studio, three hours. Prerequisite: course 71P. Dance techniques of selected ethno- graphic regions. May be repeated once. Mr. Pulido-Huizar (F,W,Sp)

174C. Dance of Spain (2 units). (Formerly numbered 171Q.) Studio, three hours. Prerequisite: course 71Q. Dance techniques of selected ethno- graphic regions. May be repeated once. Mrs. Kunin (W,Sp)

174D. Dance of Mexico (2 units). (Formerly numbered 171R.) Studio, three hours. Prerequisite: course 71R. Dance techniques of selected ethno- graphic regions. May be repeated once. Mrs. Marshall (F,W,Sp)

179A-179B. Dance of a Selected Culture (2 units each). (Formerly numbered 171S and 171T.) Studio, three hours. Prerequisite: course 71S and 71T. Dance the technique of a selected area culture. May be repeated for a maximum of four units.

180A-180B. Introduction to Dance Ethnography, Volumes I and II. A study of the physical, environmental, and cultural influences on dance. Basic observational and recording techniques, including beginning Labanotation. Mrs. Kunin (W,Sp)

181A. Dance Cultures of Asia. (Formerly numbered 143B.) An introduction to the dance cultures of Asia. How the theories and practices of dance are influenced by historic and social factors and by ideological and aesthetic systems. Lectures illustrated with demonstrations, films, and slides. Mrs. Mitoma (F)

181B. Dance in Southeast Asia. (Formerly numbered 143A and 143B.) A study of the physical, environmental, and cultural influences on dance. Basic observational and recording techniques, including beginning Labanotation. Mrs. Kunin (W,Sp)

181C. Dance in East Asia. (Formerly numbered 143B.) Prerequisite: course 181A or consent of instructor. A study of the dance cultures of Japan, China, and Korea and the factors which have influenced their development and social function. Consideration of the relationship of dance to other art forms. Lectures illustrated with demonstrations, films, and slides. Mrs. Mitoma (F)
181D. Dance in South Asia. (Formerly numbered 143.) Prerequisite: course 181A or consent of instructor. A survey of dance forms in India and Sri Lanka. Factors influencing the development of dance, its social function, and its relationship to other art forms. Lectures illustrated with demonstrations, slides, and films. Ms. Yodh

182A. Dance Cultures of Africa. (Formerly numbered 140A.) An illustrated survey of dance in sub-Saharan cultures, the role of dance in society, historical background, and related folklore. Mrs. Snyder (F)

183A. Dance in Latin America. (Formerly numbered 146.) Prerequisite: course 73B, 173B, or consent of instructor. An introduction to the dances of Latin America, factors influencing their development and social function, consideration of the relationship of dance to other art forms. Lectures illustrated with demonstrations, films, and slides. Mrs. Snyder (Sp)

184B. Dance in the Balkans. (Formerly numbered 142.) Prerequisite: course 74B. An illustrated survey of dance with attention to cultural and social contexts: Albania, Bulgaria, Greece, Romania, Yugoslavia. Mrs. Dunin

187A. Dance Cultures of Native American Indians. (Formerly numbered 140C.) An illustrated survey of Native American Indian dance, the role of dance in society, historical background, and related folklore. Mrs. Kalmann (F, W, Sp)

190. Advanced Dance Performance (2 units each). (Formerly numbered 190A-190B-190C.) Lecture, one hour; laboratory, three hours. The study and performance of major choreographic works. May be repeated twice. Ms. Leung-Fisher (F, W, Sp)

191. Repertory Dance Tour (2 to 4 units). Prerequisite: dance major or consent of instructor. Creation and performance of dance concerts in the community, with special emphasis on the problems of the touring dance company with a variable repertoire. Ms. Sothorn

199. Special Studies in Dance (2 to 8 units). Prerequisites: senior standing, consent of instructor.

Graduate Courses

211A-211F. Advanced Choreography. (Formerly numbered 204A-204B-204C and 204D-204E-204F.) Lecture, two hours; laboratory, two hours. Prerequisites: courses 134A and 134B or equivalent. Theoretical aspects of advanced choreography for students who have reached the level of self-initiation of substantial creative works. Refinement and realistic self-evaluation; critical counsel by acknowledged choreographers. Ms. Sothorn, Ms. Scott (F, W, Sp)

220. Music as Dance Accompaniment. (Formerly numbered 2625.) Prerequisite: course 20 or consent of instructor. Piano and percussion improvisation for dance major or consent of instructor. Piano and percussion improvisation for dance major or consent of instructor. Creation, improvisation, and performance of dance concerts in the community, with special emphasis on the problems of the touring dance company with a variable repertoire. Ms. Sothorn, Ms. Scott (F, W, Sp)

222. Principles of Dance Kinesiology. (Formerly numbered 211A.) Prerequisite: consent of instructor. The scientific basis for movement for dance. A study of the anatomical, kinesiological, and physical principles and demands of dance. Ms. Gantz (F)

225A-225B. Theories of Movement: Laban Analytical Studies. (Formerly numbered 239A-239B.) Lecture, two hours; laboratory, two hours. Theories of Laban movement analysis as a means for analyzing and describing human movement. Use of Laban movement analysis to increase movement skills and a theoretical understanding of the role of movement in dance, nonverbal behavior, and cross-cultural dance studies. Focus on complex movement patterns and timing. Ms. Gantz (F, 225B; Sp, 225A)

226. Advanced Studies in Notation (2 units). (Formerly numbered 200.) Prerequisite: course 126. Selected problems in directing from the notated repertoire; principles of teaching, comparative notation systems, writing projects. Mrs. Sothorn

230. Research Methods and Bibliography in Dance. (Formerly numbered 202.) Survey of methods for scholarly analysis of dance materials using systems from the social sciences, physical sciences, and humanities. Ms. Thomas (F, Sp)

231A-231B. Philosophical Bases and Trends in Dance (4 units, 2 units). (Formerly numbered 258A-258B.) Lecture, three hours. Prerequisite: course 100C. Critical analysis of dance as a creative experience and the role of professional and educational dance in our society. Research and extensive reading in contemporary philosophic literature. Study of present-day concepts and their relationship to other art forms and cultures. Evaluations, graduate students based on extended reading list and papers. May be applied toward the M.A. degree requirements. Mrs. Gilbert (W, Sp)

232. Aesthetics of Dance. (Formerly numbered 210.) Analysis of aesthetic concepts and critical methods used in writing about dance. Mrs. Thomas

234. Renaissance Dance: Analysis and Re-creation. (Formerly numbered 223.) Lecture, two hours; studio, two hours. Prerequisites: courses 134A and 134B, or consent of instructor. Analysis and re-creation of the study of 15th- and 16th-century dance styles from Domenico da Piacenza through Cesare Negri. Mrs. Thomas

235. The History of Ballet. (Formerly numbered 221.) Prerequisites: courses 134A and 134B, or consent of instructor. Development of ballet from 19th-century Romanticism to the present. Stylistic differences in Italy, France, England, Denmark, and Russia. Mrs. Thomas

236. Dance in the 20th Century. (Formerly numbered 220.) Prerequisites: courses 134A and 134B, or consent of instructor. Seminar in historical development of 20th-century dance. Mrs. Thomas

240. Principles of Dance Theater. (Formerly numbered 20B.) Relationship of architecture, technology, and history of the theater to choreography. Directing theories for choreographers. Role of choreography in drama, opera, and other forms of theater. Mrs. Sothorn (W)

251A-251B. Advanced Studies in Dance Education. (Formerly numbered 227A-227B.) 251A. Prerequisite: consent of instructor. Survey of conceptual and methodological foundations of dance education. 251B. Prerequisite: course 251A. Design of dance curriculum using theories of movement, creativity, and learning. Ms. Leung-Fisher (F, 251B; Sp, 251A)

260A-260B-260C. Group Dynamics and Process (2 units each). Discussion, two hours; laboratory, two hours. Prerequisite: one semester of dance as part of the Movement Therapy program. An experiential didactic exploration of unfolding group dynamics and process within an ongoing movement therapy group. Mrs. Dosamantes-Alperson (F, Sp)

261A-261B-261C. Dance Movement Therapy. (Formerly numbered 251A-251B-251C.) Lecture, two hours; laboratory, two hours. Prerequisite: consent of instructor. 261A. Theory and practice: historical overview of the field; introduction to basic theoretical concepts and their application into practice. 261B. Kinetic imagery: contribution of sensorimotor process and experiential knowing to therapy; unique functions served by movement and image modes explored theoretically and experientially. 261C. Theory and method: assumptions and methods of current clinical approaches; students are expected to develop their own theoretical model. Mrs. Wyman (F, W, Sp)


375. Teaching Apprenticeship Curriculum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the 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. Ms. Dubin (F, W, Sp)

451. Teaching Assistant Seminar (2 units). (Formerly numbered 495B.) Lecture, one hour; laboratory, three hours. Required of all Dance Department teaching assistants. Discussion, readings, and practice teaching. May be repeated once for credit. S/U grading. Ms. Sothorn (F, W, Sp)

452. Directed Field Study in Dance Education (2 to 8 units). (Formerly numbered 496B.) Seminar, one hour; observation, reading, discussion, and practice teaching. May be repeated once for credit. S/U grading. Ms. Sothorn (F, W, Sp)


460D-460E-460F. Clinical Internship Supervision (2 units each). (Formerly numbered 497D-497E-497F.) Lecture, one hour; discussion, two hours. Prerequisites: courses 460A-460B-460C. Practicum dealing with student internship: movement/observation, therapeutic goals, observational process, and other clinical uses. S/U grading. Ms. Wyman (F, W, Sp)

596A. Directed Individual Study or Research (2 to 8 units).

596R. Directed Study or Research in a Hospital or Clinic (2 to 8 units). S/U grading.


Related Courses in Other Departments

Anthropology 133R. Aesthetic Anthropology
Art (Art, Design, and Art History) 5A, 5B, 5C. Introduction to Art
Art History (Art, Design, and Art History) 50. Ancient Art
51. Medieval Art
54. Modern Art
55. Africa, Oceania, and Native America
56. Asian Art
57. Renaissance and Baroque Art
110A, 110B, 110C. European Art
110D, 110E. Contemporary Art
Design (Art, Design, and Art History) 161J. Video Imagery
English 80. Major American Authors
85. The American Novel
90. Shakespeare
91D, 110D. Contemporary Art
110A, 110B, 110C. European Art
Imagery
History/Art History
Ethnic Arts

Bachelor of Arts Degree

General College Requirements
All applicants are processed through the College of Fine Arts and screened by the Art History Department. After admission you may petition to transfer to the College of Letters and Science. You must satisfy the general college requirements of the college in which you are registered (Fine Arts or Letters and Science).

History courses taken by students in the College of Fine Arts may be applied toward the general education requirements, as may art history courses taken by College of Letters and Science students.

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 except Art History 125.

If you wish to confer with a counselor regarding program planning and major requirements, contact the art history counselor at 825-3077.

Preparation for the Major

Required: History 1A, 1B, 1C; two courses from Art History 50, 51, 54, 57; one course from Art History 55, 56.

The Major

Required: History 100 or 101; 197 or 199; and two courses as indicated in the following groups:


Group F: Two elective courses from Art History 125, 127, 197, 199, or any other upper division lecture course.

Ethnic Arts

See World Arts and Cultures

History/Art History

(Interdepartmental)

1300 Dickson Art Center, (213) 825-3077

Scope and Objectives

The interdisciplinary major in history/art history is available to students in both the College of Letters and Science and the College of Fine Arts. It allows students to study the relationship between art history and general history.

Motion Picture/Television

See Theater, Film, and Television

Music

2539 Schoenbel Hall Annex, (213) 825-4761

Professors

Alden Ashforth, Ph.D.
Elaine R. Barkin, Ph.D.
Murray C. Bradshaw, Ph.D.
Malcolm S. Cole, Ph.D.
Frank A. D’Accone, Ph.D.
Paul E. Des Marais, M.A.
Marie Louise Goñin, Ph.D.
Frederick F. Hammond, Ph.D.
Thomas F. Harmon, Ph.D.
Richard A. Hudson, Ph.D.
William R. Hutchinson, Ph.D.
Nazar A. Jairazbhoy, Ph.D.
Henri Lazarof, M.F.A.
D. Thomas Lee, D.M.A.
James W. Porter, M.A.
Paul V. Reale, Ph.D.
Gilbert Reaney, M.A.
Abraham A. Schwadron, Mus. A.D.
Robert M. Stevenson, Ph.D.
Roy E. Trovis, M.A.
D. K. Wilgus, Ph.D. (Anglo-American Folksong)
Robert S. Winter, Ph.D.

Emeritus Professors

Peter C. Crossley-Holland, M.A.
Maurice Gerow, Ph.D.
Edwin H. Hanley, Ph.D.
Manito L. Hood, Ph.D.
Boris A. Kremenlev, Ph.D.
W. Thomas Marocco, Ph.D.
David Morton, Ph.D.
Robert U. Nelson, Ph.D.
J.H.K. Nketia, B.A.
Gerow, Ph.D.
Maurice

Associate Professors

Charlotte A. Heth, Ph.D.
A. Jihad Racy, Ph.D.

Assistant Professors

Sue Carole De Valle, Ph.D.
Jacqueline C. Djede, Ph.D.
Warren Pinckney, Ph.D.
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 a valuable cultural background.

At the graduate level, 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.

Aptitude and achievement tests are required for enrollment in Music 20A. These examinations are administered during registration week only; dates are published in the Schedule of Classes. Students planning to complete a major in music, whether or not they have taken courses elsewhere, are required to pass a piano skills test (those without keyboard background may take courses 4A-4B-4C concurrently with 20A, 20B, 20C). The test must be passed by the end of course 20C or the first year as a music major, whichever comes first. Students with exceptional ability and achievement are placed into courses 20A, 20B, and/or 20C. Further information may be obtained from the Music Department Student Services Office, 2539 Schoenberg Hall Annex.

#### General Requirements
All music majors must enroll in one performance organization (Music 90A-90N, 91A-91Z) each quarter in residence and must participate in a minimum of two different organizations over the course of their stay at UCLA, one of which must be from courses 90A-90H or 91A-91Z. Note: Check with the undergraduate adviser, as curriculum changes are under consideration.

#### Preparation for the Major
**Required:** Music 20A, 20B, 20C, 26A-26B-26C, two courses from 60A through 65, and one college year of French, German, Italian, or Spanish or at least one course at level three (you may use this to fulfill the college language requirement). If you plan to specialize in history and literature or systematic musicology, you are encouraged to take six quarters (or the equivalent) of German.

### Graduate Study

#### Admission
Application for admission/fellowship is due December 30
Supplementary application materials are due January 15
Assessment examination ... end of January
Notice of acceptance or denial is sent by March 1
Late applicants must meet the following deadlines:
Late applications (from addresses in the U.S. only) are accepted until March 1
Supplementary application materials are due April 1
Assessment examination ... early April
Notice of acceptance or denial is sent by May 15

have an original work completed and ready for rehearsal and performance on campus during your senior year.

(2) **History and Literature:** One course from Music C127A, C127B, C127C, one course from C127D, C127E, C127F, one course from 140A, 140B, 140C, and two elective courses from 104A, 104B, 108, C127A through C127F, 130, 131A, 131B, 133, 134, 135A, 135B, 135C, 151A, 151B, 156, 157, C176, 187, 188A through 188F, 199 (four units only).


(5) **Music Education:** Music 100A-100B-100C, 116, 117A, 117B, 120C, 193, 195, eight units from 115A through 115E. You are encouraged to select your free elective course from 112A, 112B, 118A, 118B, 140A, 140B, 140C, C185, 187, 199. If you are considering a music education specialization, you are encouraged to meet with a music education adviser during your freshman year.

(6) **Systematic Musicology:** Five courses from Music 103A, 103B, 108, 137B, 140A, 140B, 140C, 140D, 149, 184, 187, 199, Anthropology 133R (you may apply only one course from the Music 140A-140B-140C series).
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.

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 must 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).

Those applying 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 of concentration 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 all branches of musicology and music education, a paper on an appropriate subject should be submitted; for composition, musical scores; for M.F.A. applicants, a repertoire list and sample concert or recital programs. Ph.D. applicants should submit the M.A. thesis or composition, if possible. M.F.A. applicants also are required to demonstrate by audition their general musical proficiency in their area of specialization. No application can be considered until the examination has been taken and all of the above materials have been received.

The application and all supplementary materials should be submitted to the Department of Music, 2539 Schoenberg Hall Annex, UCLA, Los Angeles, CA 90024.

Major Fields

The Music Department offers the degrees of Master of Arts and Doctor of Philosophy in the fields of historical musicology, ethnomusicology, systematic musicology, composition, and music education, and Master of Fine Arts (performance practices) in all classical solo instruments, voice, opera, and conducting.

Teaching Credential in Music

You may earn credentials for teaching music and other subjects in California elementary and secondary schools in conjunction with the Graduate School of Education; completion of the teacher credential program in the Teacher Education Laboratory is required. Interested applicants should consult the Graduate School of Education (201 Moore Hall) and the faculty adviser in music education for information.

Master of Arts Degree

Foreign Language Requirement

Reading knowledge of German or French is required in ethnomusicology and systematic musicology; of French, German, or Italian in composition; of German, French, Italian, or Spanish in music education; and of German and a choice of French, Italian, or Latin in historical musicology. If you lack this proficiency when you enter the program, you must begin language study during your first year in residence.

Course Requirements

You are required to complete a minimum of nine courses, five of which must be at the 200 level. Only four units of Music 596A, 596B, or 596C and four units of course 597 or 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. Upper division courses that may be applied toward the minimum of nine courses include 103A, 103B, 104A, 104B, 106B*, 106C*, 107A*, 107B*, 107C*, 108, 109A, 109B, 109C, 112A, 112B, 116, 117A, 117B, 118A, 118B, 140A, 140B, 140C, 141, 142A, 142B, 143A, 143B, 145, 146A, 146B, 146C, 147A, 147B, 148, 149, 151A, 151B, 152, 153A, 153B, 153C, 156, 157, 175 (four units only), M180, M181, 184, 187. Course 598 serves to guide the preparation of the thesis and should normally be taken during your last quarter in residence.

*Does not apply to students whose emphasis is composition.

Course requirements for each field are as follows:

**Historical Musicology:** Music 200A, 201A-201B-201C, either 210 or 211 (students planning to enter the Ph.D. program are strongly advised to take both courses 210 and 211 in the first year of residence), 250A or 250B, two quarters of 260A through 260F, and one elective on the recommendation of the graduate adviser.

**Systematic Musicology:** Music 200A, 200B, three quarters of 272, one course from 255, 269, 273, or 275, and three electives on the recommendation of the graduate adviser.

**Ethnomusicology:** Music 140A-140B-140C, 200A, 200B, C290A-C290B, and two 200-level electives on the recommendation of the graduate adviser.

**Composition:** Music 200A, one course from 251A through 251D, 252A, 252B, and 252C in sequence (with the option of substituting course 596A for 252C), 266A or 266B, and three electives on the recommendation of the 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.

**Music Education:** You may choose either the thesis or comprehensive examination plan. Within each plan you must select a course of study that covers a special field of interest — chorale, instrumental, or general topics — as listed below. For the thesis plan, Music 200A, 200B, C225, three courses from 118A, 118B, 270A through 270G (required in the special fields), and three elective courses from one of the special fields below are required. For the comprehensive examination plan, Music 200A, C225, four courses from 118A, 118B, 270A through 270G (required in the special fields), and three elective courses from one of the special fields below are required.

Course requirements for the special fields are as follows: chorale: Music 118A (four units), 270E, and one departmental examination selected from 112B, 135A, 135B, 135C, 137B, 174A through 174D (four units only), 187, C227A through C227F, 596A, 596B, 596C, 598; instrumental: Music 118B (four units), 270F, and one departmental examination selected from 106A, 106B, 106C, 108, 112A, 137B, 175 (four units only), 187, C227A through C227F, 261A through 261F, 596A, 596B, 596C, 598; and general topics: two courses selected under advisement from Music 270A through 270G and elective courses selected from 137B, 140A, 140B, 140C, 175 (four units only), 187, C227A through C227F, 596A, 596B, 596C, 598.

**Thesis Plan**

All M.A. students must use the thesis plan, except those specializing in music education who may follow either the thesis or comprehensive examination plan.

In all areas except composition, the thesis is an extended essay. In composition, the thesis is a work proposed by the student and approved by the composers' council. The thesis topic is first approved by the area council; the topic and the composition of the master's committee are then taken up by the graduate committee.

**Comprehensive Examination Plan**

You may use the comprehensive examination plan in lieu of the thesis plan only if you are specializing in music education and are not going on to the Ph.D. The plan has three components: (1) the realization in performance of a creative project appropriate to elementary, secondary, or higher education (e.g., chorale or instrumental ensemble performance, original
curricular design, original compositions or transcriptions); (2) a paper equivalent to a graduate seminar paper, including research, description of procedures, and analysis of the selected project; and (3) a final conference and evaluation.

Final Examination
The final examination is oral and includes discussion of both the thesis and related matters. This examination does not apply to music education students electing the comprehensive examination plan.

Master of Fine Arts Degree

Foreign Language Requirement
Reading knowledge of French, German, or Italian is required. Candidates in the opera speciality 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.

All M.F.A. students are required to pass a departmental terminology examination covering standard musical performance terminology (expression, dynamics, interpretation, performance practices, instrumentation, style, tempo) in French, German, and Italian. The terminology requirement should be satisfied by the end of your second 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, 596B, or 596C 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: Music 200A, three quarters of 261A through 261F, six quarters of 400-level performance instruction, two quarters (eight units) of 598, and six elective courses. Conducting students declare either a choral or instrumental specialization. Six quarters of course 475 are required in the area of specialization (i.e., choral or instrumental) and at least two quarters in the other specialization. (On a two-year program, the ratio would be four to one.) Recommended electives include courses 108, 140A, 140B, 140C, 175, 187, 596A, 596B, 596C, 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 project and should normally be taken during your last two quarters in residence.

Ph.D. Degree

Admission
See "Admission" under Graduate Study above. In addition, applicants for the Ph.D. in music education must have two years of teaching experience at the elementary or secondary level to be considered for admission.

Foreign Language Requirement
Reading knowledge of French and German is required in systematic musicology, ethnomusicology, and music education; reading knowledge of French, German, and a choice of Italian, Latin, or another language approved by the council on historical musicology is required in that area. In the field of composition, two languages are required, one of which must be German or French; the other may be selected from German, French, Latin, Italian, or Russian.

Course Requirements
You may petition to your area council, on the advice of your graduate adviser, for exemption from specific requirements on the basis of equivalent work done at the M.A. level.

Course requirements for each field of study are listed below. In each area, you may complete the residence requirement by electing courses (with consent of the graduate adviser) from the 200 series or the list of 100-level courses under "Course Requirements" for the M.A.

Historical Musicology: Music 200A, 201A-201B, 210, 211, 250A or 250B, and five quarters of 260A through 260F. If you received the M.A. in historical musicology from UCLA, you normally take a minimum of three quarters of courses 260A through 260F in the Ph.D. program.

Systematic Musicology: Music 200A, 200B, five quarters of 272, and one quarter of 255, 269, 273, or 275. If you received the M.A. in systematic musicology from UCLA, you normally take a minimum of two quarters of course 272 in the Ph.D. program.

Ethnomusicology: Music 140A-140B-140C, 200A, 200B, C290A-C290B, and six seminars, at least three of which must be course 280; the others are to be selected from courses 248, 253, 254A, 254B, 255. You are also expected to complete two area studies courses. Parts of these requirements, but not the 280 seminars, may be completed at the M.A. level.

Composition: Music 200A, one course from 251A through 251D, six quarters of 252A, 252B, 252C in sequence (with the option of substituting course 596A for 252C), and 266A or 266B. If you received the M.A. in composition from UCLA, you normally take a minimum of three quarters of course 252 in the Ph.D. program. If you received the M.A. in composition elsewhere, you normally take six quarters of courses 252A, 252B, 252C in sequence, with the option of substituting course 596A for either 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.

Music Education: Music 200A, 200B, C225, and five quarters of 270A through 270F. If you received the M.A. in music education from UCLA, you normally take a minimum of three quarters of courses 270A through 270F in the Ph.D. program. Under advisement, two of the three quarters of 270A through 270F may be completed under special studies (course 596C). If you wish to pursue the Ph.D. in music education with a minor in ethnomusicology, you are required to take courses 200A, 200B, C225, C290A-C290B, three quarters of 270A through 270F, and two courses from 141 through 143B, 145 through 149, 152, 153A.

Qualifying Examinations
When you and your guidance committee believe you are ready to take the qualifying examinations, you should submit a schedule to the Student Services Office and the committee members listing the order in which the examination sequence is to be taken. The Student Services Office acts as proctor for the tests. Normally the six written examinations are spread over a two-week period but should be completed within three weeks. Repeat examinations may be scheduled in consultation with the 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.

In all fields but composition, the dissertation is an extended monograph. In composition, 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.

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 required by the department.

Lower Division Courses
1A-1B. Fundamentals of Music. Lecture, three hours; laboratory, two hours. 1A. Sight-singing, ear training, reading music, and harmonization of simple melodies. 1B. Prerequisite: course 1A or consent of instructor. Diatonic harmony; four-part writing, including inversions, sevenths, secondary dominants, and modulation; organization of melody and accompanying simple melodies. 2A. Technical and formal principles of music literature through the mid-18th century. 2B. Music literature from the mid-18th century to the present. Ms. Perlott

3A-3B. Preparatory Theory for Music Majors (2 units each). Lecture, two hours; discussion, one hour. Prerequisite: music major or consent of instructor. 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. A course for music majors in music fundamentals, including musicianship, theory, and terminology. Mr. Anderson

4A-4B. Basic Musicianship (2 units each). Laboratory, two hours; construction in elementary ear training and keyboard skills. Miss Sheffield

5A-5B. Fundamentals of Sound and Music of the World (2 units each). Prerequisite: consent of instructor. The acoustical makeup of sound (pitch, tone quality), tuning systems; modes and scales; harmonic and polyphonic, rhythm and tonal phenomena; relationships of music to culture. Laboratory includes ear training and instrumental techniques. Mr. Hutchinson, Mr. Racy

6A-6GB. Graduate Review of Music History and Analysis (2 units each). Prerequisite: graduate standing. Designed to help entering graduate students remedy entrance deficiencies, to be cleared by examination. May be repeated for credit. S/U grading.

8G. Graduate Piano Sight-reading (2 units). Prerequisite: graduate standing. Designed to help entering graduate students remedy entrance deficiencies, to be cleared by examination. May be repeated. S/U grading.

10. Computer-Asisted Sight-singing Laboratory (2 units). Lecture, two hours; laboratory, one hour. Prerequisites: course 1A or equivalent, consent of instructor.

11A-11F. Musicianship (2 units each). Laboratory, four hours. Prerequisites: aptitude, achievement, and piano skills tests. Series (A-F) must be taken in sequence. For courses 11B-11F, a grade of C (2.0) or better in the previous course in the series is required.

Corequisites: courses in the 12A-12B or 14A through 14D series. 11A. Sight-singing of diatonic melodies; dictation of intervals and diatonic melodies, keyboard score reading with two lines in various clefs, and elementary rhythmic exercises. 11B. Sight-singing of melodies with simple modulations, diatonic harmonic dictation of triads and seventh chords, keyboard playing of cadences, score reading up to three parts, and rhythmic exercises. 11C. Sight-singing of more difficult melodies, two-part dictation, elementary figured bass playing, keyboard score reading up to four parts, and rhythmic exercises. 11D. Sight-singing, two-part dictation, figured bass playing, score reading of choral parts, rhythmic exercises. 11E. Sight-singing, two-part dictation, figured bass playing, score reading of passages with transposing instruments, and simple analysis. 11F. Sight-singing of chromatic melodies, two-part dictation, chromatic figured bass playing, keyboard reading of orchestral scores, and rhythmic exercises.

12A-12B. Counterpoint (2 units each). Lecture, four hours; prerequisites: courses 11A and 11B. Series. 12A. Prerequisites: aptitude, achievement, and piano skills tests. 16th-century modal counterpoint in two parts, including the writing of motets. 12B. Prerequisites: courses 12A, 14B. 18th-century tonal counterpoint in two parts, including the writing of inventions.

14A-14B-14C. Common Practice Harmony (2 units each). Lecture, four hours. Series (14A through 14C) must be taken in sequence. Corequisites: courses 14A and 14B. 14A. Prerequisites: aptitude, achievement, and piano skills tests. Common practice harmony using triads, inversions, and independent voices. 14B. Prerequisite: course 14A with a grade of C (2.0) or better. 14C. Prerequisite: course 14B with a grade of C (2.0) or better.

20A. Music Theory I. Lecture, two hours; discussion, six hours. Prerequisite: passing score on departmental qualitative examination. Not open for credit to students with credit for courses 11A, 12A. Theory: species counterpoint through the fifth species; description of triads and inversions. Musicianship: interval recognition; fixed-do solfege of diatonic melodies; one-part dictation of diatonic diatonic melodies; two-part dictation of small-compass, note-against-note melodies; simple rhythmic dictation; use of treble, alto, and bass clefs.

20B. Music Theory II. Lecture, four hours; discussion, four hours. Prerequisites: course 20A with a grade of C (2.0) or better, consent of instructor. Not open for credit to students with credit for courses 11B, 1A. Theory: harmonic theory through secondary dominants and diminished sevenths; modalizations to the dominant and relative minor; writing of four-part chorales; style composition in baroque dance forms; introduction to figured bass notation. Musicianship: harmonic dictation, including secondary dominants and diminished sevenths, but not modalizations; more advanced two-part dictation; chromatic one-part dictation; more advanced sight-singing; keyboard sight-reading (three-unit open score in homophonic textures, introduction to tenor clef).

Ms. Ashforth and the Staff

20C. Music Theory III. Lecture, four hours; discussion, four hours. Prerequisites: courses 20B with a grade of C (2.0) or better, consent of instructor. Not open for credit to students with credit for courses 11C, 12B. Theory: baroque counterpoint including chorale prelude; two-part invention; exposition and first modulation of a three-part invention; canonic principles; analysis of fugues, canons, and fugues. 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.

Mr. Ashforth and the Staff

26A-26B-26C. History and Analysis of Music I. Lecture, four hours; laboratory, one hour. Prerequisites: courses 11A-11B-11C, 12A, 14A-14B. Courses 11C and 12A may be taken concurrently with course 26A. Course 26A is prerequisite to 26B, which is prerequisite to 26C. The history and literature of music from the beginning of the Christian era to 1750, with emphasis on analysis of representative works of each style period. Materials selected illustrate the history of style and changing techniques of composition.

60A-65. Undergraduate Instruction in Performance. Limited to music majors (all lower division majors, and upper division majors not in the performance specialization). Individual instruction of one hour per week. Students must perform in a practicum once during the academic year. Units are distributed on the basis of one unit each for Fall and Winter Quarters and two units for Spring Quarter. Grades are assigned by the applied instructor in Fall and Winter and by jury examination in Spring. May be repeated for credit.

60A. Violin. Ms. Kamei, Mr. Treger

60B. Viola. Ms. Kamei

60C. Cello. Mr. Oliver

60D. String Bass. Mr. Zibits

60E. Harp. Mr. Neill

60F. Classical Guitar. Mr. Norman, Mr. Yates

60G. Viola da gamba. Mr. Marcus

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. Guarnere

62B. French Horn. Mr. Todd

62C. Trombone. Mr. Main

62D. Tuba. Mr. Johnson

63. Percussion. Mr. Peters
103A-103B. Advanced Theory. Discussion, three hours. Prerequisites: courses 11A-11F, 12A-12B, 14A-14C, 14D. Course 103A or consent of instructor is prerequisite to 103B. The study of tonal coherence through analysis and compositional exercises in the styles of given periods.

104A-104B. Advanced Counterpoint. Discussion, three hours. Prerequisites: courses 11A-11F, 12A-12B, 14A-14C, 14D. Course 104A or consent of instructor is prerequisite to 104B. Comparative contrapuntal practices and forms from all periods studied through analysis and compositional exercises in the styles of given periods.

105. Introduction to Composition. Lecture, three hours. Prerequisites: courses 11A-11F, 12A-12B, 14A-14C, 14D. Intended for music majors in specializations other than composition. The nature of the compositional process, with selected exercises in specific techniques and styles. Mr. Lazarof

106A. Instrumentation. Discussion, three hours. Prerequisites: courses 11A-11F, 12A-12B, 14A-14C, 14D. Not open to students with credit for course 106A prior to Fall Quarter 1964. Ranges and characteristics of instruments, exercises in scoring. Mr. Ashforth, Mr. Travis

106B-106C. Advanced Orchestration. (Formerly numbered 106A-106B.) Discussion, three hours. Prerequisite: course 106A. Course 106B is prerequisite to 106C. Course 106A is prerequisite to 106B. Designed for students specializing in composition and theory. Vocal and instrumental composition. The smaller student ensemble. A study of style and changing techniques of composition. Mr. Ashforth, Mr. Travis

107A-107B-107C. Composition. Lecture, three hours. Prerequisites: completion of numbered 115A-115D. Course 107A is prerequisite to 107B, which is prerequisite to 107C. Designed for students specializing in composition and theory. Vocal and instrumental composition. The smaller student ensemble. A study of style and changing techniques of composition. Mr. Ashforth, Mr. Travis

108. Acoustics. Lecture, three hours. Prerequisite: consent of instructor. The interrelationship of acoustical and musical phenomena. Tuning systems, consonance and dissonance, tonal quality. Lecture, demonstration, discussion, and tours of instrumental collections and acoustical research facilities. Mr. Ashforth, Mr. Travis

109A-109B-109C. Composition for Motion Pictures and Television (2 units each). Prerequisites: courses 11A-11F, 12A-12B, 14A-14C, 14D, 26A-26B-26C, 193, 195. Course 110A is prerequisite to 109B; course 110A is prerequisite to 109C. A critical study of principles and practices in motion picture education, historical and current, at elementary and secondary levels. Each course may be taken independently for credit. 109A. General Music; 109B. Choral Music; 109C. Instrumental Music. Mr. Ashforth, Mr. Travis

109A. General Music; 109B. Choral Music; 109C. Instrumental Music. Mr. Ashforth, Mr. Travis

110. Advanced Keyboard Harmony and Score Reading. Prerequisite: course 111F or consent of instructor. Intensive individual work in keyboard harmony and the reading of chamber and orchestral scores. May be repeated once for credit.

110A-110B. Advanced Harmony and Analysis. Prerequisite: course 120B with a grade of C (2.0) or better. Not open for credit to students with credit for course 106A. Intended for music majors in specializations other than composition. Ranges and characteristics of instruments, exercises in scoring. Mr. Ashforth and the Staff

111. Introduction to Conducting (2 units). Lecture, three hours. Prerequisites: courses 11A-11D, 14A-14B. Fundamentals of conducting, including basic skills, techniques, analysis and repertoire. Mr. Henderson

117A-117B. Study and Conducting of Choral and Instrumental Literature (2 units each). Lecture, three hours. Prerequisite: course 116 or consent of instructor. Ranges and practices of conducting as related to the study of choral and instrumental music. Mr. Hatcher, Mr. Lee

118A-118B. Advanced Study and Conducting of Choral and Instrumental Literature (2 units each). Prerequisite: course 117B. Lecture, one hour; laboratory, two hours. Prerequisites: courses 116 and 117A-117B, or consent of instructor. Detailed investigation of 10th, 11th, 12th, 13th, and 14th century choral and instrumental literature. Each course may be repeated once for credit. 118A. Choral; 118B. Instrumental. Mr. Hatcher, Mr. Lee

120A. Music Theory IV. Lecture, four hours; discussion, four hours. Prerequisites: course 20C with a grade of C (2.0) or better. A study of harmonic principles and their application in the musical first-year examination. Not open for credit to students with credit for courses 11D, 14B. Theory: harmonic economy including development of tonality, 19th- and 20th-century style and style features; analysis. Musicianship: sight-reading or extended chromatic melodies; advanced harmonic dictation (diatonic and chromatic); keyboard (harmonization of modulating melodies); emphasis on style and style changes. Mr. Ashforth and the Staff

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. Not open for credit to students with credit for courses 11E, 14C. Theory: harmonic economy including development of harmony from 1850; analytical projects; style composition. Musicianship: advanced score reading; advanced harmonic dictation; preparation for the departmental examination. Mr. Ashforth and the Staff

120C. Music Theory VI. Prerequisites: course 120B with a grade of C (2.0) or better, consent of instructor. Not open for credit to students with credit for courses 11E, 14C. Theory: harmonic economy including development of harmony from 1850; analytical projects; style composition. Musicianship: advanced score reading; advanced harmonic dictation; preparation for the departmental examination. Mr. Ashforth and the Staff

125A-125B-125C. History and Analysis of Music II. Lecture, four hours; laboratory, one hour. Prerequisites: courses 11A-11F, 12A-12B, 14A-14C, 14D, 26A-26B-26C. Course 125A may be taken concurrently with course 125B. Course 125A is prerequisite to 125B. Written prerequisite to 125B. The history and literature of music from 1750 to the present, with emphasis on analysis of representative works of each style period. Materials selected illustrate the history of style and changing techniques of composition. C127A-C127F. Selected Topics in the History of Music. (Formerly numbered 127A-127F) Lecture, three hours. Prerequisites to all courses; courses 11A-11F, 12A-12B, 14A-14C, 14D, 26A-26B-26C; in addition, 126A is prerequisite to C127B, 126B is prerequisite to C127C, and 126C is prerequisite to C127D. Designed as a seminar for undergraduates in preparation for graduate work. Special aspects of the music of each period studied in depth. May be concurrently scheduled with courses C227A-C227F. C127A. Middle Ages; C127B. Renaissance; C127C. Baroque; C127D. Classic; C127E. Romantic; C127F. 20th Century

130. Music of the United States. Prerequisite: course 21 or consent of instructor. A survey of art music from Colonial times to the present. Mr. Stevenson

131A-131B. Music of Hispanic America. Prerequisite: consent of instructor. Course 131A is not prerequisite to 131B. Survey of art music, including attention to ethnic developments and peninsular background. 131A. Mexico, Central America, and the Caribbean Isles; 131B. Hispanic South America. Mr. Loza
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<th>Notes</th>
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<tr>
<td>132A-132B</td>
<td>Development of Jazz</td>
<td>Lecture, three hours; laboratory, one hour.</td>
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<tr>
<td>133</td>
<td>Bach</td>
<td>Lecture, two hours; laboratory, two hours.</td>
<td>The life and works of Johann Sebastian Bach.</td>
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<tr>
<td>134</td>
<td>Beethoven</td>
<td>Lecture, two hours; laboratory, two hours.</td>
<td>The life and works of Ludwig van Beethoven.</td>
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<tr>
<td>135A-135B-135C</td>
<td>History of the Opera</td>
<td>Lecture, four hours; laboratory, one hour.</td>
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<td>136</td>
<td>Electronic Music: Theory and Techniques</td>
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<td>137A-137B</td>
<td>Psychology of Music</td>
<td>Three hours; laboratory, one hour.</td>
<td>Prerequisite: course 2A</td>
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<tr>
<td>139</td>
<td>History and Literature of Church Music</td>
<td>Prerequisite: course 2A or consent of instructor.</td>
<td>A study of the forms and liturgies of Western church music.</td>
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<tr>
<td>140A-140B</td>
<td>Musical Cultures of the World</td>
<td>Prerequisite: consent of instructor.</td>
<td>Not prerequisite to 140B, which is not prerequisite to 140C. A survey of the musical cultures of the world (excluding Western art music), the role of music in society and its relationship to other arts; consideration also to scale structure, instruments, musical forms, and performance standards.</td>
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<td>141</td>
<td>Survey of Music in Japan</td>
<td>Lecture, three hours.</td>
<td>A survey of the main genres of Japanese traditional music, including Gagaku, Buddhist chant, Biwa music, Koto music, Shamisen music, and the music used in various theatrical forms.</td>
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<tr>
<td>142A</td>
<td>Folk Music of Eastern Europe and the Mediterranean</td>
<td>Prerequisite: consent of instructor.</td>
<td>Course 142A is not prerequisite to 142B. Course 142A. The forms and styles of traditional music in Eastern Europe (including the Balkans). Historical and ethnological aspects of the music illustrated by numerous recorded examples from the major cultural subdivisions of the area.</td>
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<tr>
<td>142B</td>
<td>Music of Africa</td>
<td>Lecture, three hours; laboratory, two hours.</td>
<td>A survey of the main genres of African traditional music, including Gagaku, Buddhist chant, Biwa music, Koto music, Shamisen music, and the music used in various theatrical forms.</td>
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<tr>
<td>143A-143B</td>
<td>Music of Africa</td>
<td>Lecture, three hours; laboratory, two hours.</td>
<td>Prerequisites: courses 140A-140B-140C or consent of instructor. Course 143A is prerequisite to 143B. An investigation of the historical aspects, social functions, and relationships of music to other art forms in selected areas of Africa.</td>
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<tr>
<td>144</td>
<td>American Popular Music</td>
<td>Lecture, three hours; laboratory, two hours.</td>
<td>Recommended prerequisite: course 1A or equivalent. A survey of the history and characteristics of American popular music and its relationship to American culture, with emphasis on 20th-century popular music and its major composers, including a comparison between traditional pre-1950 popular music and trends in post-1950 popular music.</td>
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<tr>
<td>146A-146B-146C</td>
<td>Studies in Chinese Instrumental Music</td>
<td>Lecture, three hours; laboratory, one hour.</td>
<td>Prerequisite: consent of instructor. Course 146A is not prerequisite to 146B, which is not prerequisite to 146C. A study of the literature, major sources, paleography, theory, and philosophy of the Ch'in and P' i Pa, including transcription and analysis. A comprehensive study of Chinese musical instruments, classification system, specific musical notation, and use in the context of Chinese society. An analysis of the rules of improvisation, particularly as related to the Shanghai style, as realized on the P'i Pa, Ti, Er Hu, San Shen, Sheo, and related instruments.</td>
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<tr>
<td>147A-147B</td>
<td>Music of China</td>
<td>Lecture, three hours; laboratory, two hours.</td>
<td>Prerequisites: courses 140A-140B-140C or consent of instructor. Course 147A. History and theory of the music of China, including a survey of various Chinese instrumental techniques. Course 147B. Prerequisite: course 147A. Introduction to various notational systems. Analysis of representative styles.</td>
</tr>
<tr>
<td>148</td>
<td>Folk Music of South Asia</td>
<td>Prerequisite: consent of instructor. An illustrated survey of some of the major regional genres, styles, and musical instruments found in India and Pakistan, with special reference to the religious, social, economic, and cultural context of their occurrence.</td>
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<tr>
<td>149</td>
<td>The Anthropology of Music</td>
<td>A cross-cultural exploration and analysis of music in the context of social behavior and how musical patterns reflect patterns exhibited in other cultural systems, including economic, political, religious, and social structure.</td>
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<tr>
<td>152</td>
<td>Survey of Music in India</td>
<td>A consideration of the main music genres in India, with particular reference to the religious, sociocultural, and historical background of the country.</td>
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<tr>
<td>153A-153B-153C</td>
<td>Music of the African Americans</td>
<td>A study of African American music studied within the broader cultural context of styles, social values, and sources. Films, recordings, lectures, and limited group singing and dancing, relating the music to the culture producing it. Courses 153A and 153B. The music of the eastern, southern, and western parts of the New World, Great Basin, and Northwest Coast Areas. Courses 153A and 153B. Mu- sics of the Aethabascan, Pueblo, Plains, and Modern Pan-Indian Trends; 153C. Sociology of American Indian music, with specific reference to the manner in which cultural values, prescriptions, oral traditions, language, and technological advances have affected music of various tribes.</td>
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<tr>
<td>154A-M154B</td>
<td>The Afro-American Musical Heritage</td>
<td>(Same as Folklore M154A-M154B.)</td>
<td>Prerequisite: course 1A or consent of instructor. Course 154A is prerequisite to M154B. A study of Afro-American rhythm, dance, music, field hollers, work songs, spirituals, blues, and jazz; the contrast between West African and Afro-American traditions.</td>
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<tr>
<td>155</td>
<td>Audio Technology for Musicians</td>
<td>Lecture, two hours; laboratory, three hours.</td>
<td>Prerequisites: courses 11C, 14B, consent of instructor. The theory and practice of sound engineering in relation to concert and studio recording techniques.</td>
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<tr>
<td>156</td>
<td>Electronic Music: Theory and Techniques</td>
<td>(Formerly numbered 156A.) Lecture, three hours; laboratory, three hours.</td>
<td>Prerequisites: course 107A or equivalent, consent of instructor. Not open for credit to students with credit for former course 156A. Designed for students specializing in composition. Applied acoustical and electronic theory, history of technological and compositional development of classical electronic music, Analysis, manipulation of analog and digital synthesizers and ancillary equipment, invention and realization of materials.</td>
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<tr>
<td>157</td>
<td>Music of Brazil</td>
<td>Prerequisites: consent of instructor. Some knowledge of Portuguese. History of ethnic and art music in Brazil, with some reference to Portuguese antecedents.</td>
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<tr>
<td>158</td>
<td>New Orleans Jazz</td>
<td>Lecture, three hours; discussion, two hours.</td>
<td>Major Black and Creole figures in the origin and development of jazz in New Orleans from the turn of the 20th century through the 1960s, with emphasis on polyrhythms, roots, local musical traditions, and stylistic analysis.</td>
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<tr>
<td>159</td>
<td>The Development of Rock</td>
<td>Prerequisite: consent of instructor. The history of rock from the 1950s to the 1970s. An in-depth survey of stylistic trends illustrating the interplay between pertinent examples and accompanied by extensive musical analysis.</td>
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<tr>
<td>160A-165</td>
<td>Undergraduate Instruction in Performance for the Performance Specialist</td>
<td>Limit to upper division music majors who have been accepted by audition into the performance specialization. Individual instruction of one hour per week. Students must perform in a noon concert once during their junior year and must present a full recital in their senior year. Unrestricted to students with minor or non-music major.</td>
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<tr>
<td>160A</td>
<td>Violin</td>
<td>Ms. Kamei, Mr. Tregier</td>
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<tr>
<td>160B</td>
<td>Viola</td>
<td>Ms. Kamei</td>
<td></td>
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<tr>
<td>160C</td>
<td>Cello</td>
<td>Mr. Oliver</td>
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<tr>
<td>160D</td>
<td>String Bass</td>
<td>Ms. Zibis</td>
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<tr>
<td>160E</td>
<td>Harp</td>
<td>Ms. Neal</td>
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<tr>
<td>160F</td>
<td>Classical Guitar</td>
<td>Mr. Norman, Mr. Yates</td>
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<tr>
<td>160G</td>
<td>Viola da gamba</td>
<td>Ms. Marcus</td>
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<tr>
<td>160H</td>
<td>Lute</td>
<td>Ms. L. Dept.</td>
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<tr>
<td>161A</td>
<td>Flute</td>
<td>Ms. Stokes</td>
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<tr>
<td>161B</td>
<td>Oboe</td>
<td>Ms. Northcutt</td>
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<tr>
<td>161C</td>
<td>Clarinet</td>
<td>Mr. Gray</td>
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<tr>
<td>161D</td>
<td>Bassoon</td>
<td>Mr. Steinmetz</td>
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<tr>
<td>161E</td>
<td>Saxophone</td>
<td>Mr. Ashforth</td>
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<tr>
<td>161F</td>
<td>Trumpet</td>
<td>Mr. Guarnieri</td>
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<tr>
<td>161G</td>
<td>French Horn</td>
<td>Mr. Todd</td>
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<tr>
<td>161H</td>
<td>Trombone</td>
<td>Mr. Main</td>
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<tr>
<td>161I</td>
<td>Tuba</td>
<td>Mr. Johnson</td>
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<tr>
<td>162D</td>
<td>Percussion</td>
<td>Mr. Peterst</td>
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<tr>
<td>163</td>
<td>Piano</td>
<td>Mrs. Harris-Heggie, Mr. Tzkerko, and the Staff</td>
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<tr>
<td>164A</td>
<td>Organ</td>
<td>Mr. Harmon</td>
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<tr>
<td>164B</td>
<td>Harpsichord</td>
<td>Mr. Karpe</td>
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<tr>
<td>165</td>
<td>Voice</td>
<td>Mr. Musard and the Staff</td>
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<tr>
<td>174A-174D</td>
<td>Musical Terminology and Diction for Musicians (1 unit each)</td>
<td>Recommended for students in any area and at any level. Specialized work in pronunci- ation and musical terminology is applied to the performance and interpretation of vocal and instru- mental scores to enable students to function in today's multinational world of music. Students may enroll in two sections per quarter, a total of four units, which may be applied toward the degree requirements. Each course may be repeated once for credit.</td>
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<tr>
<td>174A</td>
<td>German</td>
<td>Mr. German</td>
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<tr>
<td>174B</td>
<td>French</td>
<td>Mr. French</td>
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<tr>
<td>174C</td>
<td>Spanish</td>
<td>Mr. Spanish</td>
<td></td>
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<tr>
<td>174D</td>
<td>English</td>
<td>Mrs. Haste</td>
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</table>
175. Chamber Ensembles (2 units). Prerequisite: audition. Students must be at the advanced level of their performance and must be recommended by a faculty member. A study of performance practices of literature appropriate to the ensemble. Students may enroll in two sections per quarter; a total of 12 units may be applied toward the degree requirements. May be repeated for credit.

C176. Electronic Music Composition. (Formerly numbered C156B.) Lecture, three hours; studio, three hours. Prerequisites: course 156, advanced experience and accomplishment in serious composition (art music), consent of instructor. Not open to students with credit for former course C156B. Limited enrollment. Analog and digital realizations of original compositional materials culminating in a composition at least five minutes in duration. May be concurrently scheduled with course C175.

Mr. Bourland

M180. Analytical Approaches to Folk Music. (Same as Folklore M180.) Prerequisites: courses 5A-5B, 11A, 12A, 12B, 14A-14C, 14D, and 26A-26B-26C, or consent of instructor. Recommended for music majors in all specializations. Theories and processes in various modes of musicological inquiry: historical, perceptual, psychological, pedagogical, quantitative, ethnomusicological, and statistical procedures. Mr. Kendall

C185. Historical and Philosophical Foundations of Music Education. (Formerly numbered 185.) Lecture, three hours. Prerequisites: completion of the undergraduate music education specialization or consent of instructor. The development of music education in the United States according to established schools of thought. May be concurrently scheduled with course 185S. Additional assignments, as well as evidence of a greater depth of study, required of graduate students.

Mr. Schadow

187. Problems in Musical Aesthetics. Lecture, three hours. Prerequisites: courses 11A-11F, 12A-12B, 14A-14C, 14D, and 26A-26B-26C. Recommended for students in all music specializations. Critical approach to musical aesthetics with particular attention to music and the music of the musical situation. May be concurrently taken out of sequence only with consent of instructor.

C252. Historical and Philosophical Foundations of Music Education. Lecture, three hours. Prerequisites: graduate standing, consent of instructor. The development of music education in the United States according to established schools of thought. May be concurrently scheduled with course 215. Additional assignments, as well as evidence of a greater depth of study, required of graduate students.

Mr. Schadow

C226. Electronic Music Composition. Lecture, three hours; studio, three hours. Prerequisites: course 156, graduate standing, advanced experience and accomplishment in serious composition (art music), consent of instructor. Limited enrollment. Analog and digital realizations of original compositional materials culminating in a composition at least seven minutes in duration. May be concurrently scheduled with course 176.

Mr. Bourland

C227A-C227F. Selected Topics in the History of Music. Lecture, three hours. Prerequisite: graduate standing. Special aspects of the music of each period studied in depth. Each course may be repeated once for credit. May be concurrently scheduled with courses C127A-C127F. Additional assignments, as well as evidence of a greater depth of study, required of graduate students. C227A. Middle Ages; C227B. Renaissance; C227C. Baroque; C227D. Classic; C227E. Romantic; C227F. 20th Century.

Mr. Bourland

248. Seminar in Comparative Music Theory (6 units). Lecture, three hours. Prerequisite: consent of instructor. The comparative study of the codified music theories of select cultures—Western and non-Western—considered in themselves and as expressions of their societies. Theory considered as a science of music: its place between cultural values and artistic practice in different civilizations.

250A-250B. Seminar in the History of Music Theory (6 units each). Lecture, three hours. Prerequisite: course 200A. Course 250A is not prerequisite to 250B. 250A. Music Theory from Antiquity through Zaroin; 250B. Music Theory from Rameau to the Present.

Mr. D’Accone, Ms. Goliner

251A-251D. Seminar in Special Topics in Composition and Theory. Seminar, three hours. An intensive exploration of specialized aspects of composition. May be repeated for credit.

251B. Specific Media; 251C. Specific Styles; 251D. Compositional Analysis.

252A-252B. Seminar in Composition (6 units each). Lecture, three hours. Prerequisites: courses 106B, 107C. Course 252A is prerequisite to 252B, which is prerequisite to 252C. Courses may be taken out of sequence only with consent of instructor. May be repeated for credit.

Mr. Des Marais, Mr. Travis

253. Seminar in Notation and Transcription in Ethnomusicology (6 units). Lecture, three hours. Prerequisites: courses 140A-140B-140C and C190A-C190B, or consent of instructor.

254A-254B. Seminar in Field and Laboratory Methods in Ethnomusicology (6 units each). Lecture, three hours. Prerequisites: courses C190A-C190B or consent of instructor. Training includes experience in handling of technical apparatus, film recording, processing, and editing; field projects.

Mr. Jairazbhoy

255. Seminar in Musical Instruments of the Non-Western World (6 units). Lecture, three hours. Prerequisites: courses 140A-140B-140C and C190A-C190B, or consent of instructor.

256. Seminar in Musical Form (6 units). Lecture, three hours. Prerequisites: courses 126A-126B-126C. The analysis of structural organizations in music.

Mr. Cole

257. Seminar in Music of the United States and Canada. Seminar, three hours. Prerequisite: course 130.

M258. Seminar in Folk Music. (Same as Folklore M258.) Seminar, three hours. Prerequisite: instructor.

260A-260F. Seminar in Historical Musicology (6 units each). Seminar, three hours. Prerequisites: courses 200A, 201A-201B-201C, and 210 or 211 (either may be taken concurrently). May be repeated for credit.


261A-261F. Problems in Performance Practices. Seminar, three hours. Prerequisites: courses 151A-151B or consent of instructor. An investigation of present practices in musical performance as related to the period; analytical reports and practical applications in class demonstrations. May be repeated for credit.

261A. Medieval; 261B. Renaissance; 261C. Baroque; 261D. Classical; 261E. Romantic; 261F. General Topics.

266A-266B. Seminar in Music of the 20th Century. Seminar, three hours. Prerequisites: courses 126A-126B-126C. Discussion and analysis of the major works of the 20th century before World War II. Emphasis on the study of groups written within the same time in history. 266B. Discussion and analysis of composers and their works from 1945 to the present.

Mr. Barkin

269. Seminar in the History of European Instrumental Literature. Seminar, three hours. Prerequisite: course 270A-270B.

270A-270G. Seminar in Music Education (6 units each). (Formerly numbered 270A-270F.) Lecture, three hours. Prerequisite: consent of instructor. May be repeated for credit.

270A. History; 270B. Non-Western Musics; 270C. Curriculum Innovations; 270D. Tests and Measurements; 270E. Choral Literature; 270F. Instrumental Literature; 270G. General Topics.

272. Seminar in Systematic Musicology. Seminar, three hours. Prerequisites: course 108, consent of instructor. May be repeated for credit.

Mr. Hutchinson

273. Seminar in Acoustics of Music (6 units). Lecture, three hours. Prerequisites: course 108 or consent of instructor. May be repeated once for credit.
275. Seminar in Aesthetics of Music (6 units). Lecture, three hours. Prerequisite: course 187 or consent of instructor. May be repeated once for credit.  
Mr. Schwadron

276. Seminar in the Psychology of Music (6 units). Lecture, three hours. Prerequisite: course 184 or consent of instructor. Selected topics in the psychology of music, including recent findings in brain research, musical perception, learning, cognition, memory, therapy, affect, meaning, and measurement. May be repeated for credit.  
Mr. Kendall

280. Seminar in Ethnomusicology (6 units). Lecture, three hours. Prerequisites: courses 140A-140B, 140C, C190A-C190B, 200A, 200B. May be repeated for credit.

281A-281B. Music of Indonesia. Lecture, three hours. Prerequisite: consent of instructor. During the first quarter emphasis on the music and related performing arts of Java. Focus on the music and performing arts of Bali and other Indonesian islands during the second quarter. Concurrent participation in one of the Indonesian performance groups required.  
Ms. De Vale

282. Music of Iran and Other Non-Arabic-Speaking Communities. Seminar, three hours. Prerequisite: consent of instructor. A comparative study of the music of Iran and other related areas, including Turkestan, with particular reference to their historical and cultural background, sources on music theory and aesthetics, instruments, style, technique of improvisation, and contemporary practice. Concurrent participation in the Near East performance group required.  
Mr. Racy

284. Music of the Arabic-Speaking Near East. Lecture, three hours. Prerequisite: consent of instructor. An investigation of the historical and cultural background, the main musical styles, the relationship between theory and practice and emphasis on mode and improvisation, and 20th-century trends. Concurrent participation in the Near East performance group required.  
Mr. Racy

285. Music of Tibet. Seminar, three hours. Prerequisite: consent of instructor. A study of the traditional music of ethnic Tibetan as ritual, art, and folklore in its cultural matrix and its relationship with other arts. Topics include traditional instrumental ensembles and studies in formal and stylistic analysis.

286A-286B. Classical Music of India. Seminar, three hours. Prerequisite: consent of instructor. A study of the history, theory, and practice of north and south Indian classical music. During the first quarter, emphasis on music history and traditional theory; the second quarter, analysis of present-day forms, styles, techniques, and musical instruments. Concurrent participation in the Indian performance group required.  
Mr. Jairazbhoy

Ms. DjeDje

Ms. Heth

Ms. DjeDje

C290A-C290B. Proseminar in Ethnomusicology. Lecture, three hours. Prerequisites: graduate standing, consent of instructor. Basic literature and schools of thought in the field of ethnomusicology from the late 19th century to the present. May be concurrently scheduled with courses C190A-C190B. Additional assignments as well as greater depth of study, required of graduate students.

Mr. Loza, Mr. Racy

370. Music in General Education (2 units). Prerequisite: graduate standing in the Graduate School of Education. Research in music education, elementary and secondary. May be repeated for credit.

Mr. Anderson, Miss Hooper

371. The Marching Band in Secondary Education (2 units). Prerequisites: courses 193 and 195, or consent of instructor. The study of the contemporary marching band as a component of the music curriculm in secondary education, including problems of conducting, contests, and specialized methods. May be repeated for credit.  
S/U grading.

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the active guidance and supervision of a regular faculty member responsible for the comprehensive curriculum and instruction at the University. May be repeated for credit. S/U grading.

450A-455. 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 performances in the areas of specialization. May be repeated for credit. 460A. Violin; 460B. Viola; 460C. Cello; 460D. String Bass; 460E. Harp. 460F. 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.

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. 
Mr. Krachmalnick

475. Master Class in Conducting (6 units). Laboratory, three hours. Limited to M.F.A. students. Intensive study and preparation of musical literature in the areas of specialization. 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 a teaching apprentice in the Music Department. Required of all new teaching apprentices. A special course dealing with the problems and practices of teaching music at the college level. May not be applied toward degree requirements. S/U grading.

Miss Hooper

596A. Directed Individual Studies in Orchestra and Composition (2, 4, or 6 units). Only four units may be applied toward the M.A. or M.F.A. degree requirements. May be repeated for credit.

596B. Directed Individual Studies in Musicology (2, 4, or 6 units). Only four units may be applied toward the M.A. or M.F.A. course requirements.

596C. Directed Individual Studies in Music Education (2, 4, or 6 units). Only four units may be applied toward the M.A. or M.F.A. degree requirements. May be repeated for credit.

596D. Directed Individual Studies in Performance Practices (2 to 12 units). Prerequisite: graduate standing. Only four units may be applied toward the M.A. or M.F.A. degree requirements. May be repeated for credit.

597. Preparation for Master's Comprehensive Examination or Ph.D. Qualifying Examinations (2 or 4 units). S/U grading.

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. S/U grading.

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 M123B. Finnish Folk Song and Ballad

M243A. The Ballad M243B. Problems in Ballad Scholarship

Theater, Film, and Television

2310 Macgowan Hall, (213) 825-5761

Professors


Emeritus Professors


Associate Professors

Bachelor of Arts in Motion Picture/Television

Preparation for the Major
Admission to this major is not automatic. You may not apply until just prior to achieving full standing as a junior at the University. You must have at least 84 quarter units (56 semester units) of credit and have completed the general University and College of Fine Arts requirements before entering the major. You must also obtain departmental consent by (1) filing a letter of intention, (2) giving evidence of creative or critical ability when requested, and (3) providing additional material as determined by the department.

The Major
The major in motion picture/television consists of 88 upper division units taken in the junior and senior years. These include Motion Picture/Television 109, 134A, 166 (eight units), 185 (eight units); one of the following writing courses: 131, 133, 135 (eight units), 181B; two of the following film history courses: 106A, 106B, 106C, 106D, 106E, 108, 110A; two of the following film criticism courses: 107, 110B, 112, 113, 114, 116; two motion picture/television elective area courses; and four upper division adviser-approved cognate courses pertinent to your study in at least two other departments, including the theater area of the department (these courses may not be used to satisfy College of Fine Arts or University requirements). 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.

Note: Students are required to perform assignments for 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.

Check the Schedule of Classes for courses limited to majors only.

Bachelor of Arts in Theater

Preparation for the Major
Required: Theater 5A, 5B, 5C, 10, 20, English 90.

The Major
Required: A total of 60 upper division units, including Theory 130A, 140A, 141A, 142A, 143, 160 or 161A*, 170, C172 (eight units); one course from 122, 144A, 146, 149A, 174, 190A, C190B; 22 units of approved upper division theater electives. Through certain of these required courses, you are responsible for completing specific production assignments related to production activity of the theater curriculum during each quarter in residence.

*If course 161A is used to complete the requirement, 24 units of electives are required.

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 the following specializations: (1) motion picture/television and (2) theater.

Admission
Students are generally admitted in the Fall Quarter only. Applicants for another quarter should consult the Student Affairs Office, Theatre, Film, and Television, 1327 Macgowan Hall, UCLA, Los Angeles, CA 90024. 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 the Graduate Admissions Office, and no screening examination prior to admission is required.

In addition to satisfying minimum University requirements for graduate admission, you must:

(1) Have completed an undergraduate major in theater or motion picture/television comparable to that offered at UCLA. Students whose theater arts preparation is determined to be deficient are required to make up those deficiencies.

(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

Motion Picture/Television Specialty

Admission
If you do not have an undergraduate major comparable to that of the department, you must submit for consideration film and television work done at other institutions (confirmed as your work by the instructors originally involved), as well as evidence of your production and scriptwriting competence. Alternatively, you may be required to take such courses at UCLA as will fulfill these requirements, though these courses may not be applied toward the minimum of nine courses required for the M.A. degree.

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.

Scope and Objectives
The UCLA Department of Theater, Film, and Television is considered among the finest of its kind in the country and is the only one that combines theater, motion picture, and television in a single department.

The department bases its work on a solid foundation in the liberal arts. The purpose of the curriculum is to develop in its students a scholarly, creative, and professional approach to the theater arts. The aim of the department is to train graduates who will eventually make original contributions in the field of their work.

Each of the department's two divisions, Theatre and Motion Picture/Television, offers an undergraduate program leading to the Bachelor of Arts degree, as well as graduate programs leading to the Master of Arts, Master of Fine Arts, and Ph.D. degrees.
**Foreign Language Requirement**

You may be required to demonstrate competence in a foreign language if necessary to support the research in your area of specialization.

**Course Requirements**

A minimum of nine courses is required, five of which must be 200-level courses in film and/or television history, theory, and criticism. In addition, Motion Picture/Television 200 is required of all students. All six of the graduate-level courses must be completed with a grade of B or better.

Only eight units of courses 596A, 596B, 596C, and 598 may be applied toward the total course requirement; however, none of these courses may be applied toward the minimum graduate course requirement.

**Thesis Plan**

Before beginning work on the thesis, you must obtain approval of a subject dealing with history, aesthetics, or criticism in motion picture/television and a general plan of investigation from the film/television studies committee. 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. A thesis committee is formed when you are within one quarter of completing the coursework, at which time you are eligible to advance to candidacy.

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**

The written examination consists of three days of testing, four hours each day, and examines a broad range of knowledge in motion picture/television. After completion, your committee grades you either pass or fail. You may repeat any failed portions of the examination once in the following quarter.

**Theater Specialty**

**Admission**

Requirements include a sample of scholarly or critical writing, statement of purpose, and other information (resume, portfolio, script interview, etc.) that may be required to establish the quality of work in the specialization.

**Major Fields or Subdisciplines**

The program leads to a general graduate degree, though there are opportunities, through your electives and thesis or research paper topic, to stress a particular interest such as acting, children's theater, design, directing, playwriting, puppet theater, theater history and criticism, theater management, and theater technology.

**Foreign Language Requirement**

The program does not require a foreign language, but you are urged to develop a 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 200, 245A-245B, and C272 (a two-unit course to be taken three times). After consultation with your adviser, you select five courses, including one graduate course in theater history and another in theater production theory, as well as three 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, and 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 598 courses may be applied toward the total course requirement.

**Thesis Plan**

Before beginning work on the thesis, 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. A thesis committee is formed when you are within one quarter of completing the coursework, at which time you are eligible to advance to candidacy.

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**

The written examination consists of three days of testing, four hours each day, and examines a broad range of knowledge in motion picture/television. After completion, your committee grades you either pass or fail. You may repeat any failed portions of the examination once in the following quarter.

**Television**

**Admission**

Applicants with diverse backgrounds and undergraduate majors in areas other than theater arts are encouraged. You must state clearly your degree objective (M.F.A.) and the area of specialization desired within the program: animation, filmmaking, screenwriting, producers program, or television production.

If you intend to concentrate in film or television production, a description of a film or television project designed to be undertaken during graduate residence at UCLA is required. This should be in proposal, script, or treatment form.

If you intend to concentrate in writing, a finished full-length feature script in dramatic form is desirable; however, other forms of creative writing may be submitted.

If you intend to concentrate in animation, a description of an animation project to be undertaken during graduate study must be submitted, preferably in storyboard form. Other creative work may be submitted.

If you intend to concentrate in the producers program, you must submit a comprehensive statement detailing your reasons for pursuing a career as a producer/executive in motion picture/television.

**Major Fields or Subdisciplines**

The program includes specializations in animation, filmmaking (fictional, documentary, education), screenwriting, and television production. Ethnographic film is a subdiscipline.

**Foreign Language Requirement**

There is no foreign language requirement for the M.F.A. degree.

**Course Requirements**

A total of 18 courses is required for the degree, five of which must be 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 in the Student Affairs Office, 1327 Macgowan Hall. The program leads to a general graduate degree, though there are opportunities, through your electives and thesis or research paper topic, to stress a particular interest such as acting, children's theater, design, directing, playwriting, puppet theater, theater history and criticism, theater management, and theater technology.

**Foreign Language Requirement**

The program does not require a foreign language, but you are urged to develop a 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 200, 245A-245B, and C272 (a two-unit course to be taken three times). After consultation with your adviser, you select five courses, including one graduate course in theater history and another in theater production theory, as well as three 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, and 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 598 courses may be applied toward the total course requirement.

**Thesis Plan**

Before beginning work on the thesis, 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. A thesis committee is formed when you are within one quarter of completing the coursework, at which time you are eligible to advance to candidacy.

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**

The written examination consists of three days of testing, four hours each day, and examines a broad range of knowledge in motion picture/television. After completion, your committee grades you either pass or fail. You may repeat any failed portions of the examination once in the following quarter.

**Television**

**Admission**

Applicants with diverse backgrounds and undergraduate majors in areas other than theater arts are encouraged. You must state clearly your degree objective (M.F.A.) and the area of specialization desired within the program: animation, filmmaking, screenwriting, producers program, or television production.

If you intend to concentrate in film or television production, a description of a film or television project designed to be undertaken during graduate residence at UCLA is required. This should be in proposal, script, or treatment form.

If you intend to concentrate in writing, a finished full-length feature script in dramatic form is desirable; however, other forms of creative writing may be submitted.

If you intend to concentrate in animation, a description of an animation project to be undertaken during graduate study must be submitted, preferably in storyboard form. Other creative work may be submitted.

If you intend to concentrate in the producers program, you must submit a comprehensive statement detailing your reasons for pursuing a career as a producer/executive in motion picture/television.

**Major Fields or Subdisciplines**

The program includes specializations in animation, filmmaking (fictional, documentary, education), screenwriting, and television production. Ethnographic film is a subdiscipline.

**Foreign Language Requirement**

There is no foreign language requirement for the M.F.A. degree.

**Course Requirements**

A total of 18 courses is required for the degree, five of which must be 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 in the Student Affairs Office, 1327 Macgowan Hall. Only eight units of Motion Picture/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 quarter 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 Affairs Office, 1327 Macgowan Hall, for further information.

M.A.-African Area Studies/M.F.A.
The Motion Picture/Television Division of the Department of Theater, 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., with a specialization in motion picture/television. Articulated programs do not allow course credit to be applied toward more than one degree. Interested students should write to the Graduate Adviser, Graduate Student Affairs Office, Motion Picture/Television Division, UCLA Theater, Film, and Television Department, and to the Graduate Adviser, African Area Studies Program, UCLA African Studies Center.

Theater Specialty
Admission
Evidence of creative ability and professional intent is required. At the time of application to the Graduate Division, you must clearly state the degree objective (M.F.A.) and one of the following areas of specialization within the M.F.A. (Theater) program.

Acting: Submit strong letters of recommendation from directors familiar with your work, a complete resume of your experience, and photographs; audition for the M.F.A. faculty committee.

Design (scenic, costume, or both): Submit examples of creative work such as a portfolio of designs, sketches, working drawings, and photographs.

Directing: Submit evidence of motivation and talent through production and prompt books, reviews, critical commentaries, and strong letters of recommendation. An interview may be requested by the department.

Playwriting: Submit examples of creative writing such as full-length plays, one-act plays, and screenplays.

Producers Program: Submit a comprehensive statement detailing your reasons for pursuing a career as a producer/executive in theater.

Puppet Theater: Submit actual puppets and photographs; audition for the M.F.A. committee or its representative.

Theater Technology: Submit evidence of ability demonstrated through production books, working drawings, lighting plots, photographs, and strong letters of recommendation.

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
A total of 18 courses (72 units) is required, five of which must be graduate level. Only 16 units of Theater 596 may be applied toward the total course requirement and the minimum graduate course requirement.

Specific course requirements for each specialization are available in the Student Affairs Office, 1327 Macgowan Hall.

Fieldwork: Occasionally, students fulfill project requirements in the field. As an example, a student might complete a directing or design project with a community or church organization or a municipal division such as the Parks and Recreation Department.

Internship: Some specializations, such as the producers program and puppet theater, may take advantage of opportunities offered by professional organizations.

Comprehensive Examination Plan
The plan is satisfied by fulfilling a series of creative projects appropriate to your specialization. On completion of the final creative project or last quarter of residency, whichever is last, you must file for advancement to candidacy. The committee then reviews and evaluates your record for a degree. Your participation in the final review is at the discretion of the committee.

Ph.D. Degree
Motion Picture/Television Specialty
Admission
Completion of a master's degree (M.A. or M.F.A.) equivalent to those offered by the UCLA Department of Theater, Film, and Television is required. In exceptional cases, students with an M.A. outside the field will be considered for direct admission to the program. Evidence of potential as a practicing scholar is indicated by (1) breadth and depth of advanced coursework in history, theory, and criticism; (2) imagination and quality of scholarly writing; (3) academic achievements and potential as indicated by the grade-point average, Graduate Record Examination (GRE) scores, awards, scholarships, teaching assistantships, etc.

The dossier submitted for admission must contain a letter describing your reasons for wishing to earn the Ph.D., plus the master's thesis or writing samples that demonstrate a high level of ability to write criticism or historical narrative.

Note: Supporting material will be returned only if accompanied by postage, envelope, and shipping instructions. Further information is available from the Student Affairs Office, Theater, Film, and Television, 1327 Macgowan Hall, UCLA, Los Angeles, CA 90024.

Major Fields or Subdisciplines
You are expected to understand film and television within their social contexts as significant forms of art and communication, and to achieve by disciplined study a mastery of their history, theory, and criticism.

Foreign Language Requirement
Mastery of one foreign language is required and must be demonstrated in one of the following ways: (1) passing the Educational Testing Service (ETS) examination in French, Spanish, German, or Russian with a score of 500 or better; (2) completing level five or equivalent, with a minimum grade of C, in any foreign language; (3) passing a UCLA language examination given in any foreign language department. When mastery of more than one foreign language is necessary for your dissertation study, you are required to take courses or pass examinations in the additional language(s). Normally, the required foreign language examinations must be passed by the end of your first year in residence.

In certain cases with committee approval, a research tool such as statistics or computer science may be substituted for the foreign language.

Course Requirements
During the first six quarters in the motion picture/television specialization, you must take 13½ courses. During your first year in residence, Motion Picture/Television 211B, 215, and 273 must be completed, while course 274 is required in your last quarter in residence. In addition to this core sequence, course 496 is also required. Further, you must select nine graduate elective courses, at least six of which must be drawn from film and television studies offerings.

You must select from these elective courses three areas of concentration, chosen to broaden your familiarity and competence with various and diverse subject matters. A suggested list of concentrations is as follows: film theory, criticism, narrative studies, film and the other
arts, authors, genres, documentary, film history, American film, European film, non-Western film/television, television studies, media and society, film/television as a business enterprise, and film/television production. It is expected that the dissertation topic will emerge from one of the concentrations.

**Teaching Experience**
Every student must complete Motion Picture/Television 495A or 496, depending on program requirements.

**Qualifying Examinations**
At the end of your second quarter in residence, you must take a preliminary oral examination to be conducted by a representative committee of the faculty of your specialization. The committee specifies the areas of review, tests your background preparation and progress to date, and determines your general fitness to continue in the doctoral program.

After completing all language and course requirements, approval of a dissertation prospectus, and appointment of a dissertation committee, you are required to pass a written qualifying examination administered in three-hour segments during two successive days. Information regarding the examination is available from the divisional Ph.D. committee. You may be reexamined on any failed parts of the examination.

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.

A dissertation demonstrating your ability to carry out independent and significant inquiry in a historical, theoretical, or critical field of theater arts is required. Final award of the Ph.D. depends on successful completion 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**
A final oral examination, held after the completion of the dissertation, may be required at the option of the dissertation committee.

**Theater Specialty**

**Admission**
See admission requirements for the Ph.D. (motion picture/television specialty) above. In addition, theater applicants must submit evidence of artistic competence in some facet of theater production. Simultaneous application may be made to both the M.A. and Ph.D. programs in theater.

**Major Fields or Subdisciplines**
The Ph.D. student in theater is expected to be knowledgeable regarding theater history and theory, critical methods, theatrical production, and dramatic literature.

**Foreign Language Requirement**
See foreign language requirements for the Ph.D. (motion picture/television specialty) above.

**Course Requirements**
During the first six quarters (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 division 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 or 496, depending on program requirements.

**Qualifying Examinations**
See the description of qualifying examinations under the Ph.D. (motion picture/television specialty) above.

**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, held after the completion of the dissertation, may be required at the option of the dissertation committee.

**Motion Picture/Television Upper Division Courses**

106A. History of the American Motion Picture.
(Formerly numbered Theater Arts 106A.) Lecture/ screenings, eight hours, discussion, one hour. A historical approach, 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 departmental consent and with topic change.

106B. History of the European Motion Picture.
(Formerly numbered Theater Arts 106B.) Lecture/ screenings, eight hours, discussion, one hour. A 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 departmental consent and with topic change.

106C. History of African, Asian, and Latin American Film.
(Formerly numbered Theater Arts 106C.) Lecture/ screenings, eight hours; discussion, one hour. A historical, critical, aesthetic, and social study — together with an exploration of the ethnic significance — of Asian, African, Latin American, and Mexican films.

106D. The Development of Film in Europe and the United States from WWI through the Depression.
(Formerly numbered Theater Arts 106D.) Lecture/ screenings, eight hours; discussion, one hour. An interdisciplinary and comparative approach to the development of film in Europe and the United States from the silent era through the Depression. Particular emphasis on the interrelationship of film with its historical, social, and political contexts.

106E. The Development of Film in Europe and the United States from WWI to the Present.
(Formerly numbered Theater Arts 106E.) Lecture/ screenings, eight hours; discussion, one hour. Prerequisite: consent of instructor. A historical and critical study of the development of film in Europe and the United States from the end of the 1930s to the present. Particular emphasis on the interrelationship of film with its historical, social, and political contexts.

107. Experimental Film.
(Formerly numbered Theater Arts 107.) Lecture/ screenings, eight hours; discussion, one hour. Prerequisite: consent of instructor. The philosophy of the documentary approach in the motion picture. The development of critical standards and an examination of the technical principles and aesthetic concepts that organize film and television studies, including author, work, style, genre, structure, and ideology, with special attention to the approaches and procedures involved in a critical reading of a work.

110A. History of Broadcasting.
(Formerly numbered Theater Arts 110A.) Lecture/ viewing, six hours; discussion, one hour. A historical approach to the development of television and radio as a medium of mass communication. May be repeated once for credit with departmental consent and with topic change.

110B. Problems and Issues in Broadcast Media.
(Formerly numbered Theater Arts 110B.) Lecture, four hours; discussion, two hours; laboratory, to be arranged. Prerequisite: consent of instructor. Study of the current issues and problems related to public and commercial broadcast programming and management, including analysis of contemporary criticism of the broadcast media.

111. Film Distribution and Exhibition.
(Formerly numbered Theater Arts 111.) Lecture, three hours; laboratory, to be arranged. Prerequisite: consent of instructor. Study of the business aspects of motion picture production and exhibition and analysis of their interrelationships with production practices.

112. Film and Social Change.
(Formerly numbered Theater Arts 112.) Lecture/screenings, eight hours; discussion, one hour. The development of documentary and dramatic films in relation to and as a force in social development.
113. Film Authors. (Formerly numbered Theater Arts 113.) Lecture, screenings, eight hours; discussion, one hour. An in-depth study of a specific film author (director or writer). May be repeated once for credit with departmental consent and with topic change.

114. Film Genres. (Formerly numbered Theater Arts 114.) Lecture, screenings, eight hours; discussion, one hour. Study of a specific film genre (e.g., the Western, the gangster cycle, the musical, the silent epic, the comedy, the social drama). May be repeated once for credit with departmental consent and with topic change.

115. Producers and Their Films. (Formerly numbered Theater Arts 115.) Lecture, screenings, eight hours; discussion, one hour. A consideration of the individual or corporate producers as they have affected the art and industry of the motion picture. Content varies; consideration of the work of a studio such as Paramount, Metro-Goldwyn-Mayer, Warner Brothers, etc. or of an individual such as Samuel Goldwyn, Stanley Kramer, Hal Wallis, etc. May be repeated once for credit.

116. Criticism. (Formerly numbered Theater Arts 116.) Lecture, four hours; laboratory, to be arranged. Study of and practice in criticism for the theater, motion pictures, and television. May be repeated once for credit with departmental consent and with topic change.

126A. Advanced Acting for Television and Motion Pictures. (Formerly numbered Theater Arts 126A.) Lecture, four hours; laboratory, four hours. Prerequisite: consent of instructor. Advanced study of acting for television and motion pictures. Videotape recording of selected acting exercises and readings. May be repeated twice for credit.

126C. Sportscasting. (Formerly numbered Theater Arts 126C.) Lecture, two hours; laboratory, four hours. Prerequisite: consent of instructor. Intensive study of sportscasting; laboratory emphasis on studio and field work. Television and radio sportscasts, play by play, color, interviews, commentary, and editorials. Students are required to write original material for all exercises. Extensive training in the world of sports; use of the remote truck. Prerequisite: consent of instructor. Students rotate in production positions. May be repeated twice for credit.

127. The Film Image. (Formerly numbered Theater Arts 127.) Lecture, one hour; discussion, two hours; laboratory, one hour. Prerequisite: consent of instructor. Laboratory emphasis on studio and field work. The visual nature of perception. Visual illusion, visual realism, visual representation. The visual revolution. Biophysical nature of perception. Lenses, perspective, graphic styles. Principles of composition, screening, sound, editing. Problems of editing and movement. How a director views his work and his world.

128. Media and Ethnicity. (Formerly numbered Theater Arts 128.) Prerequisite: consent of instructor. Utilizing the Asian American experience, exploration of the impact and uses of media on contemporary American ethnic communities. Role and techniques of media influence besides community utilization and production.

131. Nontheatrical Motion Picture/Television Writing. (Formerly numbered Theater Arts 131.) Discussion, three hours. Prerequisite: consent of instructor. A course in the research and writing of documentary, technical, educational, industrial, and propaganda scripts. May be repeated twice for credit.

132A. Location Analysis. (Formerly numbered Theater Arts 132A.) Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. Limited to motion picture/television majors. The considerations and practices in the evaluation of scripts written for motion picture or television production.

134A. Motion Picture/Television Writing. (Formerly numbered Theater Arts 134A.) Discussion, three hours. Prerequisite: consent of instructor. Open not for credit to students with credits for former course 134B. Fundamentals for Motion Picture/Television Writing (2 units). (Formerly numbered Theater Arts 134A.) Lecture, one hour. Corequisite for graduate students enrolled in course 134A. An examination of screenwriting fundamentals: structure, character and scene development, conflict, locale, theme, historical background. Review of authors such as Aristotle, Ekke, Bentley.

135. Advanced Motion Picture/Television Writing (8 units). (Formerly numbered Theater Arts 135.) Discussion, three hours. Prerequisites: course 134A and consent of instructor. A course in motion picture/television writing. Original motion picture/television material to be developed. May be repeated twice for credit.

150. Basic Motion Picture Photography. (Formerly numbered Theater Arts 150.) Lecture, four hours; laboratory, four hours. Prerequisites: course 166, consent of instructor. Limited to motion picture/television majors. Introduction to the techniques of motion picture photography and shooting, developing and printing of film, camera, and lens. Supervised projects in photography to complement material covered in the lecture.

151. Design for Motion Pictures and Television. (Formerly numbered Theater Arts 151.) Lecture, three hours; laboratory, to be arranged. Prerequisites: course 166, consent of instructor. Limited to motion picture/television majors. Introduction to the design and development of motion picture and television settings. May be repeated twice for credit.

152. Motion Picture/Television Sound Recording. (Formerly numbered Theater Arts 152.) Lecture, three hours; laboratory, to be arranged. Prerequisite: course 166. Limited to motion picture/television majors. Principles of sound recording, including supervisory exercises.

153C. Color Cinematography. (Formerly numbered Theater Arts 153C) Lecture, three hours. Prerequisites: course 152, consent of instructor. Advanced study of principles of color photography, with emphasis on present-day methods of motion picture and television production. A comparative study of additive and subtractive systems as employed by Technicolor, Ansco, Kodak, and others.

154. Motion Picture Editing. (Formerly numbered Theater Arts 154.) Lecture, three hours; laboratory, to be arranged. Prerequisites: course 166, consent of instructor. Limited to motion picture/television majors. Laboratory emphasis on editing with emphasis on creative processes in film editing. May be repeated twice for credit.

155. Direction for Television. (Formerly numbered Theater Arts 155.) Lecture, six hours. Prerequisites: courses 134A, 166, 185, consent of instructor. Laboratory emphasis on the creative techniques and practical problems of film editing, with practical experience in the editing of image and synchronic sound.

156. Direction for Motion Pictures. (Formerly numbered Theater Arts 156.) Laboratory, to be arranged. Prerequisite: course 152, consent of instructor. Limited to motion picture/television majors. An in-depth study of the problems faced by a motion picture director and various approaches to their solution. May be repeated twice for credit.

165. Beginning Television and Video Production (8 units). (Formerly numbered Theater Arts 165.) Laboratory, six hours. Prerequisites: courses 152, 155, 156, consent of instructor. Limited to motion picture/television majors. An introduction to the techniques and equipment used in video production, culminating in a short project each semester. May be repeated twice for credit.

181A. Animation Design in Theater Arts. (Formerly numbered Theater Arts 181A.) Lecture, three hours; laboratory, four hours; discussion, five hours. Prerequisite: consent of instructor. History and use of media, rhythm, and graphic design to form effective communication of a film.

181B. Writing for Animation (4 or 8 units). (Formerly numbered Theater Arts 181B.) Lecture, six hours; laboratory, to be arranged. Prerequisites: completion of one or more short films, including their completion, including the editing of the final product. May be repeated for a maximum of 16 units.

181C. Animation Workshop (4 or 8 units). (Formerly numbered Theater Arts 181C.) Lecture, six hours; laboratory, to be arranged. Prerequisites: course 181A, consent of instructor. A storyboard at the first class meeting. Research and practice in creative writing and planning for the animated film. May be repeated for a maximum of 16 units.

185. Overview of the Motion Picture Industry. (Formerly numbered Theater Arts 185.) Lecture, three hours. Prerequisite consent of instructor. Evolution of economic and business structure of motion pictures from 1905 to the present, with emphasis on the creative contribution, organization, and work of professionals in their various specialties. May be taken for a maximum of eight units.
193A. Film Criticship. (Formerly numbered Theater Arts 193A.) Lecture, two hours; discussion, two hours; laboratory, four hours. Prerequisite: consent of instructor. Study of the principles and techniques of film criticism and research, including but not limited to aesthetic, historical, and social behavior. Special attention to the application of new technology, equipment, and program materials to film archival-library design for research and teaching.

193B. Television Criticship. (Formerly numbered Theater Arts 193B.) Lecture, two hours; discussion, two hours; laboratory, four hours. Prerequisite: consent of instructor. Study of the principles and techniques of television criticism and research, including but not limited to acquisitions, cataloging, storage, and retrieval systems. Special attention to the application of new technology, equipment, and program materials to television archival-library design for research and teaching.

195A-195B-195C. Independent Production of Feature Films and/or Television Programming. (Formerly numbered Theater Arts 195A-195B-195C.) Lecture, three hours. Prerequisites: course 189, consent of instructor. Survey of financial and business aspects involved in producing, distributing, and exhibiting motion pictures and/or television programming from the various perspectives of prominent industry leaders. May be taken in any sequence for a maximum of eight units with different letter designations and different instructors.

196. Senior Colloquium. (Formerly numbered Theater Arts 196.) Lecture, three hours. Prerequisites: consent of instructor, senior standing. An advanced seminar investigating special topics in film and television studies (e.g., stylistic modes of adaptation, media and social effects, etc.).

199. Special Studies in Theater Arts (2 to 8 units). (Formerly numbered Theater Arts 199.) Hours to be arranged. Prerequisites: 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 on recommendation of the departmental graduate advisor. Graduate courses are not open to undergraduate students.

200. Bibliography and Methods of Research in Theater Arts. (Formerly numbered Theater Arts 200.)

Section 1. Motion Pictures.
Section 2. Television/Radio.

203. Seminar in Film and the Other Arts. (Formerly numbered Theater Arts 203.) Discussion, three hours (additional hours as required). Prerequisites: graduate standing, consent of instructor. Study in the interrelationships between film and the fine arts, or performing arts, or literature, with emphasis on the ways these other arts have influenced film. May be repeated twice for credit.

208A. Seminar in Film Structure. (Formerly numbered Theater Arts 208A.) Discussion, three hours (additional hours as required). Prerequisites: graduate standing, consent of instructor. An examination of various film conventions, both fictional and nonfictional, and of the role of structure in the motion picture.

208B. Seminar in Classical Film Theory. (Formerly numbered Theater Arts 208B.) Discussion, three hours (additional hours as required). Prerequisites: graduate standing, consent of instructor. A study of the principal topics and lines of inquiry that characterize the theoretical writings of Arneson, Eisenstein, Bazin, Mitry, etc.

208C. Seminar in Contemporary Film Theory. (Formerly numbered Theater Arts 208C.) Discussion, three hours (additional hours as required). Prerequisites: consent of instructor. A study of the redefinition of the aims and methods of film theory through contemporary writings.

209A. Seminar in Documentary Film. (Formerly numbered Theater Arts 209A.) Discussion, three hours (additional hours as required). Prerequisites: graduate standing, consent of instructor. The nonfictional film as an aesthetic and social phenomenon, with emphasis on documentary film as a medium for the preservation and communication of human cultures. Film assignments are given to increase the understanding of the theoretical and practical aspects of ethnographic filmmaking. Consideration of the potential of both film and video for fieldwork.

209D. Seminar in the Animated Film. (Formerly numbered Theater Arts 209D.) Discussion, three hours; laboratory, three hours. Prerequisite: consent of instructor. A critical study of the animated film: its historical development and its structure, style, and use.

210. Seminar in Contemporary Broadcast Media. (Formerly numbered Theater Arts 210.) Discussion, three hours (additional hours as required). Prerequisites: graduate standing, consent of instructor. Discussion of the history, methods, and criteria for the use of film as a medium for the preservation and communication of human cultures. Film assignments are given to increase the understanding of the theoretical and practical aspects of anthropological film direction. Consideration of issues raised by recent developments in television and radio, commercial and public, associated with innovations in satellite, cable, and cartidge systems.

211A. Seminar in Historiography. (Formerly numbered Theater Arts 211A.) Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Limited to motion picture/television M.A. candidates. Beginning examination of the function and methods of writing film and television history as seen in the works of key historians in the United States and England.

211B. Seminar in Historiography. (Formerly numbered Theater Arts 211B.) Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Limited to motion picture/television Ph.D. candidates. Limited to motion picture/television Ph.D. candidates. Examination of the major areas of theoretical research that bear on film and television through study of central texts of such traditions as phenomenology, semiotics, psychoanalysis, sociology, etc.

215. Seminar in Theory and Method. (Formerly numbered Theater Arts 215.) Discussion, three hours. Limited to motion picture/television Ph.D. candidates. Examination of the major areas of theoretical research that bear on film and television through study of central texts of such traditions as phenomenology, semiotics, psychoanalysis, sociology, etc.

219. Seminar in Film and Society. (Formerly numbered Theater Arts 219.) Discussion, three hours (additional hours as required). Prerequisites: graduate standing, consent of instructor. Study of the ways film affects and is affected by social behavior, belief, and value systems; the aesthetic role and social effects of film. May be repeated once for credit.

220. Seminar in Television and Society. (Formerly numbered Theater Arts 220.) Discussion, three hours (additional hours as required). Prerequisites: graduate standing, consent of instructor. Study of the ways television affects and is affected by social behavior, belief, and value systems; the aesthetic role and social effects of television. May be repeated once for credit.

221. Seminar in Film Authors. (Formerly numbered Theater Arts 221.) Discussion, three hours (additional hours as required). Prerequisites: graduate standing, consent of instructor. Intensive examination of the works of outstanding creators of films. May be repeated twice for credit.

222. Seminar in Film Genres. (Formerly numbered Theater Arts 222.) Discussion, three hours (additional hours as required). Prerequisites: graduate standing, consent of instructor. Study of patterns, styles, and characteristics of such genres as the Western, gangster, war, science fiction, comedy, etc. May be repeated twice for credit.

223. Seminar in Visual Perception. (Formerly numbered Theater Arts 223.) Discussion, three hours (additional hours as required). Prerequisites: graduate standing, consent of instructor. An analysis of procedures and problems in preparing a successful thesis. Consideration of the methods and criteria for the use of film as a medium for the preservation and communication of human cultures. Production of films and videotapes on topics selected by study group.

247. Production Planning in Motion Pictures/Television. (Formerly numbered Theater Arts 247.) Discussion, three hours. Prerequisite: consent of instructor. Analysis of procedures and problems in preparing a successful thesis. Consideration of the methods and criteria for the use of film as a medium for the preservation and communication of human cultures. Production of films and videotapes on topics selected by study group.

265A-M265B. Ethnographic Film Direction (4 or 8 units each). (Formerly numbered Theater Arts 265A-M265B.) Lecture, four hours; laboratory, to be arranged. Prerequisites: course 208C, graduate standing, consent of instructor. Consideration of the methods and criteria for the use of film as a medium for the preservation and communication of human cultures. Production of films and videotapes on topics selected by study group.

268. Seminar in the Short Film. (Formerly numbered Theater Arts 268.) Lecture, two hours; discussion, two hours. Prerequisites: graduate standing, consent of instructor. A study of the problems presented by the conceptualization of the form and structure of the short film, with emphasis on historical and social content. May be repeated once for credit.

270. Seminar in Film Criticism. (Formerly numbered Theater Arts 270.) Discussion, three hours (additional hours as required). Prerequisites: graduate standing, consent of instructor. An analysis of the major areas of theoretical research that bear on film and television through study of central texts of such traditions as phenomenology, semiotics, psychoanalysis, sociology, etc.

271. Seminar in Television Criticism. (Formerly numbered Theater Arts 271.) Discussion, three hours (additional hours as required). Prerequisites: graduate standing, consent of instructor. A study of the problems presented by the conceptualization of the form and structure of the short film, with emphasis on historical and social content. May be repeated once for credit.

273. Seminar in Contemporary Film and Television Criticism. (Formerly numbered Theater Arts 273.) Discussion, three hours (additional hours as required). Limited to motion picture/television Ph.D. candidates. Study and practice of the analytic and critical response, with emphasis on contemporary film and television.
243. Direction of Actors for Motion Pictures/Television. (Formerly numbered Theater Arts 423.) Lecture/laboratory. Prerequisites: first film project, consent of instructor. Exercise in analysis of script and character for the purpose of directing actors in motion picture and television productions. Emphasis on eliciting character and voice from the actor. May be repeated twice for credit.

244. Advanced Motion Picture/Television Writing (8 units). (Formerly numbered Theater Arts 434.) Discussion, three hours. Prerequisites: course 135, consent of instructor. Advanced problems in the writing of original motion picture/television material. May be repeated twice for credit.

245A. Writing Scenes for Production. (Formerly numbered Theater Arts 435A.) Discussion, three hours. Prerequisites: graduate standing, consent of instructor. The writing and revisions of a script, or scripts, for a short film (approximately 10 to 60 minutes in length).

245B. Writing for the Short Film. (Formerly numbered Theater Arts 435B.) Discussion, three hours. Prerequisites: graduate standing, consent of instructor. A study of the role of editing the fictional and nonfictional production, with emphasis on the writing of scripts and on camera preparation. The use of optical effects and blowups, preparation for the sound track of the mix, and the cutting of originals for single strand and A-B printing.

246A-246B. Motion Picture Direction (4 or 8 units each). (Formerly numbered Theater Arts 464A-464B.) Hours to be arranged. Prerequisite: consent of instructor. Limited to motion picture/television graduate students. Special problems in the direction of documentary and experimental motion pictures.

246A-246B. Television Direction (4 or 8 units each). (Formerly numbered Theater Arts 465A-465B.) Lecture, two hours; laboratory, six hours. Prerequisites: graduate standing, consent of instructor. Special problems in the direction of dramatic and documentary television programs. Special problems in the production of individual or collective projects.

247. Film I (8 units). (Formerly numbered Theater Arts 475.) Discussion, three hours; laboratory, to be arranged. Prerequisites: graduate standing, consent of instructor. A study of the basic techniques of film, video, and special feature programs, with emphasis on research and production.

247. Video I (8 units). (Formerly numbered Theater Arts 476.) Discussion, three hours; laboratory, to be arranged. Prerequisites: graduate standing, consent of instructor. A study of the basic techniques of television and video production, including the completion of one or more projects.

248. Music Recording Workshop. (Formerly numbered Theater Arts 452B.) Lecture, four hours; laboratory, eight hours. Prerequisites: course 452A and consent of instructor. Supervised exercises in studio music recording techniques, with emphasis on special requirements for motion picture and television production.

250C. Motion Picture/Television Sound Recording. (Formerly numbered Theater Arts 452C.) Laboratory, eight hours. Prerequisites: courses 152 or 452A, graduate standing, consent of instructor. Techniques of preparation and execution of rerecording using multitrack and sound recording technology, including sound and operational experience.

250A. Motion Picture Editing. (Formerly numbered Theater Arts 454A.) Lecture, three hours; laboratory, to be arranged. Prerequisites: standing, consent of instructor. Limited to motion picture/television majors. A study of the role of editing the fictional and nonfictional production, with emphasis on the writing of scripts and on camera preparation. The use of optical effects and blowups, preparation for the supervision of the mix, and the cutting of originals for single strand and A-B printing.

250B. Motion Picture Editing. (Formerly numbered Theater Arts 454B.) Lecture, three hours; laboratory, to be arranged. Prerequisites: consent of instructor. Limited to motion picture/television graduate students. Special problems in the direction of documentary and experimental motion pictures.

250A-250B. Television Editing (4 or 8 units each). (Formerly numbered Theater Arts 479A-479B.) Discussion, three hours; laboratory, to be arranged. Prerequisites: graduate standing, consent of instructor. A study of film editing and video production, including the completion of one or more projects.

250A-250B. Television Editing (4 or 8 units each). (Formerly numbered Theater Arts 479A-479B.) Discussion, three hours; laboratory, to be arranged. Prerequisites: course 185 or 476, graduate standing, consent of instructor. Group experience in film production with each member rotating on crew work in the production of individual or collective projects.

250A-250B. Television Editing (4 or 8 units each). (Formerly numbered Theater Arts 479A-479B.) Discussion, three hours; laboratory, to be arranged. Prerequisites: course 185 or 476, graduate standing, consent of instructor. Group experience in film production with each member rotating on crew work in the production of individual or collective projects.

250A-250B. Television Editing (4 or 8 units each). (Formerly numbered Theater Arts 479A-479B.) Laboratory, to be arranged. Prerequisites: course 185 or 166, graduate standing, consent of instructor. Course 178 may be taken concurrently. The completion of a film (no longer than 10 minutes), including its writing, design, production, and editing.
480A-480B-480C. Workshop in Broadcast Journalism. (Formerly numbered Theater Arts 480A-480B-480C.) Laboratory, eight hours. Prerequisites: graduate standing, consent of instructor. The practice of reporting, writing, editing, and producing news, public affairs, and documentaries for broadcast.

482A-482B. Advanced Animation Workshop (4 or 8 units each). (Formerly numbered Theater Arts 482A-482B.) Lecture, four hours; laboratory, to be arranged. Prerequisites: courses 181A, 181B, 181C, consent of instructor. Organization and integration of various creative arts used in animation, resulting in the production of a complete animated film.

483. Video Editing (4 or 8 units). (Formerly numbered Theater Arts 483.) Discussion, four hours; laboratory, to be arranged. Prerequisites: course 476, graduate standing, consent of instructor. Individual instruction in electronic editing.

485A-485B-485C. Video III (4 or 8 units each). (Formerly numbered Theater Arts 485A-485B-485C.) Laboratory, 16 hours. Prerequisites: course 478, graduate standing, consent of instructor. Creation, preparation, and production each quarter of one advanced television program (no longer than 10 minutes).

488A-488B-488C. Educational Television Workshop. (Formerly numbered Theater Arts 488A-488B-488C.) Laboratory, eight hours. Prerequisite: consent of instructor and supervised exercises in directing and producing television programs for educational purposes.

490A. Computer Animation in Film and Video (8 units). (Formerly numbered Theater Arts 490A.) Lecture, three hours; laboratory, eight hours; other, to be arranged. Prerequisites: courses 181A, 181C, a complete animated film, consent of instructor. Instruction in and supervised production of computer animation. May be repeated once.

495A. Problems in the Teaching of Theater Arts. (Formerly numbered Theater Arts 495A.) Lecture/laboratory, to be arranged. Prerequisites: graduate standing, consent of instructor. Study of and practice in the teaching of theater arts at the college and university level.

495B. Problems in the Teaching of Theater Arts (2 or 4 units). (Formerly numbered Theater Arts 495B.) Laboratory, to be arranged. Prerequisites: graduate standing, consent of instructor. Not open for credit to students with credit for former courses 495C-495D. 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. The Practice of Teaching Theater Arts (2 units.) (Formerly numbered Theater Arts 496.) Discussion. Required once of all teaching assistants or associates in the department. Orientation and preparation of graduate students with the responsibility to assist in the teaching of undergraduate courses in the department; discussion of problems common to the teaching experience. May not be applied toward the M.A., M.F.A., or Ph.D. May be repeated for a maximum of 12 units.

498. Professional Internship in Theater Arts (4, 8, or 12 units). (Formerly numbered Theater Arts 498.) Full- or part-time at a studio or on a professional project. Prerequisites: graduate standing, advanced standing in M.F.A. or Ph.D. program; consent of instructor. An internship at various film, video, or theater facilities accentuating the creative contribution, the organization, and the work of professionals in their various specialties. Given only when projects can be scheduled.

501. Cooperative Program (2 to 8 units). (Formerly numbered Theater Arts 501.) Prerequisite: consent of graduate adviser and graduate dean, and host campus instructor, department chair, and graduate coordinator. Course is used to record the work of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596A. Directed Individual Studies: Research (2 to 12 units). (Formerly numbered Theater Arts 596A.) Hours to be arranged. Prerequisite: graduate standing. May be repeated with consent of instructor.

596B. Directed Individual Studies: Writing (2 to 12 units). (Formerly numbered Theater Arts 596B.) Hours to be arranged. Prerequisite: graduate standing. May be repeated with consent of instructor.

596C. Directed Individual Studies: Directing (2 to 12 units). (Formerly numbered Theater Arts 596C.) Hours to be arranged. Prerequisite: graduate standing. May be repeated with consent of instructor.

596D. Directed Individual Studies: Design (2 to 12 units). (Formerly numbered Theater Arts 596D.) Hours to be arranged. Prerequisite: graduate standing. May be repeated with consent of instructor.

596E. Directed Individual Studies: Acting (2 to 12 units). (Formerly numbered Theater Arts 596E.) Hours to be arranged. Prerequisite: graduate standing. May be repeated with consent of instructor.

596F. Directed Individual Studies: Production (2 to 12 units). (Formerly numbered Theater Arts 596F.) Prerequisite: consent of instructor. Not open for credit to students with credit for more than one course from the 5A, 5B, 5C series. May be repeated with consent of instructor.

597. Preparation for Ph.D. Qualifying Examinations in Theater Arts (2 to 8 units.) (Formerly numbered Theater Arts 597.) May be repeated for a maximum of 12 units.

598. M.A. Thesis in Theater Arts (2 to 8 units). (Formerly numbered Theater Arts 598.) 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). (Formerly numbered Theater Arts 599.) Prerequisite: advancement to Ph.D. candidacy. Research and writing for Ph.D. dissertation. May be repeated for a maximum of 12 units.

Upper Division Courses

100. The Teaching of Theater. (Formerly numbered Theater Arts 100.) Lecture, three hours. Prerequisites: courses 160 or 161A, and 162A, or consent of instructor. Highly recommended for students pursuing a secondary teaching credential. Study of current methods and problems of production as related to the secondary level.

102A. Selected Topics on the History of the European Theater. (Formerly numbered Theater Arts 102A.) Lecture, three hours. Prerequisites: courses 5A or equivalent, consent of instructor. An investigation in depth of a selected area of study in theater history from pre-Socrates to the Renaissance. May be repeated twice for credit.

102B. Selected Topics on the History of the European Theater. (Formerly numbered Theater Arts 102B.) Lecture, three hours. Prerequisites: course 5B or equivalent, consent of instructor. An investigation in depth of a selected area of study in theater history from the Renaissance to the 1800s. May be repeated twice for credit.

102D. History of the European Theater. (Formerly numbered Theater Arts 102D.) Lecture, three hours. Prerequisite: consent of instructor. Not open for credit to students with credit for course 103A prior to Spring Quarter 1986. An exploration of extant materials on the history and literature of the theater as developed and performed by black artists in America from slavery to the mid-1800s.

103A. Black People's Theater in America: Slavery to Mid-1800s. (Formerly numbered Theater Arts 103A.) Lecture, three hours. Prerequisites: upper division standing, consent of instructor. Not open for credit to students with credit for course 103A prior to Spring Quarter 1986. An exploration of extant materials on the history and literature of the theater as developed and performed by black artists in America from slavery to the mid-1800s.

103B. Black People's Theater in America: Minstrel Stage to the Rise of the American Musical. (Formerly numbered Theater Arts 103B.) Lecture, three hours. Prerequisites: upper division standing, consent of instructor. Not open for credit to students with credit for course 103B prior to Spring Quarter 1986. An exploration of extant materials on the history and literature of the theater as developed and performed by black artists in America from the minstrel stage to the mid-1800s.

M103C. The Origins and Evolution of Chicano Theater. (Formerly numbered Theater Arts M103C.) Lecture, three hours. Prerequisites: upper division standing. An exploration of the development of Chicano theater from its beginnings in the legends and rituals of ancient Mexico to the work of Luis Valdez (late 1960s). Mr. Zamora

M103D. Contemporary Chicano Theater. (Formerly numbered Theater Arts M103D.) (Same as Chicano Studies M103D.) Lecture, three hours. Prerequisite: upper division standing. A study of recent trends in Chicano theater as reflected in the works of contemporary Chicano dramatists and theater artists.

Mr. Zamora

103E. Black People's Theater in America: The Depression to the Present. Lecture, three hours. Prerequisites: upper division standing, consent of instructor. An exploration of extant materials on the history and literature of the theater as developed and performed by black artists in America from the depression to the present. (Sp)
103F. Native American Theater. (Formerly numbered Theater Arts 108N.) Prerequisite: consent of instructor. A study of American Indian theater as an evolving art form. (Sp)

104D. History of the American Theater. (Formerly numbered Theater Arts 104D.) Lecture, three hours. The history of the American theater from the Revolutionary War to the Civil War. (F)

104E. History of the American Theater. (Formerly numbered Theater Arts 104E.) Lecture, three hours. The history of the American theater from the Civil War to the present. (S)

104F. History of the American Theater. (Formerly numbered Theater Arts 104F.) Lecture, three hours. The history of the American theater from WWI to the present. (S)

105. Main Currents in Theater. (Formerly numbered Theater Arts 105.) Lecture, three hours. Critical examination of the leading theories of theater from 1887 to the present. Study and discussion of modern styles of production. (C117)

110A. History of the American Theater. (Formerly numbered Theater Arts 110A.) Lecture/laboratory, four hours; laboratory, two hours. Prerequisites: course 117 or consent of instructor. Open for credit to students with credit for former course 117. Study of the history and practice of the arts of puppetry. An examination of the materials and methods of construction. Staging of puppet productions as laboratory practice. May be repeated twice for credit. Concurrently scheduled with course C217A.

110B. Advanced Creative Dramatics (2 units). (Formerly numbered Theater Arts 110B.) Lecture, one hour; laboratory, two hours. Prerequisite: course 110A or consent of instructor. Practical application of the methods and principles introduced in course 110B. May be repeated twice for credit. (S)

117. The Puppet Theater (2 units). (Formerly numbered Theater Arts C117.) Lecture/laboratory, four hours; laboratory, two hours. Prerequisites: course 117 or consent of instructor. A study of the principles and procedures of the improvisational approach to drama as done with children from nursery school to junior high. (F)

118A. Creative Dramatics. (Formerly numbered Theater Arts 118A.) Lecture, two hours; laboratory, two hours. Prerequisite: course 118A or consent of instructor. Practical application of the methods and principles introduced in course 118A. May be repeated twice for credit. (F)

119B. Advanced Creative Dramatics (2 units). (Formerly numbered Theater Arts 119B.) Discussion, one hour; laboratory, two hours. Prerequisite: course 118A or consent of instructor. Practical application of the methods and principles introduced in course 118B. May be repeated twice for credit. (S)

120. Theater for the Classroom Audience: Theory and Criticism. (Formerly numbered Theater Arts 119A.) Lecture/laboratory. Not open for credit to students with credit for former course 119. Principles of production and performance for the child audience. (F)

120B. Theater for the Classroom Audience (2 units). (Formerly numbered Theater Arts 119B.) Lecture, two hours; laboratory, four hours. Prerequisites: audition and consent of instructor prior to first class meeting. Designed to provide an opportunity for students to work together through improvisation and to present a theater presentation for a young audience. Emphasis on testing theatrical concepts through the ensemble work, rehearsal, pretesting, and evaluation of an original production for possible presentation outside the classroom. (S)

121. Acting Workshop (2 units). (Formerly numbered Theater Arts 121.) Laboratory, to be arranged. Prerequisites: course 20, consent of instructor. Course history of American theater taken with the instructor may be taken concurrently. A workshop which provides students with an opportunity to rehearse, perform, and criticize scenes. May be repeated once for credit. (F)

122. Makeup for the Stage (2 units). (Formerly numbered Theater Arts 122.) Prerequisite: consent of instructor. The art of makeup and its relation to the production as a whole. History, aesthetics, materials, and procedures of makeup. (S)

123. Intermediate Acting for the Stage. (Formerly numbered Theater Arts 123.) Lecture/laboratory. Prerequisite: course 120, consent of instructor. Study of the principles and procedures of the art of acting through the perfection of techniques and application of those techniques to acting problems. (F)

124A. Voice for the Stage. (Formerly numbered Theater Arts 124A.) Lecture/laboratory. Prerequisites: course 20, consent of instructor. Not open for credit to students with credit for former course 124. Development of voice techniques for the stage. Inclusion of such skills as projection, breathing, articulation, and resonators. (Sp)

124B. Speech for the Stage. (Formerly numbered Theater Arts 124B.) Lecture, four hours; laboratory, two hours. Prerequisites: courses 20, 123, 124A (with demonstration of high skills level), 125A, consent of instructor. Improvement and development of vocal skills for students with credit for former course 124. Designed to acquaint students with the international phonetic alphabet and its uses and to exercise students' skills in pronunciation, enunciation, and the development of diction versatility. (Sp)

125A. Movement for the Actor. (Formerly numbered Theater Arts 125A.) Lecture/laboratory. Prerequisites: course 20, consent of instructor. Physical awareness for the actor, concentrating on warming up the body, relaxation, control, stunts, and gymnastics. (Sp)

125B. Advanced Movement for the Actor. (Formerly numbered Theater Arts 125B.) Lecture/laboratory. Prerequisites: course 125A, consent of instructor. Advanced study of body, movement, and contemporary movement for the stage actor. (Sp)

130A. Fundamentals of Playwriting I. (Formerly numbered Theater Arts 130A.) Lecture, three hours. Prerequisites: course 125A, consent of instructor. Studies of the leading theories of playwriting. Designed to stimulate students' critical and creative faculties through the preparation of original material for the theater. Guidance in the completion of the one-act play. (F)

130C. Writing for the American Musical Theater. (Formerly numbered Theater Arts 130C.) Lecture/laboratory, three hours. Prerequisite: consent of instructor. Study of original material for the theater, its preparation and development. Designed to give further insight into the critical and creating aspects of the short and full-length play and guidance in the completion of the one-act and full-length play. May be repeated twice for credit. (S)

131C. Fundamentals of Playwriting II. (Formerly numbered Theater Arts 130B.) 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 the critical and creating aspects of the short and full-length play and guidance in the completion of the one-act and full-length play. May be repeated twice for credit. (S)

132. Manuscript Evaluation for Theater. (Formerly numbered Theater Arts 132.) Lecture, three hours. Prerequisite: course 130A, consent of instructor. Prerequisite: course 130A, consent of instructor. Study of the practice and techniques used in writing a libretto for musical theater: opening numbers, romance, subject songs, and comedy. May be repeated once for credit. (S)

133. Advanced Acting for the Stage. (Formerly numbered Theater Arts 133.) Lecture/laboratory. Prerequisites: courses 123, 124A, 125A, consent of instructor. Study and practice of the art of acting through a progression to more advanced acting problems. (F)

134. Special Problems in Performance Techniques. (Formerly numbered Theater Arts 134.) Lecture/laboratory. Prerequisites: courses 123, 124A, 125A, consent of instructor. Study of complex演技 problems in voice, movement, and acting. May be repeated twice for credit. (S)

140A. Scene Technique for the Stage. (Formerly numbered Theater Arts 140A.) Lecture, three hours; laboratory, six hours. Prerequisites: course 10, consent of instructor. Required of theater majors. An intensive study of scenic materials, construction techniques, and the realization of scenic design. Courses 140A, 141A, and 142A may be taken in any sequence, but not concurrently. (Sp)

140B. Advanced Scenery for the Stage. (Formerly numbered Theater Arts 140B.) Lecture/laboratory. Prerequisite: consent of instructor. A detailed study of the major staging theater productions, including design analysis and planning related to rigging, shifting, and construction techniques. (Sp)

141A. Lighting Techniques for the Stage. (Formerly numbered Theater Arts 141A.) Lecture, three hours; laboratory, six hours. Prerequisites: course 10, consent of instructor. Required of theater majors. An intensive study of theater lighting, with emphasis on the relationship of lighting instruments and control to the style and design of costumes used in theatrical productions. (Sp)

142A. Theater Costuming Techniques. (Formerly numbered Theater Arts 142A.) Lecture, three hours; laboratory, four hours. Prerequisites: course 10A, consent of instructor. A detailed study of theater lighting, with emphasis on the relationship of lighting instruments and control to the style and design of costumes used in theatrical productions. (Sp)

141B. Advanced Lighting for the Stage. (Formerly numbered Theater Arts 141B.) Lecture/laboratory. Prerequisite: consent of instructor. Open for credit to junior high school students. Examination of scenic materials, construction techniques, and the realization of scenic design. The translation of ideas into visual forms. (Sp)

142B. Advanced Costuming for the Stage. (Formerly numbered Theater Arts 142B.) Lecture, three hours; laboratory, four hours. Prerequisites: course 142A, consent of instructor. Special problems in the procuring, designing, construction, and management of costumes used in theatrical productions. (Sp)

143. Scenic Design for the Theater. (Formerly numbered Theater Arts 143.) Prerequisites: course 10, consent of instructor. Required of theater majors. Basic principles of design as applied to the interpretation and presentation of one-act and full-length plays. Advanced study of styles, techniques, and methods of design for the theater arts. The translation of ideas into visual forms. (F)

144A. Theater Sound Techniques (2 units). (Formerly numbered Theater Arts 144A.) Lecture, three hours; laboratory, two hours. Prerequisite: course 144A or an approved equivalent. A study of the equipment and techniques utilized in the recording and reproduction of sound for the theater. (Sp)

144B. Advanced Theater Sound. (Formerly numbered Theater Arts 144B.) Lecture, three hours; laboratory, four hours. Prerequisite: course 144A or an approved equivalent. A study of the equipment and techniques utilized in the recording and reproduction of sound for the theater. (Sp)

145. Costume Design for the Theater. (Formerly numbered Theater Arts 145.) Lecture/laboratory. Prerequisite: consent of instructor. Design of costumes for theatrical productions. The study of the use of silhouette, fabrics, color, and decoration as related to theatrical characterizations. May be repeated once for credit. (Sp)

146. Scene Painting Techniques (2 units). (Formerly numbered Theater Arts 146.) Lecture/laboratory. Prerequisite: consent of instructor. The translation of ideas into visual forms. Open for credit to students with credit for former course 146. The study of scenic painting techniques and their materials and their relation to the realization of color design and elevations. May be repeated once for credit. Concurrently scheduled with course C446.
149. Advanced Theater Laboratory (3 or 4 units). (Formerly numbered Theater Arts 171A.) Lecture, three hours. Prerequisite: consent of instructor. Study of selected subjects in design and technical theater. May be repeated twice for credit.

149A. Basic Drafting Techniques for the Stage (2 units). (Formerly numbered Theater Arts 149.) Lecture or laboratory, four hours. Prerequisite: course 10 or consent of instructor. Study of the basic skills and techniques of drafting for the stage through the execution of floor plans and elevation drawings.

149B. Advanced Theater Laboratory with Technical Theater. (Formerly numbered Theater Arts 149B.) Lecture/laboratory. Prerequisite: course 149A or consent of instructor. An advanced course in the technical sketching and drafting of working drawings essential in the development of the design of sets and properties for theater, television, and motion picture productions.

160. Fundamentals of Play Direction. (Formerly numbered Theater Arts 160.) Lecture/laboratory. Prerequisite: consent of instructor. Required of theater majors. Course 161A may be substituted for this requirement (if substituted, an additional two upper division units are required). Course 121 may be taken concurrently. Basic theories of play direction and their application, through the preparation of scenes under rehearsal conditions.

161A. Continuum in Directing for the Stage (2 units). (Formerly numbered Theater Arts 161A.) Lecture/laboratory, six hours. Prerequisite: consent of instructor. Course 121 may be taken concurrently. The intensive development of primary directing skills and process, including text analysis and the exploration of craft fundamentals as a basis for director-actor communication and effective staging. Students work in processional configurations with scenes drawn from plays of American realism. May be applied toward the major requirement in directing.

161B. Continuum in Directing for the Stage. (Formerly numbered Theater Arts 161B.) Lecture/laboratory, six hours. Prerequisite: course 160 or 161A, consent of instructor. Course 121 may be taken concurrently. The further development of craft elements of directorial method, with additional emphasis on the psychological aspects of director-actor communication. Students work in arena and processional configurations with scenes drawn from the period of early realism through expressionism.

161C. Continuum in Directing for the Stage (5 units). (Formerly numbered Theater Arts 161C.) Lecture/laboratory. Prerequisites: course 160, 161B, consent of instructor. Course 121 may be taken concurrently. Working in three-quarter and environmental configurations, student directors explore problems of style in production by staging scenes drawn from period plays (Greek through Romantic eras) and from contemporary, nonrealistic plays.

162A. Intermediate Play Direction. (Formerly numbered Theater Arts 162A.) Lecture/discussion, two hours; laboratory, eight hours. Prerequisites: course 160 or 161A, consent of instructor. The application of stage direction techniques to the one-act play. Each student directs a one-act play to be performed under rehearsal conditions. Material drawn from published sources.

162B. Advanced Play Direction. (Formerly numbered Theater Arts 162B.) Lecture, four hours; laboratory, six hours. Prerequisites: course 160 or 161A, consent of instructor. Special problems in the direction of original one-act plays or production conditions. May be repeated once for credit with consent of instructor.

170. Theater Laboratory. (Formerly numbered Theater Arts 170.) Lecture, four hours; laboratory, eight hours. Prerequisites: courses 140A, 141A, 142A, 143, consent of instructor. Required of theater majors. Laboratory in theater production under supervision. The translation of ideas and concepts into the dramatic form.

171A. Advanced Theater Laboratory (2 or 4 units). (Formerly numbered Theater Arts 171A.) Hours to be arranged. Prerequisite: consent of instructor. Creative participation as an actor or stage manager in the public presentation of departmental productions. May be taken for a maximum of four units. (Formerly numbered Theater Arts 171B.) Hours to be arranged. Prerequisite: consent of instructor. Creative participation in the realization of production elements related to the public presentation of departmental productions. May be taken for a maximum of four units.

172. Technical Theater Laboratory (2 units). (Formerly numbered Theater Arts 172.) Hours to be arranged. Prerequisite: consent of instructor. Requisites: two courses C272 and C472. Techniques of Stage Managing (2 units). (Formerly numbered Theater Arts 174.) The professional duties of the stage manager. The problems of unions, professional associations, organization, scheduling, out-of-town openings, Broadway openings, and the responsibilities of a lengthy run.

174. Techniques of Stage Managing (2 units). (Formerly numbered Theater Arts 174.) The professional duties of the stage manager. The problems of unions, professional associations, organization, scheduling, out-of-town openings, Broadway openings, and the responsibilities of a lengthy run.

C190A. The Role of the Producer in the Professional Theater (2 units). (Formerly numbered Theater Arts C190A.) Not open for credit to students with credit for former course 190A. A study of the structure governing the economic and artistic decision-making processes in the professional theater of America. Concurrently scheduled with course C294A.

C190B. The Role of Management in the Educational and Community Theater (2 units). (Formerly numbered Theater Arts C190B.) Not open for credit to students with credit for former course 190B. A study of the artistic, social, and economic criteria in the administration of educational and community theater. Concurrently scheduled with course C294B.

191. The Touring Company (2 to 12 units). (Formerly numbered Theater Arts 191.) Lecture, 20 hours; laboratory, 22 hours. Prerequisite: consent of instructor. Rehearsal and technical preparation of a theatrical work for touring and the performance of that work on tour.

199. Special Studies in Theater Arts (2 to 8 units). (Formerly numbered Theater Arts 199.) 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 on recommendation of the departmental graduate adviser. Graduate courses are not open to undergraduate students.

200. Bibliography and Methods of Research in Theater Arts. (Formerly numbered Theater Arts 200.)

202A. Seminar in Western Classical Theater. (Formerly numbered Theater Arts 202A.) Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Selected studies of traditional theater forms such as those indigenous to Greece, Nigeria, and other African nations and their diaspora (Haiti, Jamaica, and other areas of the Caribbean) through an examination of character, structure, performance modes, and archetypes. May be repeated twice for credit.

202B. Seminar in Medieval Theater. (Formerly numbered Theater Arts 202B.) Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Selected topics in the theater forms of Southeast Asia, including dramatic literature, costume, theater spaces, and critical writings. May be repeated twice for credit.

202C. Seminar in Renaissance and Baroque Theater. (Formerly numbered Theater Arts 202C.) 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 in Bourgeois and Romantic Theater. (Formerly numbered Theater Arts 202D.) 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 1700 to 1870. May be repeated twice for credit.

202E. Seminar on the Modern Consciousness in Theater. (Formerly numbered Theater Arts 202E.) Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Selected studies of the theater's response to science, technology, politics, and revolution. May be repeated twice for credit.

202F. Seminar in Modern Realism. (Formerly numbered Theater Arts 202F.) Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Study of the modern consciousness in the theater. May be repeated twice for credit.

202G. Seminar in Modern Theatricalism. (Formerly numbered Theater Arts 202G.) Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Selected studies in the development of theatrical production and dramatic writing in the American theater. May be repeated twice for credit.

202H. Seminar in American Theater. (Formerly numbered Theater Arts 202H.) Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Selected studies of the playhouse in American theater. May be repeated twice for credit.

202I. Seminar in Traditions of African Theater. (Formerly numbered Theater Arts 202I.) Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Selected studies of traditional theater forms such as those indigenous to Nigeria, Ghana, Nig- eria, and other African nations and their diaspora (Hai- ti, Jamaica, and other areas of the Caribbean) through an examination of character, structure, performance modes, and archetypes. May be repeated twice for credit.

202R. Seminar in East Asian Theater. (Formerly numbered Theater Arts 202R.) Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Selected topics in the theater forms of East Asia, including dramatic literature, costume, theater spaces, and critical writings. May be repeated twice for credit.

202S. Seminar in South Asian Theater. (Formerly numbered Theater Arts 202S.) Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Selected topics in the theater forms of South Asia, including dramatic literature, costume, theater spaces, and critical writings. May be repeated twice for credit.

202T. Seminar in Southeast Asian Theater. (Formerly numbered Theater Arts 202T.) Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Selected topics in the theater forms of Southeast Asia, including dramatic literature, costume, theater spaces, and critical writings. May be repeated twice for credit.
205A. The Background of Theatrical Art. (Formerly numbered Theater Arts 205A.) Discussion, three hours. Prerequisites: graduate standing, consent of instructor. A study of major plays, commentaries, and historical materials from the classical and medieval periods.

205B. The Background of Theatrical Art. (Formerly numbered Theater Arts 205B.) Discussion, three hours. Prerequisites: graduate standing, consent of instructor. A study of major plays, commentaries, and historical materials from the Renaissance, baroque, and rococo periods.

216A. Critical and Historical Methods. (Formerly numbered Theater Arts 216A.) Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Studies in the history and practice of the art of puppetry. An examination of the materials and methods of construction. May be repeated twice for credit.

216B. Critical Methods. (Formerly numbered Theater Arts 216B.) Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Critical and constructive study of dramatic techniques as employed by playwrights and screenwriters in select- ed scenes or complete plays. May be repeated twice for credit.

216C. Critical Methods. (Formerly numbered Theater Arts 216C.) Discussion, three hours. Prerequisites: graduate standing, consent of instructor. An approach and style in scenic design. Determination of approach and style in scenic design. May be repeated twice for credit.

217A. Research and Practice in Puppet Theater (2 units). (Formerly numbered Theater Arts C217A.) Laboratory, four hours. Prerequisites: graduate standing, consent of instructor. The history and practice of the art of puppetry. An examination of the materials and methods of construction. May be repeated twice for credit.

217B. Seminar in the Puppet Theater. (Formerly numbered Theater Arts M217B.) (Same as Folklore M219.) Lecture, three hours. Prerequisite: consent of instructor. Studies in the puppet theaters of the world: techniques, design, history, preparation, and research.

230A-230B-230C. Advanced Playwriting. (Formerly numbered Theater Arts 230A-230B-230C.) Lecture, three hours. Prerequisites: course 130A, graduate standing, consent of instructor. Guided completion of a full-length play or study and preparation for the writing of a thesis play.

232. Manuscript Analysis. (Formerly numbered Theater Arts 232.) Lecture, three hours. Prerequisites: graduate standing, consent of instructor. Critical and constructive study of dramatic techniques as employed by playwrights and screenwriters. Selections of contemporary work. May be repeated once for credit.

240. The Contemporary Playhouse. (Formerly numbered Theater Arts 240.) Discussion. Prerequisites: graduate standing, consent of instructor. Advanced study of the concept, form, and function of the contemporary playhouse and its equipment.

241. Research in Technical Theater. (Formerly numbered Theater Arts 241.) Prerequisites: graduate standing, consent of instructor. Advanced study and research in technical processes and equipment in theater.

243A-243B-243C. Advanced Problems in Design for the Theater. (Formerly numbered Theater Arts 243A-243B-243C.) Prerequisites: graduate standing, consent of instructor. Advanced study and practice in the design of stage productions. Determination of approach and style in scenic design.

244A. Advanced Theater Laboratory (2 or 4 units). (Formerly numbered Theater Arts 244A.) Laboratory, to be arranged. Prerequisites: graduate standing, consent of instructor. Creative participation as an assistant director, stage manager, or performer in the public presentation of departmental productions. May be repeated for credit.

244B. Advanced Theater Laboratory (2 or 4 units). (Formerly numbered Theater Arts 244B.) Laboratory, to be arranged. Prerequisites: graduate standing, consent of instructor. Creative participation in the realization of production elements related to the public presentation of departmental productions. May be taken for a maximum of four units.

245A-245B. Production Planning in Theater. (Formerly numbered Theater Arts 245A-245B.) Lecture, two hours; laboratory, two hours. Prerequisites: graduate standing, consent of instructor. Development of planning procedures through the execution of a complete plan for producing a multiscene production.

C272. Production and Performance Laboratory (2 units). (Formerly numbered Theater Arts C272.) Lecture, three hours: laboratory, to be arranged. Prerequisites: graduate standing, consent of instructor. Creative participation in the planning, preparation, and critique of scenes. Credit for creative production assignments required. Not open for credit to students with credit for former course 190A.

C273. The Background of Theatrical Art. (Formerly numbered Theater Arts C273.) Lecture, four hours. Prerequisites: graduate standing, consent of instructor. An analysis of major plays, commentaries, and historical materials from the Romantic, naturalistic, and symbolistic periods.

C274. Programming and Planning Policies in the Theater. (Formerly numbered Theater Arts C274.) Prerequisite: consent of instructor. An analysis of the social, artistic, and economic roles of the arts as reflected in programming policy. An examination of the social goals pursued in establishing relationships between the arts and their environment.

C294A. Artistic Control of Theatrical Production by the Professional Producer (2 units). (Formerly numbered Theater Arts 294A.) Prerequisite: consent of instructor. A study of the artistic, social, and economic criteria in the administration of educational and community theater, with research in the history of current practices in administration, and organization. Concurrently scheduled with course C190B.

C294B. The Organization and Operation of Community Theater (2 units). (Formerly numbered Theater Arts C294B.) Prerequisites: graduate standing, consent of instructor. Not open for credit to students with credit for former course 190A. A study of the structure governing the economic and artistic decision-making processes in the professional theater. Development of the role of the artistic director in the total in- volvement of the producer in the artistic process. Concurrently scheduled with course C190A.

C417. Production Project for the Puppet Theater (8 units). (Formerly numbered Theater Arts 417.) Laboratory, 30 hours: consultation, five hours. Prerequisites: consent of instructor. Limited to M.F.A. candidates. The design, construction, and performance of a full-length production with puppets as the culminating exercise for candidates for the M.F.A. degree in puppet theater. Students are expected to present the full arrangement of the design and techniques used in the construction of the puppets, the rationale for the use of puppets for the particular project presented, and a final justification and analysis of the completed work.

C418. Advanced Techniques in Acting. (Formerly numbered Theater Arts 418.) Prerequisite: consent of instructor. Limited to M.F.A. acting candidates in theater. Exercises in sense memory, personalization, and objectives to help students respond truthfully to real and imaginary situations. Development of concentration, awareness, imagination, and spontaneity.

C421B. Advanced Projects in Acting (4 or 8 units). (Formerly numbered Theater Arts 421B.) Lecture/laboratory, six hours. Prerequisite: consent of instructor. Limited to M.F.A. acting candidates in theater. Preparation and presentation of two-person scenes utilizing selected scenes and "objectives" on a more refined basis. Students are able to find the similarities and differences between themselves and the characters and to play these elements truthfully and spontaneously.

C421C. Advanced Projects in Acting (4 or 8 units). (Formerly numbered Theater Arts 421C.) Lecture/laboratory, six hours. Prerequisite: consent of instructor. Limited to M.F.A. acting candidates in theater. Preparation, presentation, and critique of scenes. Systematic role analysis and exercises in acting.

C424A-424B-424C. Advanced Techniques in Voice for the Stage (2 units each). (Formerly numbered Theater Arts 424A-424B-424C.) Prerequisite: consent of instructor. Limited to M.F.A. acting candidates in theater. Development of voice techniques for the stage, including work on relaxation, breathing, articulation, and resonan- ce. All units may be taken for credit.


C425A-425B-425C. Advanced Techniques in Movement for the Stage (2 units each). (Formerly numbered Theater Arts 425A-425B-425C.) Lecture/laboratory, six hours. Prerequisite: consent of instructor. Limited to M.F.A. acting candidates in theater. Development of an awareness of space and time. Instruction in the utilization of the body, relaxation, gymnastics (balance, falls, stunts), movement techniques, and spontaneity.

C425D-425E-425F. Special Problems in Movement for the Actor (2 units each). (Formerly numbered Theater Arts 425D-425E-425F.) Lecture/laboratory. Prerequisite: consent of instructor. Limited to M.F.A. acting candidates in theater. Development of an awareness of space and time. Instruction in the utilization of the body, relaxation, gymnastics (balance, falls, stunts), movement techniques, and spontaneity.

432. Manuscript Evaluation. (Formerly numbered Theater Arts 432.) Lecture, four hours; laboratory, to be arranged. Prerequisites: course 132 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 Motion Picture/Television 104A. May be taken twice for credit (once each year of M.F.A. residence).

442A-442B-442C. Advanced Problems in Costume Design. (Formerly numbered Theater Arts 442A-442B-442C.) Lecture, to be arranged. Prerequisites: consent of instructor. Limited to M.F.A. candidates. Study of costume design for theatrical productions. Development of costume designs from theatrical scripts, with emphasis on production styles and character revelation. The scripts vary in period and style to give design practice in the major costume periods and artistic styles.

443. Problems in Design (2 or 4 units). (Formerly numbered Theater Arts 443.) Lecture/laboratory, four hours (additional hours as required). Prerequisite: consent of instructor. Study and practice in design techniques for the theater. May be repeated for a maximum of 12 units.

444. The Development of Costume Design Construction Technologies for Theater. (Formerly numbered Theater Arts 444.) Discussion, two hours; laboratory, two hours. Prerequisite: consent of instructor. Limited to M.F.A. candidates. A study of the effect of artistic and stylistic ideas on the mode and dress of men and women. May be repeated twice for credit.

C446. Research and Practice in Scene Painting Techniques (2 units). (Formerly numbered Theater Arts C446.) Lecture/laboratory, three hours. Prerequisites: graduate standing, consent of instructor. Not open to students with credit for former course 146. The study of scenic painting techniques and materials and their relationship to the realization of color design and elevations. Concurrently scheduled with course 146B. Each graduate student (1) researches a new painting method or technique and (2) solves a specific scenic problem or examines a particular period. The result is a theatrical scene painting project relating to that research.

450A. Problems in Advanced Direction for the Stage. (Formerly numbered Theater Arts 450A.) Lecture, to be arranged. Prerequisite: consent of instructor. Limited to M.F.A. candidates. Preparation and presentation of a professional play or equivalent under rehearsal conditions. Discussion and critique of work in progress.

450B. Problems in Advanced Direction for the Stage. (Formerly numbered Theater Arts 450B.) Lecture, to be arranged. Prerequisite: consent of instructor. Limited to M.F.A. candidates. Preparation and presentation of a published play under rehearsal conditions. Discussion and critique of work in progress.

450C. Problems in Advanced Direction for the Stage. (Formerly numbered Theater Arts 450C.) Lecture, to be arranged. Prerequisite: consent of instructor. Limited to M.F.A. candidates. Preparation and presentation of a full-length original play under rehearsal conditions. Discussion and critique of work in progress.

462. Production Project in Direction for the Stage (4 or 8 units). (Formerly numbered Theater Arts 462.) Lecture, to be arranged. Prerequisite: consent of instructor. Limited to M.F.A. candidates. Preparation and presentation of a professional play or equivalent under minimal production conditions. Discussion and critique of work in progress.

463. Production Project in Direction for the Stage (8 or 12 units). (Formerly numbered Theater Arts 463.) Lecture, to be arranged. Prerequisite: consent of instructor. Limited to M.F.A. candidates. Preparation and presentation of a play under fully produced theater conditions.

C472. Production and Performance Laboratory (2 or 4 units). (Formerly numbered Theater Arts C472.) Laboratory, to be arranged. Prerequisites: M.A. candidate, consent of instructor. Credit for creative production projects required of all M.F.A. students. May be repeated for a maximum of 12 units. Concurrent registration with courses 142 and 462.

495A. Problems in the Teaching of Theater Arts (2 or 4 units). (Formerly numbered Theater Arts 495A.) Lecture/laboratory, to be arranged. Prerequisites: graduate standing, consent of instructor. Study of and practice in the teaching of theater arts at the college and university level.

495B. Problems in the Teaching of Theater Arts (2 or 4 units). (Formerly numbered Theater Arts 495B.) Laboratory, to be arranged. Prerequisites: graduate standing, consent of instructor. Not open for credit to students with credit for former courses 495C-495D. 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. The Practice of Teaching Theater Arts (2 units). (Formerly numbered Theater Arts 496.) Discussion. Required once of all teaching assistants or associates in the department. Orientation and preparation of graduate students who have the responsibility to assist in the teaching of undergraduate courses in the department; discussion of problems common to the teaching experience. May not be applied to the M.A., M.F.A., or Ph.D. May be repeated. S/U grading.

498. Professional Internship in Theater Arts (4, 8, or 12 units). (Formerly numbered Theater Arts 498.) Full- or part-time at a studio or a professional project. Prerequisites: graduate standing, advanced standing in M.F.A. program, consent of instructor. An internship at various film, television, or theater facilities accentuating the creative contribution, the organization, and the work of professionals in their various specialties. Given only when projects can be scheduled.

501. Cooperative Program (2 to 8 units). (Formerly numbered Theater Arts 501.) Prerequisite: consent of graduate advisor and graduate dean. Open to campus, department chair, and graduate dean. Course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

594A. Directed Individual Studies: Research (2 to 12 units). (Formerly numbered Theater Arts 594A.) Hours to be arranged. Prerequisite: graduate standing. May be repeated with consent of instructor.

594B. Directed Individual Studies: Writing (2 to 12 units). (Formerly numbered Theater Arts 594B.) Hours to be arranged. Prerequisite: graduate standing. May be repeated with consent of instructor.

594C. Directed Individual Studies: Directing (2 to 12 units). (Formerly numbered Theater Arts 594C.) Hours to be arranged. Prerequisite: graduate standing. May be repeated with consent of instructor.

594D. Directed Individual Studies: Design (2 to 12 units). (Formerly numbered Theater Arts 594D.) Hours to be arranged. Prerequisite: graduate standing. May be repeated with consent of instructor.

594E. Directed Individual Studies: Acting (2 to 12 units). (Formerly numbered Theater Arts 594E.) Hours to be arranged. Prerequisite: graduate standing. May be repeated with consent of instructor.

594F. Directed Individual Studies: Production (2 to 12 units). (Formerly numbered Theater Arts 594F.) 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). (Formerly numbered Theater Arts 597.) May be repeated for a maximum of 12 units.

598. M.A. Thesis in Theater Arts (2 to 8 units). (Formerly numbered Theater Arts 598.) 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). (Formerly numbered Theater Arts 599.) 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 142. 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. The Drama, 1842-1945
Humanities 1A, 1B, 1C. World Literature
Italian 46. Italian Cinema and Culture
121. Italian Cinema
122. The Italian Theater
Music 135A-135B-135C. History of the Opera

World Arts and Cultures (Interdepartmental)

118 Men's Gym, (213) 206-1342

Professors

Elise Dunin, M.A. (Dance)
Robert A. Georges, Ph.D. (English, Folklore and Mythology)
William R. Hutchinson, Ph.D. (Music), Music Concentration Adviser
Michael O. Jones, Ph.D. (History, Folklore and Mythology)
Jacques Maquet, Ph.D. (Anthropology)
James W. Porter, M.A. (Music, Folklore and Mythology)
Allegre Snyder, M.A. (Dance)
Melvin B. Heilsten, Ph.D., Emeritus (Theater, Film, and Television)

Associate Professors

Judy Mitoma, M.A. (Dance), Chair and Dance Concentration Adviser
Joseph F. Nagy, Ph.D. (English, Folklore and Mythology)
Philip L. Newman, Ph.D. (Anthropology), Anthropology Concentration Adviser
A. Jihad Racy, Ph.D. (Music)
Arnold Rubin, Ph.D. (Art History)

Assistant Professors

Robert L. Brown, Ph.D. (Art History), Art History Concentration Adviser
Patricia M. Harper, Ph.D. (Theater, Film, and Television)
Beverly J. Robinson, Ph.D. (Theater, Film, and Television)
Carol J. Sorgenfrei, Ph.D. (Theater, Film, and Television)
Visiting Lecturer
Romulus E. Zamora, M.F.A. (Theater, Film, and Television)

Scope and Objectives

The interdisciplinary major in world arts and cultures (formerly ethnic arts) is available to students in both the College of Fine 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 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. Techniques of inquiry and analysis are drawn from both fine 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 to these resources, the program utilizes UCLA’s opportunities for participation in the aesthetic process in relation to ethnic dance, music, and theater.

Bachelor of Arts Degree

The major includes a core of seven courses (28 units) from anthropology, art, dance, folklore and mythology, music, and theater, film, and television; a concentration consisting of 36 units in one of these six disciplines; a senior colloquium; and three upper division elective courses (12 units).

Foreign Language Requirement

One year of a college-level foreign language is required in both the College of Fine Arts and the College of Letters and Science. All courses in foreign language, except foreign literature in English translation, may be applied toward this requirement.

If you plan to take the music concentration, you are advised to select French, German, or Italian.

General College Requirements

You must satisfy the general college requirements (other than foreign language) of your college (Fine Arts or Letters and Science) regardless of the department in which your concentration is located.

If you wish to confer with a counselor regarding program planning and major requirements, contact Wendy Urfrig at 825-8537 or 825-3951.

The Major

The following courses are required:

(1) A core of seven interdepartmental courses (28 units): Dance 70, 80A-80B, Folklore 15 or 101, Music 5A-5B-5C (5C is not required for the music concentration; two additional units are added within the concentration), Theater 102E, Anthropology 5, and Art History 55 or 56.

(2) A concentration of nine courses in one of the following areas (you must declare a concentration by the beginning of your junior year):

- Anthropology: Courses 44 or 133R, 130, 150, 160, and any five upper division courses from 110 through 186B, including one area course from 171 through 177.


- Dance: Courses 25B, 134A, 134B, 180A-180B; group A: two courses from 181A, 182A, 187A; group B: one course from 181B, 181C, 181D, 183A, 184B; group C: three two-unit courses from 171B through 176B (including one course each from Western and non-Western cultures; note that courses 71B through 76B are prerequisites for 171 through 176B).

- Folklore and Mythology: Course 172; group A: one course from M111, 118, M180; group B: two courses from CM106, M123B, 124, M181, Classics 161, 168; group C: five courses from Folklore M112, M121, M122, M123A, M125, M126, M127, M128, M129, 130, 131, M149, M150, 190, German 134.


Students considering graduate study in ethnomusicology are strongly advised to select the theory option.


(3) World Arts and Cultures 190A-190B.

(4) Three elective courses which may be selected from the list below (other courses might also be appropriate). In order to meet degree requirements, the electives must be related to the major and approved by the concentration adviser. The three courses selected to meet this requirement must be upper division courses from three areas outside the area of concentration.

Upper Division Courses

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 content from the six disciplines of the major. Lecture/seminar format with the World Arts and Cultures faculty during first quarter; topics include the arts in a societal context, ethnicity and the individual, and problems and approaches to fieldwork. Faculty-directed individual projects during second quarter. Fieldwork on some aspect of the various arts expressive behaviors found in the ethnic communities of Los Angeles. In Progress grading. (W,Sp)

Upper Division Electives

Anthropology 118A, 118B. Museum Studies
133R. Aesthetic Anthropology
135Q. The Individual in Culture
137. Ethnography on Film
154. Principles of Social Structure
185. History of Social Anthropology
Art History (Art, Design, and Art History) 101A, 101B, 101C. Egyptian Art and Archaeology
102. Art of the Ancient Near East
103A. Greek Art
103B. Hellenistic Art
103C. Roman Art
103D. Etruscan Art
103E. Late Roman Art
104A. Western Islamic Art
104B. Eastern Islamic Art
C104C. Problems in Islamic Art
114A. The Early Art of India
114B. Chinese Art
114C. Japanese Art
114D. The Later Art of India
C115A. Advanced Indian Art
C115B. Advanced Chinese Art
C115C. Advanced Japanese Art
C117A, C117B, C117C. Advanced Studies in Pre-Columbian Art
118A. The Arts of Oceanica
118B. The Arts of Pre-Columbian America
118C. The Arts of Sub-Saharan Africa
118D. The Arts of Native North America
C119A. Advanced Studies in African Art: Western Africa
C119B. Advanced Studies in African Art: Central Africa
Classics 161. Introduction to Classical Mythology
168. Introduction to Comparative Mythology
Dance 123A. Anatomy for the Dancer
123B. Applied Principles of Conditioning and Correctives for the Dancer
123C. Projects in Dance Kinesiology
126. Advanced Labanotation
132A-132B. Philosophical Bases and Trends in Dance
134A. History of Dance in Western Culture, Origins to 1600
134B. History of Dance in Western Culture, 1600 to the Present
152. Dance as Culture in Education
171B. Dance of Indonesia
171D. Dance of India
172B. Dance of Ghana
173B. Dance of Mexico
174B. Dance of Yugoslavia
174C. Dance of Spain
176B. Dance of Israel (courses 71B through 76B are prerequisites for 171B through 176B)

181A. Dance Cultures of Asia
181B. Dance in Southeast Asia
181C. Dance in East Asia
181D. Dance in South Asia
182A. Dance Cultures of Africa
183A. Dance in Latin America
184B. Dance in the Balkans
187A. Dance Cultures of Native American Indians

East Asian Languages and Cultures
135. Buddhist Themes in Asian Literature
140A-140B-140C. Chinese Literature in Translation
141A-141B. Japanese Literature in Translation

170A-170B. Archaeology in Early and Modern China
172. Introduction to Buddhism
173. Chinese Buddhism
174. Japanese Buddhism
183. Introduction to Chinese Thought
184. Introduction to Japanese Thought
189. Chinese Brush Painting

English M104A. Early Afro-American Literature
M104B. Afro-American Literature since the 1920s
Folklore and Mythology CM106. Anglo-American Folk Song
108. Afro-American Folklore and Culture
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An engineering education provides unusual opportunities for solving problems of major concern to our society. Technology is a dominant cause of change, including social change, and modern engineering is more than an identifiable body of science-based knowledge; it is a cogent point of view and approach to solving problems of great significance, as well.

The UCLA School of Engineering and Applied Science, although young by University standards, now ranks among the top engineering schools in the country in terms of the quality of instruction and the research contributions of its faculty. Its goal is an education that will allow graduates to practice the profession at the highest level and to move into new and still-to-be-discovered technical areas with confidence and ability. Included in this goal is preparation for graduate study. By the year 2000, it is anticipated that the majority of practicing engineers will have advanced degrees in engineering, and that many more individuals with an undergraduate education in engineering will be practicing medicine, dentistry, and law.

The six departments within the school serve as centers of activity for study and research in traditional as well as pace-setting engineering disciplines. By utilizing the resources of one or more departments, all students, undergraduate and graduate alike, are able to prepare for a wide range of professional careers in government, academia, and industry, including aerospace, computers, electrical and electronics, metal products, mining, machinery and manufacturing, chemicals and petroleum, utilities, and construction.

Photo: Dye laser beams are inspected in the millimeter wave laboratory of the Electrical Engineering Department, where research bears on the development of very high-frequency communications.
School of Engineering and Applied Science

Office of Student Affairs:
6426 Boelter Hall
Graduate: (213) 825-2682
Undergraduate: (213) 825-2826

Bachelor of Science Degrees

Students in the School of Engineering and Applied Science may elect one of the eight 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 and Engineering
5. Bachelor of Science in Electrical Engineering
6. Bachelor of Science in Engineering with a specialization in bioengineering*
7. Bachelor of Science in Materials Engineering
8. Bachelor of Science in Mechanical Engineering

*This is an interdepartmental program described under "Schoolwide Programs, Courses, and Faculty" at the end of the departmental listings.

The school offers instruction in acoustical engineering, aerospace engineering, applied plasma physics and fusion engineering, bioengineering, ceramic engineering, chemical engineering, civil engineering, computer engineering, control systems engineering, earthquake engineering, electrical and electronics engineering, general engineering, environmental engineering, fluid mechanics, geotechnical engineering, information and communications theory, manufacturing engineering, materials science, mechanical engineering, metallurgy, nuclear engineering, soil mechanics, solid mechanics, structural engineering, systems science, and water resources.

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. In the future, entrance to the school may be based on the results of a further examination of grades and test scores.

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 quarters (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 ....................... ½ year
- Chemistry and physics
  - with laboratory ................... 2 years

It is also highly recommended that you take a course in technical drafting while in high school.

Freshman applicants whose entire secondary schooling was outside the United States must pass, with satisfactory scores, the College Board Scholastic Aptitude Test (verbal and mathematics sections) and Achievement Examinations in English composition, physics, and mathematics before a letter of admission to engineering can be issued. Arrangements to take the tests in another country should be made directly with the College Board, 1947 Center Street, Berkeley, CA 94704. Test scores should be forwarded to UCLA.

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-fourth courses in chemistry, equivalent to UCLA's Chemistry 11A, 11B/11BL (chemistry is not a requirement for the computer science and engineering degree; the chemical engineering curriculum also requires Chemistry 11C/11CL, 21, 23, 25);
2. Six courses in mathematics, equivalent to UCLA's Mathematics 31A, 31B, 32A, 32B, 33A, 33B;
3. Four courses in physics, equivalent to UCLA's Physics 8A, 8B, 8C, 8D, and Physics Laboratory courses (8AL, 8BL, 8CL, 8DL), depending on curriculum selected.

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 University Exten-

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sion, 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 and Engineering, Electrical Engineering, Engineering, Materials Engineering, and Mechanical Engineering consist of completing the minimum number of required units (from 185 to 201 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 Requirements
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. In addition, a 2.0 minimum grade-point average in upper division mathematics, upper division core courses, and the major field is required for graduation.

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; advisers in the Office of 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 disciplinary action. You may not enroll in more than 18 units per quarter unless an Excess Unit Petition is approved in advance by the dean.

You must maintain 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 or 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 may be applied toward the bachelor’s degree for Chemistry 2 or its equivalent after one year of high school chemistry has been completed with a grade of C or better.

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 IV, PASCAL, or PL/1, satisfies the Computer Science 10 requirement. Many sophomore courses in circuit analysis, strength of materials, and properties of materials may satisfy Electrical Engineering 100, Civil Engineering 108, and Materials Science and Engineering 14 requirements respectively. Check with the Office of Student Affairs.

Curricular Requirements
The curricula for the bachelor’s degrees include the following categories, depending on curriculum selected:

(1) Three free elective courses (12 units) may be selected in some major/major field pro-
grams (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, certain remedial courses, and special courses designated by the school and posted in the Office of Student Affairs. However, in programs which include free elective units, it is strongly recommended that you select additional technical courses for some of these units.

(2) Six or seven humanities, social sciences, and/or fine arts courses (24 to 28 units) to be selected from an approved list. At least three (12 units) must be upper division courses.

To provide some depth, at least three courses (12 units) must be in the same academic department or must otherwise reflect coherence in subject matter. This group must contain at least two upper division courses.

In most cases, courses intended primarily to develop specific skills should be avoided except when the particular "skill" course is prerequisite to another upper division course strictly in the humanities or social sciences (e.g., foreign language and literature courses taught in the language). A list of courses which are normally acceptable individually as humanities-social sciences-fine arts electives is available in the Office of Student Affairs.

(3) One course in engineering and science in society (four units). One of the humanities-social sciences-fine arts courses or one of the free electives must deal primarily with engineering and science in society in the 100, 200, or 596 series (to be selected from an approved list).

(4) One life science course (four units) to be selected from an approved list.

(5) One mathematics course (four upper division units; computer science and engineering requires three courses — 12 upper division units); see curricula in individual departments for approved courses to fulfill this requirement.

(6) Engineering core courses, ranging from five to eight courses (20 to 32 units) depending on curriculum selected.

(7) Twelve to 16 courses (48 to 64 units) of upper division engineering major/major field courses, depending on curriculum followed.

(8) The engineering design content of your program must total at least one half-year of design experience.

(9) 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 posted in the Office of Student Affairs.

The aerospace engineering, chemical engineering, civil engineering, electrical engineering, engineering, materials engineering, and mechanical engineering curricula are accredited by the Accreditation Board for Engineering and Technology, Inc. (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 engineering adviser. After the first quarter, curricular and career advising is accomplished on a formal basis. You are urged to select a faculty adviser as soon as possible, preferably at the beginning of your sophomore year.

You may use the curriculum in effect when you begin full-time continuous study in engineering at UCLA, or you may select the curriculum in the UCLA General Catalog in effect at graduation. 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.

Attend the Junior Conference conducted by the School of Engineering and Applied Science to help you plan your curriculum. The conference usually is held during the fourth week of each quarter. For time and place, consult the Office of Student Affairs.

The Elective Selection form approved by the faculty adviser must be submitted for approval by the Associate Dean, Student Affairs, Office of Student Affairs, during the third quarter of the sophomore year. The deadline is announced each term in the school's Undergraduate Enrollment Instructions brochure.

Members of the Office of Student Affairs staff 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 quarter 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 quarter. Only humanities-social sciences-fine arts and free electives may be taken on a Passed/Not Passed basis. For more details on P/NP grading, see "Units and Grading Policy" in Chapter 4.

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 with the Bachelor's Degree

Students who have achieved scholastic distinction may be awarded the bachelor's degree with honors. Students eligible for honors at graduation must have completed 90 or more units (for a letter grade) at the University of California and must have attained a grade-point average which places them in the top five percent of the school for Summa cum laude, the next five percent for Magna cum laude, and the next 10 percent for Cum laude.

Based on grades achieved in upper division courses, an engineering student should have a 3.8 grade-point average for Summa cum laude, a 3.634 for Magna cum laude, and a 3.484 for Cum laude. For all designations of honors, you must have a minimum 3.25 grade-point average in your major field elective 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."

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 21 percent of the undergraduate and 11 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) has established a UCLA student chapter which sponsors field trips and engineering-related speakers (often professional women) to intro-
duce the various options available to women engineers. The UCLA chapter of SWE, in conjunction with other Los Angeles schools, also publishes an annual resume book to aid women students in finding jobs.

**Continuing Education**
Continuing Education in Engineering is under the academic leadership of the School of Engineering and Applied Science and is managed by UCLA Extension. The department offers evening classes, short courses, special programs, and in-plant training in education. The Extension Office (637 UNEX, 10995 Le Conte Avenue, 825-4100) is open Monday through Friday.

**Graduate Study**

**Admission**
In addition to meeting the requirements of the Graduate Division, applicants for the graduate engineering programs are required to take the General Test and Subject Test of the Graduate Record Examination (GRE) 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.

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. Exceptional students with research experience and strong evidence of creativity may petition to proceed to candidacy for the Ph.D. degree without the M.S. degree.

Graduate students without adequate preparation may be admitted provisionally and may be required to take certain remedial 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 students, refer to "Graduate Admission" in Chapter 3.

Admission forms, including a departmental supplement to the application, may be obtained by writing to the department in which you are interested, School of Engineering and Applied Science, UCLA, Los Angeles, CA 90024.

**Undergraduate Courses**

Individual departments within the School of Engineering 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 at the M.S. level parallel those listed below for the Ph.D. program. You are free, however, to propose to the school any other field of study, with the support of your adviser.

**Course Requirements**
A total of nine courses is required for the M.S. degrees, including a minimum of five graduate courses. No specific courses are required, but the majority of the total formal course requirement and a majority of the graduate course requirement must consist of courses in the School of Engineering. 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 lying 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 quarter, is required in written form only. Your comprehensive examining committee may conduct an oral or written examination. In case of failure, you may be reexamined once with the consent of your departmental graduate adviser.

**Engineer Degree**

**Admission**
In addition to the University minimum requirements, the following are required for the M.Engr. degree: (1) five years of responsible full-time professional experience in engineering; (2) some formal study in statistics; (3) the Graduate Management Admission Test (GMAT) or the Aptitude and Advanced Tests of the Graduate Record Examination (GRE) in Engineering, Mathematics, or a related field. A screening interview with the coordinator of the Engineering Executive Program may be required.

The School of Engineering and Applied Science has a supplement to the Application for Admission which may be obtained from the Engineering Executive Program, School of Engineering and Applied Science, 6722 Boelter Hall, UCLA, Los Angeles, CA 90024.

**Major Field or Subdiscipline**

**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 and orientation 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 on the way to the Ph.D. degree; similarly, a student in the Engineer degree program may continue for 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 Engineering Department: Earthquake engineering, soil mechanics, structures, water resource systems engineering.
Computer Science Department: Computer methodology (dynamic systems modeling and optimization, machine intelligence, physical systems), computer network modeling and analysis, computer science theory, computer system architecture, programming languages and systems (software systems).
Electrical Engineering Department: Applied plasma physics and fusion engineering, circuits, communications and telecommunications engineering, control systems, electromagnetics, operations research, quantum electronics, solid-state electronics.
Materials Science and Engineering Department: Ceramics and ceramic processing, mechanical metallurgy and deformation processing, physical metallurgy and metal processing, science of materials.
Mechanical, Aerospace, and Nuclear Engineering Department: Applied dynamic systems control, applied plasma physics and fusion engineering, dynamics, fluid mechanics, heat and mass transfer, manufacturing engineering, nuclear science and engineering, and structural and solid mechanics.
Schoolwide Program: Bioengineering.

Qualifying Examinations
All candidates must fulfill the minimum requirements of the Graduate Division (see "Requirements for Graduate Degrees" in Chapter 3). For further information, contact the individual departments.

Final Oral Examination
All candidates must fulfill the minimum requirements of the Graduate Division (see "Requirements for Graduate Degrees" in Chapter 3). For further information, contact the individual departments.

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.

Scope and Objectives
The Department of Chemical Engineering conducts active undergraduate and graduate programs of teaching and research in the areas of thermodynamics, mass transfer, complex mixture engineering and catalysis, electrochemistry and corrosion, combustion science, spectroscopy of complex systems, cryogenics and low-temperature processes, biochemical and biomedical engineering, computer-aided design, 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.

Bachelor of Science in Chemical Engineering
The goal of the chemical engineering curriculum is to provide a high quality, professionally oriented education in modern chemical engineering. Balance is sought between design and science.

The Major
Course requirements are as follows (186 minimum units required):


Chemical Engineering

5405 Boelter Hall, (213) 825-2046, 825-2491

Professors
Traugott H.K. Frederking, Ph.D.
Sheldon K. Friedlander, Ph.D. (Ralph M. Parsons Professor of Chemical Engineering), Chair
Eldon L. Knuth, Ph.D.
Ken Nobe, Ph.D.
Lawrence B. Robinson, Ph.D., Associate Dean
William D. van Vorst, Ph.D.
A.R. Frank Wazzan, Ph.D., Acting Dean
F. Eugene Yales, M.D. (Crump Professor of Medical Engineering)
(2) Chemical Engineering 137, 137A, 137B, 137C, 137D, 137E (satisfies the engineering economics requirement), 137F, 138, 139A, 139B (satisfies the laboratory requirement); M192A (satisfies the mathematics requirement); Chemistry 113A, 114.

(3) Two elective courses from Chemical Engineering 130A, 138A, 138B, 138C, 138E (other courses in engineering, mathematics, and the sciences may be selected in consultation with your adviser), and one upper division chemistry elective course (except Chemistry 110A) selected in consultation with your adviser.

(4) English 3: Chemistry 11A, 11B/11BL, 11C/11CL, 21, 23, 25 (satisfies the life science requirement); Computer Science 10C or 10F; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 8A, 8B, 8C, 8D.

(5) Six courses from the humanities, social sciences, and/or fine arts approved list (at least three must be upper division; at least three — with two upper division — must be in the same academic department or otherwise reflect coherence with respect to subject matter; and one must satisfy the engineering and science in society requirement).

Graduate Study

For information on graduate admission to the chemical engineering program and requirements for the M.S. and Ph.D. degrees, see "Graduate Study" at the beginning of this chapter.

Upper Division Courses

M105A. Introduction to Engineering Thermodynamics. (Formerly numbered Engineering 105A.) (Same as Mechanical, Aerospace, and Nuclear Engineering M105A.) Lecture, four hours; recitation, one hour. Prerequisites: Physics 8B, Mathematics 32B. Phenomenological thermodynamics. Concepts of equilibrium, temperature, and reversibility. First law and concept of energy; second law and concept of entropy. Equations of state and thermodynamic properties. Engineering applications of these topics in the analysis and design of closed and open systems. Mr. Knuth, Mr. Robinson, Mr. Van Vorst (F, W, Sp).

M105D. Transport Phenomena. (Formerly numbered Engineering 105D.) (Same as Mechanical, Aerospace, and Nuclear Engineering M105D.) Lecture, four hours; recitation, one hour. Prerequisites: Physics 8B, Mathematics 32B, 33A. Transport phenomena; heat conduction, mass species diffusion, convective heat and mass transfer, and radiation. Engineering applications in thermal and environmental control. Mr. Vilker (W, Sp).

130A. Introduction to Statistical Thermodynamics. (Formerly numbered Engineering 130A). Prerequisites: course M105A. Calculations of expected values and variances of thermodynamic functions for perfect monatomic gas, Einstein monatomic crystal, photon gas, electron gas in a metal, perfect absorbed gas, perfect diatomic gas, and Debye monatomic crystal. Calculations of gross emission rates from surfaces. Mr. Knuth (F).

137. Introduction to Chemical Engineering. (Formerly numbered Engineering 137.) Prerequisites: Mathematics 32B (may be taken concurrently). Chemistry 11C/11CL, Physics 8B. Introduction to the analysis and design of industrial chemical processes. Material and energy balances. Mr. Allen (F).

137A. Chemical Engineering Thermodynamics. (Formerly numbered Engineering 137A). Prerequisites: course 137. Thermodynamic properties of pure substances and solutions. Phase equilibrium. Chemical reaction equilibrium. Mr. Nobe (W).

137B. Chemical Engineering Diffusional Processes. (Formerly numbered Engineering 137B.) Prerequisites: courses M105D, 137, 137A. Brownian motion, fluxes according to irreversible thermodynamics; osmotic pressure, membrane transport, facilitated transport; convective diffusion, concentration boundary layers, turbulent diffusion. The fundamentals illustrated by applications to separation processes, gas cleaning, and blood oxygenation. Mr. Friedlander (Sp).

137C. Chemical Engineering Separation Operations. (Formerly numbered Engineering 137C.) Prerequisites: courses M105D, 137, 137A. Application of the principles of heat, mass, and momentum transport to the design of industrial chemical processes such as distillation, gas absorption, filtration, and reverse osmosis. Mr. Van Vorst (Sp).

137D. Chemical Engineering Kinetics. (Formerly numbered Engineering 137D.) Prerequisites: courses M105D, 137, 137A. Fundamentals of chemical kinetics and catalysis. Introduction to the analysis and design of homogeneous and heterogeneous chemical reactors. Mr. Smith (F).

137E. Chemical Process Economics and Synthesis. ( Formerly numbered Engineering 137E.) Prerequisites: courses 137C, 137D, 139A, 139B (latter may be taken concurrently). Integration of chemical engineering fundamentals such as transport phenomena, thermodynamics, separation operations, and reaction engineering and simple economic principles for the purpose of designing chemical processes and evaluating alternatives. Mr. Van Vorst (W).

137F. Chemical Process Computer-Aided Design and Analysis. Prerequisites: Courses 137C, 137D, 137E, Computer Science 10F. An introduction to the application of some of the mathematical and computing methods to chemical engineering design problems; the use of simulation programs as an automated method of performing steady state material and energy balance calculations. Mr. Cohen, Mr. Friedlander (Sp).


138B. Chemical Engineering Polymer Processes. (Formerly numbered Engineering 138B.) Prerequisites: Mechanical, Aerospace, and Nuclear Engineering 132 and Chemical Engineering 137 and 137A. Polymer processing and reactor design. Chemical or physical science. Formation of polymers, criteria for selecting a reaction scheme, polymerization techniques. Polymer characterization. Mechanical properties. Rheology of macromolecules: modeling and experimental methods to characterize non-Newtonian fluids. Polymer process engineering. Mr. Cohen (F).

138C. Chemical Engineering Pollution Technology. Prerequisites: Courses 137C, 137D, 137F or equivalent. Integration of chemical engineering fundamentals such as transport phenomena and chemical kinetics with environmental pollution concerns for the purpose of designing control devices and analyzing the fate of pollutants in the environment. Mr. Cohen, Mr. Friedlander, Mr. Vilker (W).

138E. Fundamentals of Corrosion. (Formerly numbered Engineering 138E.) Prerequisites: courses M105A, and 137A or Materials Science and Engineering 141. The fundamentals of electrochemistry pertinent to metallic corrosion. Primary emphasis on the fundamentals approach in consideration of complex corrosion processes. Specific topics include pitting, crevice corrosion, stress corrosion, hydrogen embrittlement, and corrosion control. Mr. Nobe (Sp).

139A. Introductory Chemical Engineering Laboratory. (Formerly numbered 139AC.) Laboratory, eight hours. Prerequisites: courses M105A, M105D, 137A, 137C, and Mechanical, Aerospace, and Nuclear Engineering 103, or consent of instructor. Basic introductory laboratory experiments illustrating applications of the principles of thermodynamics, chemical kinetics, and transport phenomena to practical systems such as transport phenomena of heat transfer, fluid flow, chemical thermodynamics, and homoge- neous chemical kinetics. (F)

139B. Chemical Engineering Laboratory. (Formerly numbered 139BC.) Laboratory, eight hours. Prerequisites: courses M105A, M105D, 137A, or consent of instructor. Course consists of four experiments, each of two weeks duration. After each experi- ment, students prepare a detailed report that includes sections on background material, theory, experimental procedures, results, scale-up considerations, and design considerations, and error analysis. (W)


199. Special Studies (2 to 8 units). Prerequisites: consent of instructor. Individual investigation of a 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, W, Sp).

Graduate Courses

230A. Advanced Engineering Thermodynamics. Prerequisites: courses 130A, 137A, or equivalent. Phenomenological thermodynamics of chemical and physical systems with engineering applications. Presentation of the role of atomic and mo- lecular spectra and intermolecular forces in the inter- pretation of thermodynamic properties of gases, liq- uids, solids, and plasma. Mr. Frederking (F).

230B. Nonequilibrium Thermodynamics. Prerequisite: course 230A. Interpretation of nonequilibrium phenomena in terms of the fourth law of thermodynamics, namely (1) linear interdependence of fluxes and driving forces and (2) Onsager reciprocal rela- tions. Boltzmann transport equation; diffusion; elec- trical and heat currents; numerical calculation of parameters. Mr. Robinson (F).

230C. Cryogenics. Prerequisite: course 137A. The study of basic phenomena in low-temperature physical systems, including the third law, various cooling methods, and superfluid systems; Meissner state, type I and type II systems; applied superconductivity cryo- genics. Mr. Frederking (F).


Mr. Knuth, Mr. Smith

237B. Molecular Dynamics. Prerequisite: course 130A or 137C. Analysis and design of molecular-beam systems. Molecular-beam sampling of reactive mixtures in combustion chambers or gas jets. Molecular-beam studies of gas-surface interactions, including energy accommodations and heterogeneous reactions. Applications to air pollution control and to catalysis.

Mr. Knuth (W)

237E. Combustion Processes. Prerequisite: course 137C or Mechanical, Aerospace, and Nuclear Engineering 132A. Fundamentals: change equations for multicomponent reactive mixtures, rate laws. Applications: combustion, including burning of (1) premixed gases or (2) condensed fuels. Detonation. Source sound absorption and dispersion.

Mr. Knuth, Mr. Smith (Sp)

238. Advanced Mass Transfer. Prerequisite: course M105D, 137E, or consent of instructor. Advanced treatment of mass transfer, with applications to industrial separation processes. Applications: adsorption, absorption, chromatography, bioengineering, controlled release systems, and reactor design; molecular and constitutive theories of diffusion, interfacial transport, membrane transport, convective mass transfer, concentration boundary layers, turbulent transport.

Mr. Cohen, Mr. Friedlander (F)

238A. Chemical Reaction Engineering. Prerequisites: courses 137B, 137C, or equivalent. Principles of chemical reaction engineering, emphasizing on simultaneous effects of chemical reaction and mass transfer on noncatalytic and catalytic reactions in fixed and fluidized beds.

Mr. Allen (W)

238C. Electrochemical Engineering. Prerequisite: one year of physical chemistry or equivalent. 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)

238D. Biochemical Engineering. Prerequisites: courses 137C and 137D, or consent of instructor. Theoretical models and experimental techniques for describing the structure, behavior, and function of systems of biological macromolecules. Nonideal solution behavior. Applications to mass transfer problems in natural and man-made systems. Elementary theory of biochemical reactions.

Mr. Vilker

239AA-239AZ. Special Topics in Chemical Engineering (2 to 4 units each). Prerequisites: consent of instructor, additional prerequisites for each offering as announced in advance by the 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; polymer science; gas and liquid systems; optimization in chemical process design. May be repeated for credit with topic change.

(F,W,Sp)

239CA-239CZ. Seminar: Current Topics in Energy Utilization. Prerequisite: consent of instructor. Review of current literature in an area of energy utilization in which the instructor has developed special proficiency as a consequence of research interests. Students report on selected topics.

(F,W,Sp)

239EA-239EZ. Seminars in Chemical Engineering (2 to 4 units each). Prerequisites: consent of instructor, additional prerequisites for each offering as announced in advance by the department. Lectures, discussions, student presentations, and projects in areas of current interest. May be repeated for credit.

(F,W,Sp)

240. Fundamentals of Aerosol Technology. Prerequisite: course 137B or equivalent. Technology of particle/gas systems with applications to gas cleaning, commercial production of fine particles, and catalysis. Particle transport and deposition, optical properties, experimental methods, dynamics and control of particle formation processes.

Mr. Friedlander (W)

250. Computer-Aided Chemical Process Design. Prerequisite: course 137E or consent of instructor. 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.

( F)

260. Non-Newtonian Fluid Mechanics. Prerequisite: prior course in fluid mechanics such as Mechanical, Aerospace, and Nuclear Engineering 150A or consent of instructor. Principles of non-Newtonian fluid mechanics. Stress constitutive equations. Rheology of polymeric liquids and dispersed systems. Applications in viscometry, polymer processing, biochemistry, oil recovery, and drag reduction.

Mr. Cohen

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching assistantship under the active guidance and supervision of a regular faculty member responsible for course instruction. Petition forms to request enrollment may be obtained from the Assistant Dean, Graduate Studies. Supervised investigation of advanced technical problems. S/U grading.

Mr. Friedlander (F,W,Sp)

596. Directed Individual or Tutorial Studies (2 to 8 units). Prerequisites: graduate standing in chemical engineering, consent of instructor. Petition forms to request enrollment may be obtained from the Assistant Dean, Graduate Studies. Supervised investigation of advanced technical problems. S/U grading.

597B. Preparation for Ph.D. Preliminary Examinations (2 to 16 units). Prerequisites: graduate standing in chemical engineering, consent of instructor. S/U grading.

597C. Preparation for Ph.D. Oral Qualifying Examination (2 to 16 units). Prerequisites: graduate standing in chemical 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 chemical 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 chemical engineering, consent of instructor. Usually taken after student has been advanced to candidacy. S/U grading.

4531 Boelter Hall, (213) 825-1346

Professors
Stanley B. Dong, Ph.D.
John A. Dracup, Ph.D.
Michael E. Fourny, Ph.D.
Gary C. Hart, Ph.D.
Poul V. Lade, Ph.D.
Chung Yen Liu, Ph.D.
Rokuro Muki, Ph.D.
Richard B. Nelson, Sc.D.
Richard L. Perrine, Ph.D.
Moshe F. Rubenstein, Ph.D.
Lucien A. Schmit, Jr., M.S.
Lawrence G. Selna, Ph.D.
Michael K. Stenstrom, Ph.D.
William G. Yeh, Ph.D., Chair
C. Martin Duke, M.S., Emeritus
Tung Hua Lin, D.Sc., Emeritus

Associate Professors
Lewis P. Felton, Ph.D.
Sanford B. Roberts, Ph.D.

Assistant Professor
Johannes B. Neethling, Ph.D.

Senior Lecturer
George J. Tauxe, M.S., Emeritus

Adjunct Professors
Robert E. Englekirk, Ph.D.
Y. Marvin Ito, Ph.D.
George E. Warren, Ph.D.

Scope and Objectives
The civil engineering programs at UCLA include structural engineering and design, geotechnical engineering, earthquake engineering, water resource systems engineering, environmental engineering, and decision making and engineering management. The ABET-accredited civil engineering curriculum leads to a B.S. in Civil Engineering, a broad-based education in structural engineering, soil mechanics, and water resource systems. 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 a number of areas, including structures, structural mechanics, earthquake engineering, mechanics of solids, soil mechanics, environmental engineering, and water resource systems engineering. In these areas, research is being done on a variety of problems ranging from basic physics and mechanics problems to critical problems in earthquake engineering and in the development of new technologies for water treatment and pollution control.
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 civil engineering profession or for graduate civil engineering schools in the United States.

The Major

Course requirements are as follows (187 minimum units required):

(1) Seven core courses: Chemical Engineering M105A or Mechanical, Aerospace, and Nuclear Engineering M105A, Civil Engineering 108, Electrical Engineering 100, 103, Materials Science and Engineering 14, Mechanical, Aerospace, and Nuclear Engineering 102, 103.

(2) Civil Engineering 106A, 165A, 165B or 166, 184B, 184D, 185A, 185B; one mathematics course from Mechanical, Aerospace, and Nuclear Engineering 191A, M192A (or Chemical Engineering M192A), 192B, 192C, 193A, 193B.

(3) Twenty-eight elective units, to be selected from the courses listed below, which must include at least 13 design units and eight units of laboratory. At least two four-credit design courses are required (Civil Engineering 167A and 167B are recommended for students specializing in structures; Civil Engineering 167B and 165B are recommended for students specializing in geotechnical engineering or water resources and environmental engineering):

**Engineering Mechanics:** Civil Engineering 157B, 160, 166 (Mechanical, Aerospace, and Nuclear Engineering 166A), Mechanical, Aerospace, and Nuclear Engineering 156A, 158A.

**Geotechnical Engineering:** Civil Engineering 185B, 185L, Earth and Space Sciences 100, M139.

**Structures:** Civil Engineering 165B, 165C (for structural analysis); Civil Engineering M169A, 169L (for structural dynamics); Civil Engineering 165L, 167A, 167B, 167C, 167L, 167X (for structural design).

**Systems Analysis:** Civil Engineering 174A, Engineering 176A.

**Water Resources and Environmental Engineering:** Civil Engineering M134A, 181A, 184A, 184E.

(4) English 3; Chemistry 11A, 11B/11BL; Civil Engineering 15; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 8A/8AL, 8B/8BL, 8C, 8D; one life science elective course.

(5) Six courses from the humanities, social sciences, and/or fine arts approved list (at least three must be upper division; at least three — with two upper division — must be in the same academic department or otherwise reflect coherence with respect to subject matter).

(6) Three free elective courses, one of which must satisfy the engineering and science in society requirement.

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 Course

15. Introduction to Programming. Lecture, four hours; laboratory, two hours. Introduction to programming using structured FORTRAN. Selected topics in programming, with emphasis on numerical techniques as applied to engineering problems.

Mr. Dong, Mr. Stenstrom (F,W,Sp)

Upper Division Courses

106A. Principles of Engineering Economy. (Formerly numbered Engineering 106A.) Prerequisite: upper division standing. Economic analysis of engineering projects; value systems; economic decisions on capital investment and choice of engineering alternatives; new projects, replacement and abandonment policies; risky decisions including make/buy policies and research investment; corporate financial practices and accounting.

Mr. Dracup (F,W,Sp)


Mr. Nelson (F, W, Sp)

109A. Engineering and Policy: Resources and Risk. (Same as Mechanical, Aerospace, and Nuclear Engineering 109A.) Lecture, two hours; recitation, two hours. Prerequisite: sophomore or higher standing in engineering. The philosophical, sociological, and institutional implications of engineering-based risk and decision making. Emphasis on opportunities for the useful development of resources, inherent risks, and the responsibilities of engineers in the decision process. Emphasis on thoughtful student discussion.

Mr. Perrine (W)

134A. New Energy Technology: Resources, Conversion, Constraints. (Formerly numbered 134A.) (Same as Mechanical, Aerospace, and Nuclear Engineering M134A.) Prerequisite: Chemical Engineering M105A or Mechanical, Aerospace, and Nuclear Engineering M105A or equivalent in physics or chemistry or consent of instructor. Energy resources: fossil fuels, nuclear fuels, hydro, solar, wind, geothermal, and biomass sources. Conversion methods for power production and other energy uses. Consideration of thermodynamic, economic, and environmental constraints.

Mr. Perrine (F)

157B. Experimental Fracture Mechanics. (Formerly numbered Engineering 157B.) Lecture, two hours; laboratory, four hours. Prerequisite: Mechanical, Aerospace, and Nuclear Engineering 157 or equivalent. Elementary introduction to fracture mechanics and experimental techniques used in fracture, crack tip stress fields, strain energy release rate, fracture characteristics, compliance calibration, surface flaws, fatigue crack growth and fatigue life of structural components, mixed mode fracture, and individual projects.

Mr. Fourney (W)


Mr. Roberts (Sp)

165A. Elementary Structural Analysis. (Formerly numbered Engineering 165A.) Prerequisite: course 108. Equilibrium of structures; deformation analysis of structures by differential equation method, moment-area method, and the principle of virtual work; influence lines; statically determinate and indeterminate structures such as beams, frames, arches, and trusses; introduction to slope-deflection equations.

Mr. Schmit (F, Sp)

165B. Intermediate Structural Analysis. (Formerly numbered Engineering 165B.) Prerequisite: course 165A. Classical force, displacement methods of structural analysis; three moment equation, slope-deflection equations, moment distribution; virtual work, minimum potential, complementary potential theorems; Castigliano's theorems, generalized displacements, forces; Rayleigh-Ritz method; introduction to matrix methods; stiffness, flexibility matrices for beams, bars.

Mr. Nelson (F, W)

165C. Computer Analysis of Structures. (Formerly numbered Engineering 165C.) Prerequisite: course 165A. Development of algorithms and FORTRAN coding for matrix manipulation, inversion; solution of the linear algebraic equations, eigenvalue problems; structural applications; matrix displacement method for planar trusses, frames, direct assembly of system stiffness; matrix force method for planar frames.

Mr. Dong (Sp)

165L. Structural Design and Testing Laboratory. (Formerly numbered Engineering 165L.) Lecture, two hours; laboratory, four hours. Prerequisites: courses 15 or equivalent, 165A. Computer-aided optimum design, construction, instrumentation, and test of a small-scale model structure. Use of computer-based data analysis and graphical output systems for comparison of experimental and theoretically predicted behavior.

Mr. Felton (Sp)

166. Elementary Structural Mechanics. (Formerly numbered M166.) 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; shear stresses; plate analysis; instability, failure of columns, plates, approximate methods, empirical formulas.

Mr. Roberts (W)

166L. Experimental Structural Mechanics. Lecture, three hours; laboratory, two hours. Prerequisite: course 166 or equivalent. Lecture and experimental work in limit analysis of various aspects of structures. Elastic and plastic analysis of structural elements in multiaxial stress states. Buckling of columns, plates, and shells. Effects of actual boundary conditions on structural performance. Evaluation of structural fasteners.

Mr. Fourney (F)

167A. Design of Steel Structures. (Formerly numbered Engineering 167A.) Lecture, three hours; recitation, three hours. Prerequisite: course 165A. Allowable stress design of tension members, compression members, beams, beam columns, and tension splices according to AISC specifications for buildings.
176B. Design of Reinforced Concrete Structures. (Formerly numbered Engineering 167B.) Lecture, three hours; recitation, three hours. Prerequisite: course 165A. Design of reinforced concrete build- ings. Reinforced concrete beams, columns, and slabs. Working stress and ultimate strength methods of analysis. Determination of loads and design con- siderations. Introduction to reinforced concrete structural systems. Mr. Selna (Sp)


176L. Reinforced Concrete Structural Laboratory. (Formerly numbered Engineering 167L.) Laboratory, eight hours. Prerequisites: course 167B, consent of instructor. Experimental verification of strength de- sign methods used for reinforced concrete elements. Full- or near full-scale slab, beam, column, and joint specimens tested to failure. Mr. Selna (Sp)

176X. Reinforced Concrete Construction Laboratory (2 units). (Formerly numbered Engineering 167X.) Laboratory, four hours. Prerequisites: Engineering 165A, 166 (or an introductory course on linear elasticity or continuum mechanics or consent of instructor). Laboratory experiments to be performed by the students to get basic data required for assigned design problems. Soil classification, Atterberg limits, permeability, compaction, shear strength, and other parameters tested in the laboratory. Mr. Lade (F)

179A. Introduction to Mechanical Vibrations. (Formerly numbered Engineering 169A.) (Same as Mechanical, Aerospace, and Nuclear Engineering 169A.) Prerequisites: course 108, Mechanical, and Nuclear Engineering 127A. Introduction to vibrations. Fundamentals of vibration theory and applications. Free, forced, and transient vibration of one and two degrees of freedom systems, including damped and undamped linear normal modes, coupling, and normal coordinates. Elements of vibration and wave propagation in continua- tions systems. Mr. Hart (F)

179L. Mechanical Vibrations Laboratory (2 units). (Formerly numbered Engineering 169L.) Laboratory, four hours. Prerequisites: course 169A. Calibration of instrumentation for dyna- namic measurements. Determination of natural fre- quencies and damping factors from free vibrations. Determination of natural frequencies, mode shapes, and damping factors from forced vibrations. Dynamic similarity. Mr. Liu, Mr. Perrine (W)

181A. Air Pollution Control. (Formerly numbered Engineering 181A.) Laboratory, four hours. Prerequisite: consent of instructor. Sources of air pollutants and their atmospheric transport, dispersion, and photo- chemical reactions. Design and operational basis for stationary and mobile source control systems. An overview of current regulatory trends. Mr. Liu, Mr. Perrine (W)

181B. Waste and Hazardous Waste Management. Prerequisite: senior standing or consent of instructor. Sources and handling. Resource recovery pro- cesses and systems design. Environmental impact assessment and operation for landfill disposal. Leachate transport, monitoring, and design for groundwater protec- tion. Mr. Perrine (W)

184A. Engineering Hydrology. (Formerly numbered Engineering 184A.) Prerequisite: senior standing or consent of instructor. Recommended: elementary probability; stochastic processes; transform flows analysis, flood frequency analysis, groundwater, snow hydrology, hydrologic simulation. Possible field trips. Mr. Dracup, Mr. Yeh (F)

184B. Introduction to Water Resources Engineer- ing. (Formerly numbered Engineering 184B.) Prere- quisite: Mechanical, Aerospace, and Nuclear Engi- neering 103 or consent of instructor. Principles of hy- draulics, the flow of water in open channels and pres- sure conduits, reservoirs and dams, hydraulic ma- chines. Mr. Yeh (W)

184D. Water Quality Control Systems. (Formerly numbered Engineering 184D.) Prerequisites: Mech- anical, Aerospace, and Nuclear Engineering 103 and upper division standing in engineering, or con- sent of instructor. Biological, chemical, and physical bases of water quality and pollution; potability and chemical aspects of treatment and sanitation; anal- ysis and design applied to water resources engi- neering. Mr. Yeh (W)

184E. Water Quality Control Laboratory. (Formerly numbered Engineering 184E.) Laboratory, eight hours. Prerequisites: course 184D (may be taken concurrently). Chemistry 11A, 1B. Basic laboratory techniques and practice for the characterization and analysis of waters and wastewaters. Selected experi- ments include measurement of biochemical oxygen demand, suspended solids, dissolved oxygen hard- ness, and other parameters used in water quality control. Mr. Stenstrom (F)

185A. Principles of Soil Mechanics. (Formerly numbered Engineering 185A.) Prerequisite: course 185E. Required courses in Soil as a foundation for structures and as a material of construction. Soil formation, classification, physical and mechanical properties, compaction, bearing ca- pacity, earth pressures, consolidation, and shear strength. Mr. Lade (F)

185B. Design of Foundations and Earth Struc- tures. (Formerly numbered Engineering 185B.) (Not the same as course 185B prior to Winter Quarter 1975.) Prerequisite: course 185A. Design methods for foundations and earth structures. Site investiga- tion, including determination of soil properties for de- sign. Design of footings and piles, including stability and settlement calculations. Design of slopes and earth retention structures. Mr. Lade (Sp)

185L. Soil Mechanics Laboratory (2 units). (Formerly numbered Engineering 185L.) Laboratory, four hours. Prerequisite: course 185A or consent of in- structor. Laboratory experiments to be performed by the students to get basic data required for assigned design problems. Soil classification, Atterberg limits, permeability, compaction, shear strength, and spe- cific gravity determination. Design problems, report writing. Mr. Lade (Sp)

186. Civil Engineering Projects. (Formerly numbered Engineering 186.) Lecture, two hours; recita- tion, four hours. Prerequisites: courses 167A or 167B or 167C, and 184B, 185A. Integration of civil engi- neering disciplines for design of bridges and other projects. Stream flow studies, stream bed transport, and scour. Foundation design of piers, abutments, and approach structures. Structural concepts, lead- ing, analysis, member selection, and detailing of abutments, piers, and superstructure. Mr. Selna (W)

199. Special Studies (2 to 8 units). Prerequisites: senior standing, consent of instructor. Individual investi- gation of a selected topic to be arranged with a faculty member. May be repeated for credit. (F,W,Sp)

Graduate Courses

256B. Elasticity. (Formerly numbered Mechanics and Structures 256B.) Prerequisite: Mechanical, Aerospace, and Nuclear Engineering 256A or consent of instructor. Formulation of elastostatic problems; general, plane strain and plate theories and variational theorems and variational theorems. Airy's stress function and Papkovitch-Neuber solution. Fundamen- tal singular solutions, stress concentration, thermal stresses, elastic contact, load transfer, St. Venant principle. Stress analysis of complicated structures. Mr. Fleury (W)

264A. Theory of Plates and Shells. (Formerly numbered Mechanics and Structures 264A.) Prereq- usite: course 166 or Mechanical, Aerospace, and Nuclear Engineering 158A or consent of instructor. Small and large deflection problems; thin and thick shell theories; free vibrations; membrane theory of shells; axisymmetric deformations of cylindrical and spheri- cal shells, including bending. Mr. Roberts (W)

264B. Mechanics of Composite Material Struc- tures. Prerequisites: courses 264A or equivalants and 166 (or an introductory course on linear elasticity or continuum mechanics or consent of instructor). Review of analysis of stress and strain. Anisotropic stress-strain relations. Analysis of lam- inated anisotropic plates and shells based on classi- cal and refined theories. Elastodynamic theory of vi- brations and waves in laminated anisotropic flat and cylindrical. Analysis of edge effects, joints, and free edge problems. Failure theories and fatigue for composite materials. Mr. Dong (Sp)

265A. Advanced Structural Analysis. (Formerly numbered Mechanics and Structures 265A.) Prereq- usite: course 165B. Review of elasticity theory; theo- rems on virtual work, stationary value of potential en- ergy, complementary potential; Castigliano, Maxwell-Betti theorems; stiffness, flexibility matrices for truss, beam elements; matrix force and displacement analy- sis of trusses, frames; introduction to finite element methods. Mr. Nelson (F)

265B. Finite Element Analysis of Structures. (Formerly numbered Mechanics and Structures 265B.) Prerequisites: courses 166A and 265A, or consent of instructor. Introduction to finite element analysis; solution methods for linear equations; analy- sis of structural systems with one-dimensional ele- ments; introduction to variational calculus; discrete element displacement force and mixed methods for membrane, plate, shell structures; instability effects. Mr. Dong (W)

265C. Nonlinear Structural Analysis. (Formerly numbered Mechanics and Structures 265C.) Prereq- usite: course 265B or consent of instructor. Classifi- cation of nonlinear effects; geometric nonlinearities, conservative, nonconservative material behavior; geometric nonlinearities, Lagrangian, Eulerian de- scription of motion; finite element methods in geo- metrically nonlinear problems; postbuckling behavior of structures; solution of nonlinear equations; incre- mental, iterative, programming methods. Mr. Nelson (Sp)
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265D. Advanced Topics in Structural Mechanics. Prerequisites: courses 165B, 166, or equivalent. Elastic buckling of structural mechanics in general. Topics may vary from quarter to quarter. Mr. Muki (F)

266A. Stability of Structures I. (Formerly numbered Mechanics and Structures 266A.) Prerequisites: courses 165B, 166, or equivalent. Elastic buckling of bars. Different approaches to stability problems. Inelastic buckling. Application of computers: Columns and beams with linear and nonlinear creep. Combined torsional and flexural buckling of columns. Buckling of plates. Mr. Schmit (Sp) M267A. Optimum Structural Design. (Formerly numbered 267A.) (Same as Mechanical, Aerospace, and Nuclear Engineering M267A.) Prerequisite: course 265A or Mechanical, Aerospace, and Nuclear Engineering 261A or consent of instructor. Synthesis of structural systems; analysis and design of structural systems; optimization problems: techniques for synthesis and optimization; application to aerospace and civil structures. Mr. Felton, Mr. Schmit (W)


267E. Structural Loads and Safety for Civil Structures. (Formerly numbered Mechanics and Structures 267E.) Prerequisites: courses 167A or 167B or 167C, and M169A (may be taken concurrently). Concept of structural safety. Factors of safety and quantification of loads in buildings: building codes, frusses, trusses, and shear walls. Braced and braced frame design for gravity, wind, and earthquake loads. Mr. Hart (odd years)


268A. Experimental Structural Analysis. (Formerly numbered Mechanics and Structures 268A.) Prerequisite: consent of instructor. Study of modern techniques in experimental mechanics, including dimensional analysis, measurement theory, and measurement techniques. Emphasis on techniques of modern optics (e.g., holography). Moiré analysis, photelasticity and speckle interferometry. Mr. Fourney (Sp) M269A. Dynamics of Structures. (Same as Mechanical, Aerospace, and Nuclear Engineering M269A.) Prerequisite: course M169A. Principles of dynamics. Determination of normal modes and frequencies by differential and integral equation solutions. Transient and steady state response. Emphasis on quality assurance of government contracts using matrix formulation. Mr. Dong (F) M269C. Introduction to Probabilistic Dynamics. (Same as Mechanical, Aerospace, and Nuclear Engineering M269C.) Prerequisite: course M169A. Response of structural and mechanical systems to random vibrations. Stationary and nonstationary excitations. Response of systems with random parameters. Discrete and continuous linear systems. Applications to earthquakes, wind loads, and wave loads on buildings, gust response, vibrations due to gear inaccuracies, train vibrations. Mr. Hart (Sp even years)

274J. Multivariate Decision Making with Conflicting Objectives. (Formerly numbered Engineering Systems 274J.) Prerequisite: course 174A or Computer Science 274A or equivalent. The structuring of models for multivariate decision problems. The theory of quantifying preferences over multiple objectives. Multivariate utility theory. The structuring of models for conditional strategies under conflict situations. The theory of metagames and metanormality. Mr. Pearl, Mr. Rubinstein (W)


281. Geohydrochemical Engineering. Prerequisite: graduate standing. Recommended: course 284B. The science and engineering underlying movement and fate of chemicals within the geospheres of the environment. Models for transport to, within, and from groundwater and their application to problems of contamination; theory of leaky aquifers. Mr. Liu, Mr. Perine (Sp)

284A. Surface Water Hydrology. (Formerly numbered Engineering Systems 284A.) Prerequisite: course 164A or consent of instructor. In-depth study of surface water systems. Hydrologic cycle. Instantaneous unit hydrograph, dynamic wave equations, rainfall-runoff models using system investigation and physical hydrology. Stochastic hydrology. Time-series analysis, stochastic modeling, generating functions in hydrology. Mr. Dracup, Mr. Yeh (W)


284C. Water Resources Systems Engineering. (Formerly numbered Engineering Systems 284C.) Prerequisite: course 164A or consent of instructor. Application of mathematical, logical, and computational programming techniques to water resources systems. Topics include reservoir regulation, optimal timing, sequencing and sizing of water resources projects, and real-time conjunctive water management between ground water and surface water resource systems. Emphasis on the management of water quality. Mr. Dracup, Mr. Yeh (Sp)

284F. Selected Topics in Water Resources (2 units). (Formerly numbered Engineering Systems 284F.) Prerequisites: graduate standing, consent of instructor. Review of recent research and development in the management of water resources. Water and hydroelectric supply systems. Water quality management. Water law and institutions. Economic planning and optimization of water resources development. May be repeated once for credit. Mr. Dracup, Mr. Stenstrom (F)

284G. Engineering Economics of Water and Related Natural Resources. (Formerly numbered Engineering Systems 284G.) Recommended prerequisites: one or more courses from Economics 1, 2, 100, 101A, and 101B, or consent of instructor. Economic theory and applications. Management of water and related natural resources; application of price theory to water resource management, electric power supply, petroleum and natural gas management, and renewable resources; benefit-cost analysis with applications to water resources planning. Mr. Dracup (F)

284H. Mathematical Models for Water Quality Management. (Formerly numbered Engineering Systems 284H.) Prerequisite: course 164A or consent of instructor. Development of mathematical models for water quality control systems. Emphasis on numerical techniques to solve the nonlinear partial differential equations arising out of water quality and chemical engineering research. Mr. Stenstrom (W)

284J. Aquatic Chemistry. Lecture three hours; laboratory two hours. Prerequisites: course 184D, Chemistry 113, Math 90, and 390D. Aquatic chemistry of acid/base reactions, complex formation, precipitation and dissolution reactions, and oxidation/reduction reactions, as applied to water and wastewater treatment processes as well as natural and polluted waters. Laboratory experiments. Mr. Neethling (F)

284K. Advanced Water Quality Control Systems I. (Formerly numbered 284K.) Prerequisites: courses 184D and 284J (latter may be taken concurrently), or consent of instructor. Physical, chemical, and biological basis for design of water quality control systems. Properties of water, water quality standards, reactions and stoichiometry. Field trip. Mr. Lade (Sp)

284L. Advanced Water Quality Control Systems II. Prerequisite: course 284K. Physical, chemical, and biological basis for design of water quality control systems. Principles and design of conventional and advanced water and wastewater treatment processes. Discussion of reverse osmosis, ultrafiltration, electro dialysis, and ion exchange technologies from both practical and theoretical standpoints. Mr. Lade (W)

285A. Shear Strength of Soil and Stability of Slopes. (Formerly numbered Mechanics and Structures 285A.) Prerequisite: course 185A. Detailed study of fundamental concepts of shear strength of soils, stress determining factors, methods of stress measurement. Slope stability and stability analysis techniques using circular and noncircular failure surfaces, effect of side forces, total and effective stress analyses. Mr. Lade (F)

285B. Foundation Engineering. (Formerly numbered Mechanics and Structures 285B.) Prerequisites: courses 185A and 285C. Principles of foundation design, including theory of consolidation, impeded drainage, stress distribution, settlement analysis, allowable bearing capacity for shallow foundations, piles, and piers; laterally loaded piles. Mr. Oner (W)


287A. Computer Science 274A. Consent of instructor. Physical, chemical, and biological basis for design of water quality control systems. Properties of water, water quality standards, reactions and stoichiometry. Field trip. Mr. Neethling, Mr. Stenstrom (Sp)

287B. Computer Science 274B. Applications of membrane separations to desalination, water reclamation, brine disposal, and desalination. Discussion of reverse osmosis, ultrafiltration, electrodialysis, and ion exchange technologies from both practical and theoretical standpoints. Mr. Neethling (Sp)

287C. Computer Science 274C. (Formerly numbered Engineering Systems 274C.) Prerequisite: course 284J. The science and engineering underlying membrane systems. Principles and design of conventional and advanced water and wastewater treatment processes. Discussion of reverse osmosis, ultrafiltration, electrodialysis, and ion exchange technologies from both practical and theoretical standpoints. Mr. Neethling (Sp)

287D. Computer Science 274D. The science and engineering underlying membrane systems. Principles and design of conventional and advanced water and wastewater treatment processes. Discussion of reverse osmosis, ultrafiltration, electrodialysis, and ion exchange technologies from both practical and theoretical standpoints. Mr. Neethling (Sp)
285E. Seminar on Advanced Topics in Soil Mechanics. (Formerly numbered Mechanics and Structures 285E.) Prerequisites: graduate standing in engineering, consent of instructor. Topics may vary each quarter 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. Mr. Lade


286. Earthquake Engineering. (Formerly numbered Mechanics and Structures 286.) Prerequisites: course M169A or 265A or 285A or Mechanical, Aerospace, and Nuclear Engineering 256A. Engineering seismology: strong earthquake motion, microtremors, wave velocity and damping, induced vibrations, spectral analysis. Risk of earthquakes and fault breaks. Site evaluation. Structure-earth system response. Introduction to earthquake resistive design of buildings, bridges, and dams. Theoretical and experimental studies. Mr. Selna (W)

286B. Structural Response to Ground Motions. (Formerly numbered Mechanics and Structures 286B.) Prerequisite: course M269A or consent of instructor. Spectral analysis of ground motions; response of structures to ground motions due to earthquakes and nuclear explosions. Computational methods to evaluate structural response. Response analysis, including evaluation of contemporary design standards. Limitations due to idealizations. S/U grading.

289AA-289ZZ. Seminar: Current Topics in Civil Engineering (2 to 4 units). (Formerly numbered Mechanics and Structures 289AA-289ZZ.) 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. Mr. Nelson (Sp)

M292. Asymptotic Methods. (Formerly numbered Mathematics 292AA.) Lecture, three hours. Prerequisites: Chemical Engineering M192A or Mechanical, Aerospace, and Nuclear Engineering M192A, Mathematics 132, or equivalent. The fundamental mathematics of asymptotic analysis, asymptotic approximations of Fourier integrals, method of stationary phase. Watson's lemma, method of steepest descent, uniform asymptotic expansions, elementary perturbation problems. Mr. Muki (F)

298. Seminar in 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.

3731 D Boelter Hall, (213) 825-6396

Professors
Masanao Aoki, Ph.D.
Aligdars A. Avizienis, Ph.D.
Daniel M. Berry, Ph.D.
Bertram Busssel, Ph.D.
David G. Cantor, Ph.D.
Alfonso F. Cardenas, Ph.D.
Jack W. Carlyle, Ph.D.
Wesley W. Chu, Ph.D.
Joseph J. DiStefano III, Ph.D.
Mitos D. Ercegovac, Ph.D.
Gerald Estrin, Ph.D., Chair
Thelma Estrin, Ph.D., in Residence, Assistant Dean
Mario Gerla, Ph.D.
Sheila A. Greibach, Ph.D.
Walter J. Karpulis, Ph.D.
Leonard Kleinrock, Ph.D.
Allen Klinger, Ph.D.
David F. MacKay, Ph.D.
Lawrence P. McNames, Ph.D.
Michel A. Meilkanoff, Ph.D.
Richard R. Muntz, Ph.D.
Judea Pearl, Ph.D.
Gadi Perlovich, Ph.D.
Jacques J. Vidal, Ph.D.
Chand R. Viswanathan, Ph.D.
Thomas A. Rogers, Ph.D., Emeritus

Associate Professors
D. Stott Parker, Jr., Ph.D.
David A. Rennels, Ph.D.

Assistant Professors
Michael G. Dyer, Ph.D.
Margot Flowers, Ph.D.
Eliezer M. Gafni, Ph.D.
David R. Jeffreyson, Ph.D.
Richard E. Korf, Ph.D.
Josef Skrzypek, Ph.D.
Yovai Tzam, Ph.D.

Senior Lecturer
Levon Levine, M.S.

Adjunct Professors
Barry W. Boehm, Ph.D.
Edward L. Glasser, A.B.

Adjoint Associate Professor
Tomas Lang, Ph.D.

Adjoint Assistant Professor
Terenose E. Gray, Ph.D.

Visiting Lecturers
David G. Kay, M.S., J.D.
Thomas M. Simundich, Ph.D.
Vance C. Tyree, M.S., Senior

Scope and Objectives
Computer science is concerned with computer-related information processing, systems, and applications. 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, software systems, and scientific computing.

The undergraduate and graduate studies and research projects in computer science are supported by extensive computing resources. The Center for Experimental Computer Science (CECS) is comprised of nearly a dozen laboratories specializing in areas such as computer communications, VLSI design, and artificial intelligence. The Cognitive Systems Laboratory is engaged in studying computer systems which emulate or support human reasoning.

The Biocybernetics 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 through the computer science and engineering program.

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. The Graduate School of Management and the Computer Science Department offer 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 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 at
aspects of computer systems from electronic design, based on solid-state physics concepts, through logic design, integrated circuit selection and design, MSIs, LSI, and VLSI concepts and device utilization, machine language design, implementation and programming, operating system concepts, system programming, 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 (188 minimum units required):

1. Five core courses: Computer Science 11, 12, 13, 30, Electrical Engineering 103.
2. Computer Science 130, 131, 141, 151A, 151B, 181, Electrical Engineering 111A, 115A, 115B, 115C; eight laboratory units (Computer Science 152A, 152B, 171L, and Electrical Engineering 100L); Civil Engineering 106A (satisfies the engineering economics requirement); Chemical Engineering M192A or Mechanical, Aerospace, and Nuclear Engineering M192A; one course in probability and statistics selected from Mathematics 152A, Electrical Engineering 131A, or Computer Science 112.
3. Three elective courses from Computer Science 111 through 199 or Electrical Engineering 115, 121A, or 123A.
5. Seven courses from the humanities, social sciences, and/or fine arts approved list (at least three must be upper division; at least three — with two upper division — must be in the same academic department or otherwise reflect coherence with respect to subject matter; and one must satisfy the engineering and science in society requirement).
6. Three 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 quarter in graduate residence at UCLA. This requirement is satisfied by mastering the contents of six undergraduate courses in computer science or related subjects selected from the following two groups:

Group 1 (four required courses or equivalent): Computer Science 141, 151A, 151B, 181.

Group 2 (two required courses or equivalent): Computer Science 111, 112, 130 or 131 or 132, 161 or 163, 171 or 174, 172 or 173 or 270A.

Competence in any or all courses may be demonstrated in one of three ways:

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, students must complete Computer Science 201 with a grade of Satisfactory.

M.B.A./M.S.-Computer Science
The Department of Computer Science in the School of Engineering and Applied Science and the 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 all application materials from the M.B.A. Admissions Office, Graduate School of Management.

Lower Division Courses
5. Computer Literacy and Appreciation. Lecture, three hours; laboratory, one hour. An introduction to computers for students without prior experience. Survey of computer technology, computer applications, and how machines represent and process information. The development, power, limitations, and social impact of modern computer systems. Mr. Buswell.

10C. Introduction to Programming. Formerly numbered Engineering 10C.) Lecture, four hours; recitation, two hours. Recommended for mathematical computer science and engineering majors (emphasis on numerical problems). Open to graduate students on S/U grading basis only. Not open to students with credit for course 10F or former course 10S. Exposure to computer organization and capabilities. Basic principles of programming (using PASCAL as the example language) algorithmic, procedural problem solving. Program design and development. Control structures and data structures. Human factors in programming and program design. Mr. Levine.

10F. Introduction to Programming/FORTRAN. Formerly numbered Engineering 10F.) Lecture, four hours; recitation, two hours. Recommended for Chemical Engineering, Electrical Engineering, and Mechanical, Aerospace, and Nuclear Engineering Department majors (emphasis on numerical problems). Open to graduate students on S/U grading basis only. Not open to students with credit for course 10C or former course 10S. Description and use of FORTRAN programming language. Selected topics in programming techniques. Programming and running of several numeric problems. Mrs. Levy.

Upper Division Courses
111. Systems Programming. Lecture, four hours; laboratory, two hours. Prerequisites: courses 30, 141. Introduction to the design and performance evaluation of modern operating systems. Mapping and binding of addresses. The organization of multiprogramming and multiprocessing systems; interrupts, process model, and interlocks. Resource allocation models and the problem of deadlocks. Job control and system management.

112. Computer System Modeling Fundamentals. Prerequisite: upper division standing. Basic tools necessary for performance evaluation and design of distributed computer systems, including such topics as sets, combinatorics, generating functions, probability theory, transforms, Markov chains, baby queuing theory, counting and graphs, network flow theory. Presentation of this set of tools in a fashion that is rich with examples from the computer science field.

Mr. Kleinrock.
130. Software Engineering. Lecture, four hours; laboratory, two hours. Prerequisite: course 20. Structured programming, program proving, modularity, abstract data types, program design, computer programming, team programming. Mr. Berry (Sp)

131. Programming Languages. Lecture, four hours; recitation, two hours. Prerequisite: course 13 or former course 20. Study, comparison, and evaluation of programming languages. ALGOL 60, ALGOL 68, LISP, FORTRAN, and COBOL, the compiled languages which serve as the bases for most commercially available compiled languages in use today. Additional topics as set by instructor. Mr. Berry (F,W,Sp)

132. Compiler Construction. Lecture, four hours; recitation, two hours. Prerequisites: courses 131, 141, 181. Compiler structure; lexical and syntactic analysis; parsing; code generation; machine assembly; theory of parsing. Mr. Martin (Sp)

141. Basic Methods of Data Organization. Lecture, four hours; recitation, two hours. Prerequisite: course 13 or former course 20. Fundamental techniques for organizing and manipulating data, stressing relationship to computer hardware. Sequential and linked storage allocation for linear lists, multilinked structures. Trees: implementation, traversals, mathematical properties. Graphs and networks: definition and properties. Resource representation and management; storage allocation, location, and recovery. Topics include sorting-searching, algorithmic analysis, graph theory, concepts underlying file management. Mr. Gerla, Mr. Klinger (F,W,Sp)

151A. Computer Architecture I. Lecture, four hours; recitation, two hours. Prerequisites: courses 13, 15, 11, Physics 8C. Introduction to digital systems. Specification and implementation of combinational and sequential systems. SSI/MSI/LSI standard modules and their use in digital systems. Specification and implementation of arithmetic systems. Modules for the data and control sections. Hardwired and microprogrammed approaches. Arithmetic algorithms and their implementation. Mr. Ercegovac, Mr. Rennels (F,W,Sp)

151B. Computer System Architecture II (Intermediate). Lecture, four hours; recitation, two hours. Prerequisite: course 151A. Corequisite for mathematics/computer science majors and engineering undergrdutes specializing in computer science and engineering: course 152B. Formal description of machine organization. Effects on machine organization of instruction sets and formats; addressing structures; memory management; instruction sets; control flow; sequence generator; I/O processing and interrupt techniques; reliability aspects. Mr. Bussell, Mr. Ercegovac (F,W,Sp)

152A. Introductory Digital Circuits Laboratory (2 units). Prerequisite: course 10C. Corequisite: course 151A. Familiarization with design and interconnection of digital circuits. Study of basic interconnection and debugging procedures, including experience with printed circuit design. Mr. Ercegovac, Mr. Lang (Sp)

152B. Digital Systems Laboratory (2 units). Corequisite: course 151B. Laboratory which probes computer architecture through construction, simulation, and measurement of digital subsystems. Mr. Bussell, Mr. Rennels (F,W,Sp)

161. Fundamentals of Artificial Intelligence. Lecture, four hours; laboratory, two hours. Prerequisites: courses 130 or 131, and 141, consent of instructor. Introduction to artificial intelligence. Knowledge representation, functional and logic programming, machine learning, survey of topics in robot micros, virtual data environments, computational systems, and cognitive modeling. Mr. Dyer, Ms. Flowers (Sp)

163. Introduction to Natural Language Processing. Lecture, four hours; laboratory, two hours. Prerequisites: courses 130 or 131, and 141, consent of instructor. Role of syntax, semantics, and pragmatics in human language processing by computers. Natural language generators and parsers, inference, and conceptual analysis. Modeling conceptual processes and representing semantic knowledge by means of computer programs. Mr. Dyer, Ms. Flowers (W)

168. Computer Vision. Prerequisites: courses 161, 170 or Electrical Engineering 102, 171, consent of instructor. Use of computational aspects of processing visual information to present a unified treatment of early vision, allowing transfer of concepts from analysis of natural vision to synthesis of machine vision. The extraction, processing the manipulation of image attributes. Their organization into data structures and processing by dedicated computing architectures. Issues in image segmentation based on aggregation of the feature descriptions. Mr. Skrzypek (Sp)

168L. Computer Vision Laboratory (2 to 4 units). Laboratory, four hours. Prerequisite: course 168, senior standing, consent of instructor. Image acquisition, storage, processing, and analysis. Design and implementation of algorithms for low-level vision. Experiments with color, motion, edge detection, color histograms, binary and gray-level images. Scheme-based personal computer vision station. Mr. Skrzypek (W)


170L. Biocybernetics Research Laboratory (2 to 4 units). Lecture, one or two hours; laboratory, two to four hours; recitation, one to two hours. Prerequisites: course M196B, consent of instructor. Interdisciplinary experimental laboratory techniques for biomedical and behavioral science research. Mr. Davis, Mr. Skrzypek (F,W,Sp)

171. Real-Time Computer Systems. Prerequisites: senior standing; consent of instructor. Recommended: courses 130 or 131, and 141, consent of instructor. Formal description of algorithmic systems, with emphasis on hardware and systems concepts. Adapting digital computers to interfaces, including multiprocessing, interrupt, and time-sharing considerations. Digital communication, remote consoles, sampling, quantizing, multiplexing, analog-digital conversion, and data reconstruction. Mr. Karplus, Mr. Levine (F,W,Sp)

171L. Real-Time Systems Laboratory (2 to 4 units). Laboratory, four to eight hours. Prerequisites: senior standing, consent of instructor. Recommended: courses 171 (may be taken concurrently), 152A. Tests and measurements of digital and analog signals and systems as encountered in data acquisition, on-line computing, telecommunication facilities, terminals, modems, interfaces, and standards (e.g., RS 232, IEEE 488). May be repeated for credit with consent of instructor. Mr. Carlyle, Mr. Skrzypek (F,W,Sp)

172. Simulation and Models. Prerequisite: course 20. Introduction to programming for simulation of both event and system simulations in software languages (e.g., GPSS, SIMSCRIPT). The simulation data base and considerations for software development. Statistical considerations: design of experiments, random number generation, analysis of model results. Computer exercises. Mr. Karplus, Mr. McNamee (F)

173. Random Data Analysis and Measurement Procedures. Prerequisite: Electrical Engineering 102. Practical aspects of random data analysis and measurement procedures. Statistical techniques for random data, correlation, spectral density, input/output relationships, statistical errors, coherence functions, data acquisition, and processing techniques. Mr. Davis, Mr. Skrzypek (F,W,Sp)

174. Elements of Computer Graphics. Lecture, three hours; laboratory, one hour. Prerequisites: courses 131, 141, and 171, or consent of instructor. Hardware and software elements of computer graphics as applied to intelligent terminals, communications, and graphics languages. Application areas and cost effective uses of interactive graphics. Design and development of interactive graphics programs to solve representative problems in various application areas.

181. Introduction to Formal Languages and Automata Theory. Lecture, four hours; recitation, two hours. Prerequisite: senior standing or consent of instructor. Automata, grammars, and languages. Finite-state languages and finite-state automata. Context-free languages and pushdown automata. Unrestricted rewriting system (i.e., languages and Turing machines). Introduction to computability and computational complexity. Mr. Davis, Mr. Skrzypek (F,W,Sp)

183. Discrete Systems and Automata. Prerequisite: two quarters of lower division mathematics or comparable experience with mathematical ideas, such as in linguistics or basic courses in logic or computer programming. An introduction to the fundamental mathematical concepts, including propositional and predicate logic, sets, relations, and functions, with applications to computer science. Mr. Carlyle, Mr. Skrzypek (F,W,Sp)

196A. Introduction to Bioengineering and Cybernetics (2 units). (Formerly numbered Engineering 196A.) Prerequisite: calculus. Strongly recommended for students with a potential interest in bioengineering or cybernetics as a major. Introductory survey of topics in bioengineering and cybernetics. Mr. Davis, Mr. DiStefano (F)

196B. Modeling and Simulation of Biological Systems. (Formerly numbered Engineering 196B). (Same as Medicine M1 96B.) Lecture, four hours; laboratory, two hours. Prerequisite: calculus. Introduction to classical and modern systems and methods for modeling and simulation methods for studying biological systems. Multicompartamental modeling, multi-exponential curve fitting, and simulation laboratory projects. Applications in physiology and medicine. Life science and medical students are encouraged to enroll. Mr. DiStefano (F,Sp)

199. Special Studies (2 to 8 units). Prerequisite: upper division standing, consent of instructor. Individual investigation of a selected topic to be arranged with a faculty member. Enrollment request forms are available in department office. Occasional field trips may be arranged. May be repeated for credit. Mr. Davis, Mr. McNamee (F)

Graduate Courses

201. Computer Science Seminar (2 units). Prerequisite: graduate standing in computer science. Lectures on current research topics in computer science. May be repeated for credit. S/U grading. Mr. Estin (F,W,Sp)

202. Advanced Computer Science Seminar. Prerequisite: completion of major field examination in computer science or consent of instructor. Current computer science research into theory of algorithms, complexity, and synthesis of, and applications of information processing systems. Each member completes one tutorial and one or more original pieces of work in the special area. May be repeated for credit. Mr. Estin (F,W,Sp)
212. Advanced queueing theory: $G/G/1$; Lindley's integral performance measures; asymptotic behavior and local balance, $M^iK/S$; computational algorithms for job flow balance; product form solutions. Advanced topics at instructor's discretion. May be repeated for credit. Mr. Kleinrock (W)

213. Protocol specification and verification. Network architecture, design, and development. May be repeated for credit with topic change. Mr. Avizienis, Mr. Rennels (Sp)

214. Data Transmission in Computer Communication Systems. Prerequisites: course 112. Transmission and switching; multiplexing; network structure; packet switching and other switching techniques; examples; network delay and analysis; network design and optimization; network protocols; routing and flow control; satellite and ground radio packet switching; local networks; commercial network services and architectures. Optimal topics include extended error control techniques; modems; SDL, HDLC, X.25, etc.; protocol verification; network simulation and measurement; integrated networks; communication processors. Mr. Chu, Mr. Kleinrock (F, Sp)

215. Distributed Multilaccess Control in Networks. Prerequisites: courses 212A, 215. Topics from the field of distributed control and access in computer networks, including terrestrial distributed computer networks; satellite packet switching; ground radio packet switching; local network architecture and control. Mr. Kleinrock (W, Sp)


219. Current Topics in Computer System Modeling and Analysis (2 to 12 units). Prerequisite: consent of instructor. Review of current literature in an area of computer system modeling in which the instructor has developed special proficiency. May be repeated for credit with topic change. Mr. Avizienis, Mr. Ercegovac (W)

221. Advanced Computer Architecture. Prerequisites: courses 111, 151A, and 151B, or consent of instructor. Design and development. May be repeated for credit with consent of instructor. Mr. Ercegovac, Mr. Rennels (F, W)

222. Control and Coordination in Economics. (Formerly numbered System Science M222.) (Same as Economics M240.) Prerequisites: graduate standing in economics or engineering, consent of instructor. Recommended: appropriate mathematics course. Stabilization of highly turbulent econometric models, and new and/or advanced features of programming languages. Mr. Melkanoff (Sp)

223. Advanced Topics in Computer Language Design. Prerequisites: courses 132, 141, 181, 232A, 232B. Treatment of current topics in computer language design, including design goals of modern languages, levels of abstraction, methodologies for standardization, and proposals for new problem-oriented and extendable languages. Enrollment limited to allow individual application of language design principles. Mr. Berry (F)

224. Correctness Proofs. Prerequisite: consent of instructor. Theoretical and practical aspects of correctness proofs. Partial correctness, total correctness, and termination. Axiomatic semantics and proof systems. Abstraction and correctness of implementations. Formalization, execution and assessment of correctness proofs. Topics of current interest. Mr. Martin (Sp)

225. High-Level Language Computer Architecture. Prerequisites: courses 131, and 232A or 232B. A study of machine architectures to facilitate direct or near-direct expression of data abstractions; $K$-system and $K$-system semantics; logical and structural implementation models; Vienna definition language. Lambda calculus, LISP definition, interpreter equivalence and correctness. Mr. Berry (F)

226. Operational Semantics of Programming Languages. Prerequisites: courses 131, 181 (may be taken concurrently). Interpreter models of programming languages. Applications of $K$-systems; equivalence of $K$-systems. Applications of current interest. Mr. Martin (F)

227. Relational Data Bases. Prerequisites: courses 131, 141, 151A, or equivalent. Data base generation. Problem statement languages. Various characteristics, systems methodologies, performance measures; asymptotic behavior and local balance, $M^iK/S$; computational algorithms for job flow balance; product form solutions. May be repeated for credit. Mr. Chu, Mr. Rennels (F)

228. Techniques in Computer Science: Programming Languages and Systems (2 to 12 units). Lecture, four hours. Prerequisite: consent of instructor. Review of current literature in an area of computer science programming languages and systems in which the instructor has developed special proficiency as a consequence of research interests. May be repeated for credit within the same quarter in which the course was offered. Mr. Avizienis (W)

229. Advanced Topics in Computer Science: Programming Languages and Systems (2 to 12 units). Lecture, four hours. Prerequisite: consent of instructor. Review of current literature in an area of computer science programming languages and systems in which the instructor has developed special proficiency as a consequence of research interests. May be repeated for credit with topic change. Mr. Avizienis (W)


233. Advanced Topics in Fault-Tolerant Computing. Prerequisite: course 253A. Analysis and discussion of the modeling, design, and evaluation of fault-tolerant computer systems. Emphasis on current research results in the areas of design and development. May be repeated for credit with topic change. Mr. Avizienis, Mr. Rennels (Sp)

234. Computer Memory and Memory Systems. Prerequisite: course 251A or consent of instructor. General consideration of memory; design, control, access modes, hierarchies, and allocation algorithms. Characteristics, system organization, and device considerations of ferri fermites, thin film memory, and semiconductor memory. Mr. Chu, Mr. Rennels (F)
255A. Distributed Processing and Distributed Data Base System. (Formerly numbered 255B.) Prerequisite: course 241AL or 251A. Special emphasis on communication, bus structures, Task partitioning and allocation, precedence relationship, response time models, microprocessor-based distributed processing systems, system reconfiguration, error recovery, File allocation, directory design, deadlock, synchronon, commit protocols, query optimization, data translation, Examples, design, and trade-offs. [Practicum] Mr. Chu (W)

256A. Interactive Computer Graphics. Prerequisite: course 174 or equivalent. Current topics in interactive computer graphics system design, development, and applications. Mr. Bussell (Sp)

257A. Computer System Design: Comparative Architecture and Synthesis Methods. Prerequisite: course 252A. Advanced topics in computer system architecture. Important properties of computer systems and methods for modeling, evaluating and synthesizing them. Mr. Estin (W)

258B. LSI in Computer System Design. (Formerly numbered M258A-M258B-M258C.) (Same as Electrical Engineering M261A.) Lecture, four hours; laboratory, four hours. Prerequisites: graduate standing in computer science or electrical engineering, consent of instructor. Design methodology for digital systems in computer systems. Fundamental design techniques that can be used to implement complex integrated systems on a chip.

259. Current Topics in Computer Science: System Design/Architecture (2 to 12 units). Lecture, four hours. Prerequisite: consent of instructor. Review of current literature in an area of computer science system design in which the instructor has developed special proficiency as a consequence of research interests. Students report on selected topics. May be repeated for credit with topic change.

263A. Language and Thought. Prerequisite: consent of instructor. Recommended: understanding of course 262A. Language and Reasoning. Representation and manipulation of conceptualizations underlying processes of thought for natural language comprehension and generation. Process models of story comprehension, question answering, paraphrasing, machine translation, Conceptual dependency theory, scripts, plans, goals, expectation-based parsing. Mr. Dyer, Ms. Flowers (F or W)

263B. Language and Memory. Prerequisites: course 263A, knowledge of LISP or PROLOG. Recommended: course 264A. Advanced natural language processing. Emphasis on organization of human memory for language comprehension. Episodic and semantic memory. Subjective understanding and objective determination of the knowledge basis of generalization during comprehension. Cross-contextual reminiscences and thematic abstraction. Mr. Dyer, Ms. Flowers (W or Sp)

264A. Artificial Intelligence Programming I. Prerequisite: consent of instructor. Background knowledge of LISP or PROLOG. Introduction to tools, techniques, and issues in artificial intelligence programming. Functional programming for artificial intelligence applications. Review of LISP and introduction to lexically scoped LSLIs (e.g., T, Scheme). Lambda calculus, closure, files, driven-oriented programming, phases, n-dets, resolution-based deductive systems. Mr. Dyer, Ms. Flowers (F; W)

264B. Artificial Intelligence Programming II. Prerequisite: course 264A or consent of instructor. Techniques of logic programming languages (e.g., PROLOG, AMORD, DUCK, CONNIVER, PLANNER, QA, KRL, ACTORS, etc.) and artificial intelligence features (e.g., non-monotonic logics, default reasoning, combinatorial analysis, maintenance, meta-rules, semantic networks, frame-based systems). Mr. Dyer, Ms. Flowers (W or Sp)

265A. Machine Learning. Prerequisites: courses 263A, 264A, consent of instructor. Introduction to machine learning. Learning how to learn, modeling creativity, learning by experience, role of episodic memory organization in learning. Examination of BACON, AM, EURISKO, HACKER, teachable production systems. Failure-driven learning. Mr. Dyer, Ms. Flowers (W or Sp)

269. Seminar: Current Topics in Artificial Intelligence (2 to 4 units). Prerequisite: consent of instructor. Review of current literature and research practices in an area of artificial intelligence in which the instructor has developed special proficiency as a consequence of research interests. Students report on selected topics. May be repeated for credit with topic change.

270A. Computer Methodology: Advanced Numerical Methods. Prerequisites: graduate standing in computer science or engineering, Electronics Engineering 103 or Mathematics 141B or comparable experience with numerical computing. Principles of computer memory management, numerical methods in algebraic and differential systems, transforms and spectra, data acquisition and reduction; emphasis on concepts pertinent to modeling and simulation and the applicability of contemporary developments in numerical software. Computational exercises. Mr. Carlyle, Mr. Karplus (F, Sp)

270B. Analytical and Computational Methods for Modeling and Optimization of Dynamic Systems. Prerequisite: course 170 or equivalent. Recommended: intermediate-level knowledge of linear algebra. Development of analytical and computer-aided analysis and design tools for modeling, decision analysis, and optimization of dynamic systems. Linear and nonlinear system models, model selection and simplification, sensitivity analysis, least squares and Kalman filtering, and optimal control algorithms. Mr. Aoki, Mr. DiStefano (W)

270C. Modeling Methodology for Biomedical Systems. (Formerly numbered M270A) (Same as Medicine M270C.) Prerequisite: course 270A or Electrical Engineering 142 or Mathematics 115A or Mechanical, Aerospace, and Nuclear Engineering 171C or equivalent. Foundations of multicompartamental, non-linear, and lumped parameter system modeling and parameter estimation. Emphasis of new applications and limitations in the biomedical sciences and other limited data environments. Models for experiment design, data analysis, basic studies of mechanics, and control (therapy) of biomedical processes. Model parameter estimation algorithms. Mr. DiStefano (F)

270D. Optimal Experiment Design and Control for Biological and Other Dynamic Systems. (Formerly numbered M269B.) (Same as Biotechnology M270 and Medicine M270D.) Prerequisites: courses 270B and 270C, or consent of instructor. Theory and algorithms for designing optimal experiments for quantitative or optimal inputs for controlling dynamic systems. Emphasis on applications in engineering sciences. General sampling schemes for parameter estimation. Control optimization and variations for designing optimal test-inputs. Algorithms, software, and applications in medicine and engineering. Mr. DiStefano (Sp)

270E. Advanced Topics and Research in Bioengineering. (Formerly numbered M269C.) (Same as Medicine M270E.) Prerequisite: course 270C or consent of instructor. Recommended: course 270D. Research techniques and experience on special topics involving models, model methods, or experiments in the biological and medical sciences. Review and critique of the literature. Research problem formulation. Solution methods. Individual student projects. M.S. and Ph.D. thesis preparation. Mr. Dyer, Ms. Flowers (W or Sp)

C270L. Biocybernetics Research Laboratory (2 to 4 units). Lecture, one to two hours; laboratory, two to eight hours; instruction, one to two hours. Prerequisites: course M196B, consent of instructor. Interdisciplinary experimental laboratory techniques. Care, use, and design of laboratory instrumentation. Specialized research hardware, software, and computer equipment. Laboratory automation. Comprehensive experiment design, including simulation. Radioactive isotope use and safety. Experimental animals, controls, and kinetic stimulus-response experiments. Concurrently scheduled with course C170L.

Mr. DiStefano (F, Sp)

271A. Computer Methodology: Continuous Systems Simulation. Prerequisites: course 171, Electrical Engineering 103. The organization, operation, and areas of application of the process of computer simulation, of particular interest are digital systems. Error analysis, numerical analysis aspects, digital simulation languages for continuous systems characterized by ordinary differential equations. Mr. Karplus, Mr. Levine (W)

271B. Computer Methodology: Distributed Parameter Systems. Prerequisite: Electrical Engineering 103. A survey of the mathematical formulation and computer solution of engineering field problems governing partial differential equations. Emphasis on digital simulation methods, including finite difference approximations, Monte Carlo methods, and the use of modern problem-oriented languages. Mr. Karplus, Mr. Vidal (F)

271C. Seminar in Advanced Simulation Methods (2 units). Prerequisite: course 271A or equivalent. Discussion of advanced topics in the simulation of systems characterized by ordinary and partial differential equations. Topics include (among others) simulation languages, dataflow machines, array processors, and advanced mathematical modeling techniques. Topics vary each quarter. May be repeated for credit. S/U grading.

Mr. Karplus, Mr. Vidal (W)

272A. Digital Processing of Engineering and Statistical Data. Prerequisite: course 173 or equivalent. Computer methods for processing engineering and statistical data. Algorithms to evaluate recursive filter functions, Fourier series, power spectral, analysis correlation computations, and statistical testing. Mr. McNamee (W)

274A. Problem Solving and Decision Making. (Formerly numbered M274A.) Prerequisite: Mechanic, Aerospace, and Nuclear Engineering 193A or equivalent. Formal models of problem structures. Heuristic problem solving, decision systems - principles, advantages, and limitations in the biomedical sciences and other limited data environments. Models for experiment design, data analysis, basic studies of mechanics, and control (therapy) of biomedical processes. Model parameter estimation algorithms. Mr. Aoki, Mr. DiStefano (W)

274B. Knowledge-Based Systems. (Formerly numbered M274B.) Prerequisite: course 274A or 277A or consent of instructor. Machine representation of judgmental knowledge and uncertain relationships. Inference in expert knowledge bases. Rule-based systems - principles, advantages, and limitations. Sign understanding. Automated planning systems. Knowledge acquisition and explanation producing techniques. Mr. Pearl (W)

274C. Computer Methods of Data Analysis and Model Formation. (Formerly numbered M274C.) Prerequisite: Mechanical, Aerospace, and Nuclear Engineering 193A or Electrical Engineering 131A or equivalent or consent of instructor. Techniques of using computers to interpret, summarize, and form theories of empirical observations. Mathematical analyses of trade-offs between the two hour, real-time complexity, storage requirements, and precision of computerized models. Mr. Pearl
274Z. Current Topics in Cognitive Systems. (Formerly numbered M274Z.) Prerequisites: consent of instructor. Adaptable prerequisites for each offering as announced in advance by the department. Theory and implementation of systems which emulate or support human reasoning. Current literature and individual intelligence, systems based on neural networks, decision support systems, computational psychology, and heuristic programming theory. May be repeated for credit with topic change.

275A. Information Processes in Nervous Systems. Prerequisite: consent of instructor. Conceptual discussion of acquisition and transfer of information in the nervous system and of the role of computers in the analysis and interpretation of neurophysiological data.

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.

276B. Structured Computer Vision. Prerequisites: graduate standing, consent of instructor. Methods for computer processing of image data. Systems, concepts, and algorithms for image analysis, radiologic and robotic applications.

276C. Speech and Language Communication in Artificial Intelligence. Prerequisite: course 276A or 276B or consent of instructor. Topics in human-computer communication: interaction with pictorial information systems, sound and symbol generation by humans and machines, semantics of data, systems for speech recognition and understanding. Use of speech and text for computer input and output in applications.

277A. Heuristic Programming and Artificial Intelligence. Prerequisite: course 131 or 181 or consent of instructor. Principles underlying the use of computers to perform tasks generally agreed to require some intelligence. Development of an understanding of current research regarding the possibilities and limitations of existing experiments in automating intelligent behavior.

279. Current Topics in Computer Science: Methodology (2 to 12 units). Lecture, four hours. Prerequisite: consent of instructor. Review of current literature in an area of computer science methodology in which the instructor has developed special proficiency as a consequence of research interests. Students report on selected topics. May be repeated for credit with topic change.

280A-280ZZ. Algorithms. Prerequisites: consent of instructor, additional prerequisites for each offering as announced in advance by the department. Selections from design, analysis, optimization, and implementation of algorithms; computational complexity and the general theory of algorithms; algorithms for particular application areas. Subtopics of some current sections: Principles of Design and Analysis (280A); Graphs and Networks (280G). May be repeated for credit with consent of instructor and with topic change.

281A. Computability and Complexity. Prerequisite: course 181 or comparable background. Concepts fundamental to the study of discrete systems and the theory of computing, with emphasis on regular sets of strings, Turing-recogizable (recursively enumerable) sets, closure properties, machine characterizations, nondeterminism, decidability, decidable problems, “easy” and “hard” problems. PTIME/NPTIME.

281D. Discrete State Systems. Prerequisite: consent of instructor. Recommended: course 181. Finite-state machines, transducers, and their applications; regular expressions, transduction expressions, realizability; decomposition, synthesis, and design considerations; topics in state and system identification and fault diagnosis, linear machines, probabilistic machines, applications in coding, communication, computing, system modeling, and simulation.

284A-284ZZ. Topics in Automata and Languages. Prerequisites: course 181, additional prerequisites for each offering as announced in advance by the department. Selections from families of formal languages, grammars, machines, operators; pushdown automata, context-free languages and their generalizations, parsing; multidimensional grammars, developmental systems, machine-based complexity. Subtopics of some current and planned sections: Context-Free Languages (284A); Parsing Algorithms (284P). May be repeated for credit with consent of instructor and with topic change.

287A. Theory of Program Structure. Prerequisite: course 181. Models of computer programs and their syntax and semantics; emphasis on programs and recursion schemes; equivalence, optimization, correctness, and translatability of programs; expressive power of program constructs and data structures; selected current topics.

288S. Seminar in Theoretical Computer Science (2 units). Prerequisites: courses 286A, 286A, consensus of instructor. Discussion of advanced topics and current research in such areas as algorithms and complexity models for parallel and concurrent computation, formal language and automata theory. May be repeated for credit. S/U grading.

289A-289ZZ. 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 the instructor has developed special proficiency as a consequence of research interests. Students report on selected topics.

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: appointment to an assistant, associate, or fellow. A teaching apprenticeship under the 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.

497D-497E. Field Projects in Computer Science. Prerequisite: consent of instructor. Students are divided into teams led by the instructor; each team is assigned an external company or organization which they investigate as a candidate for possible computerization, submitting a team report of their findings and recommendations. In Progress grading.

596. Directed Individual or Tutorial Studies (2 to 8 units). Prerequisite: graduate standing in computer science, consent of instructor. Petition forms to request enrollment may be obtained from the Assistant Dean, Graduate Studies. Reading and preparation for M.S. comprehensive examination. S/U grading.

597A. Preparation for M.S. Comprehensive Examination (2 to 12 units). Prerequisites: graduate standing in computer science, consent of instructor. Petition forms to request enrollment may be obtained from the Assistant Dean, Graduate Studies. Reading and preparation for M.S. comprehensive examination. S/U grading.

597B. Preparation for Ph.D. Preliminary Examinations (2 to 16 units). Prerequisites: graduate standing in computer science, consent of instructor. Petition forms to request enrollment may be obtained from the Assistant Dean, Graduate Studies. S/U grading.

597C. Preparation for Ph.D. Oral Qualifying Examination (2 to 16 units). Prerequisites: graduate standing in computer science, consent of instructor. Petition forms to request enrollment may be obtained from the Assistant Dean, Graduate Studies. Preparations for oral qualifying examination, including preliminary research on dissertation. S/U grading.

598. Research and Preparation of M.S. Thesis (2 to 12 units). Prerequisites: graduate standing in computer science, consent of instructor. Petition forms to request enrollment may be obtained from the Assistant Dean, Graduate Studies. Supervised independent research for M.S. candidates, including thesis preparation. S/U grading.

599. Research and Preparation of Ph.D. Dissertation (2 to 16 units). Prerequisites: graduate standing in computer science, consent of instructor. Petition forms to request enrollment may be obtained from the Assistant Dean, Graduate Studies. S/U grading.

Economics/System Science

(Interdepartmental)

For details on this undergraduate program, see Chapter 5 on the College of Letters and Science.

Electrical Engineering

7732 Boelter Hall, (213) 825-2647

Professors

Nicoleta G. Alexopoulos, Ph.D.
Frederick G. Allen, Ph.D., Chair
A. V. Bakken, Ph.D.
Francis F. Chen, Ph.D.
Robert S. Elliott, Ph.D.
Harold R. Fettermen, Ph.D.
A. Theodore Forrestor, Ph.D.
Stephen E. Jacobsen, Ph.D.
Nhan Levan, Ph.D.
Neville C. Luhmann, Jr., Ph.D.
Jack Willis, Ph.D.
Kung Yao, Ph.D.

Associate Professors

Cavour W. Yeh, Ph.D.
A. Theodore Forrester, Ph.D.
Kang-Lung Wang, Ph.D.
D. Dis-
Adjunct and Visiting Professors
Ezio Biglieri, Dr.Eng., Visiting
Paul T. Greiling, Ph.D., Adjunct
William A. Peebles, Ph.D., Adjunct

Adjunct Associate Professors
James B. Forsythe, Ph.D.
Kenneth W. Iliff, Ph.D.
Chandrashekhar J. Joshi, Ph.D.
Sigfried G. Knorr, Ph.D.
George J. Ruzicka, Ph.D.
Joel N. Schulman, Ph.D.

Adjunct Assistant Professor
Mohammed Hamami, Ph.D.

Visiting Lecturers
Hassan Babaei, Ph.D.
Daruish Divsalar, Ph.D.
Paul T. Greiling, Ph.D.
Richard J. Hillestad, Ph.D.
Ziauddin Khawza, Ph.D.
Eugene H. Kopp, Ph.D.
Simon M. Law, M.S.
Donald C. Mayer, Ph.D.
Farad Mesghahi, Ph.D.
Bernard Sklar, Ph.D.
Dariush Divsalar, Ph.D.
Mohammed Hamami, Ph.D.

Scope and Objectives
The Electrical Engineering Department emphasizes teaching and research in a variety of fields ranging from telecommunications and fiber optics to solid-state devices, circuits, materials growth, quantum electronics, antenna design, electromagnetics, digital systems, plasma diagnostics, and millimeter wave technology. In each of these fields, the department has state-of-the-art research programs exploring exciting new developments and is organized into nine major fields of study. Undergraduate students receive a B.S. degree in Electrical Engineering. Graduate research and training programs leading to the M.S. and Ph.D. degrees are also offered.

Laboratories are available for research in the following areas: analog and digital electronics, hybrid integrated circuits, integrated semiconductor devices, microwave and millimeter waves, fiber optics, lasers and quantum electronics, and applied plasma physics. The department is also associated with the Center for High-Frequency and High-Speed Electronics, the Center for Plasma Physics and Fusion Engineering, and the Crump Institute for Medical Engineering, three research centers at UCLA.

Bachelor of Science in Electrical Engineering
The electrical engineering curriculum gives an excellent background for either graduate study or employment. The two main objectives are (1) to provide a deep and fundamental education in electrical engineering as well as in basic sciences and mathematics and (2) to provide specialized education in one branch of the electrical engineering field so that the student develops expertise in that branch.

The Major
Course requirements are as follows (188 minimum units required):
(1) Six core courses: Electrical Engineering 101, 102, 103, Materials Science and Engineering 14, Mechanical, Aerospace, and Nuclear Engineering 102, and one course from Civil Engineering 108, Mechanical, Aerospace, and Nuclear Engineering 103, M105A (or Chemical Engineering M105A).
(2) Electrical Engineering 111A, 111B, 115A, 121A, 161, and one course from 112, 115B, 141, 162A, 163A; four two-unit courses selected from the laboratory courses offered by the Electrical Engineering Department, Computer Science 1252B and, by petition only, Electrical Engineering 199; Civil Engineering 106A (satisfies the electrical engineering requirements); Mechanical, Aerospace, and Nuclear Engineering 191A or Mathematics 132 (satisfies the mathematics requirement).
(3) Any six major field elective courses (24 units) selected from those offered by the Electrical Engineering Department. With approval of the adviser, up to three may be selected from courses related to electrical engineering in the Computer Science Department.
(4) English 3; Chemistry 11A, 11B/11BL; Computer Science 10C or 10F; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 8A, 8B/8BL, 8C/8CL, 8D/8DL; one life science elective course.
(5) Six courses from the humanities, social sciences, and/or fine arts approved list (at least three must be upper division; at least three — with two upper division — must be in the same academic department or otherwise reflect coherence with respect to subject matter; and one must satisfy the engineering and science in society requirement).
(6) Three free elective courses from any department, selected by the student in consultation with the adviser to supplement and strengthen the major field electives.

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.

Upper Division Courses
100. Electrical and Electronic Circuits. (Formerly numbered Engineering 100.) Lecture, four hours; recitation, one hour. Prerequisites: Mathematics 31A, 31B, 32A, 33A, 33B, Physics 8C. Electrical quantities, circuit principles, signal wave forms, AC circuits, semiconductor devices, small signal models, amplifiers, electrical and electronic instruments. Mr. Luhmann (F, W, Sp)

100L. Circuit Analysis Laboratory (2 units). Formerly numbered Engineering 100L. Laboratory, four hours. Prerequisites or corequisites: course 100 or 11A. Experiments with circuits containing linear and nonlinear devices; transient and steady state behavior of circuits. Mr. Luhmann (F, W, Sp)

101. Engineering Electromagnetics. (Formerly numbered 100B.) Lecture, four hours; recitation, one hour. Prerequisites: Physics 8C; Mathematics 32A and 32B, or 33A and 33B. Electromagnetic field concepts; Maxwell's equations; static and quasi-static fields; field energy; energy flow and the Poynting vector; electromechanical interactions; waves in unbounded media and on two-wire transmission lines; reflection and refraction; lossy media; skin effect; analogs to electromagnetic fields. Mr. Alexopoulos (F, W, Sp)

102. Systems and Signals. (Formerly numbered 121C.) Lecture, three hours; recitation, two hours. Prerequisites: Mathematics 32A, 32B, 33A and 33B or 31C and 32C, Physics 8A, 8B, 8C. Recommended: course 100 or Mechanical, Aerospace, and Nuclear Engineering 102 or Physics 8D. Introductory course with illustrations from physical and life sciences. Input-output descriptions of systems, linearity; impulse and frequency responses, Fourier methods; transforms and applications of Laplace transform to digital filtering and fast Fourier transform. Computational aspects of system modeling and identification. Mr. Levan (F, W, Sp)

103. Applied Numerical Computing. (Formerly numbered 122A.) Lecture, three hours; recitation, two hours. Prerequisites: Computer Science 10C, Mathematics 33A, 33B, or equivalent. An introduction to numerical computing techniques: matrix computations; root finding; solutions of initial and boundary value problems of ordinary differential equations, interpolation and approximation. Mr. Jacobsen, Mr. Wiberg (F, W, Sp)

111A. Basic Circuit Theory I. (Formerly numbered 110A.) Lecture, four hours; recitation, one hour. Prerequisites: Physics 8C, 8D (may be taken concurrently). The zero-input, zero-state, transient, steady state, and complete response of first-order and second-order circuits. Linear time-invariant networks: step response, impulse response, convolution integral. sinusoidal steady state analysis. Coupling elements and coupled circuits. The Laplace transform. Mr. Willson (F, W, Sp)

111B. Basic Circuit Theory II. (Formerly numbered 110B.) Lecture, four hours; recitation, one hour. Prerequisites: course 111A. Elementary graph theory, general methods of analyzing electric circuits. Introduction to state equations, natural frequencies, properties of network functions. Network theorems. Methods of characterizing two-port networks. Mr. Orchard (F, W, Sp)

112. Passive Network Synthesis. (Formerly numbered 110C.) Lecture, four hours; recitation, one hour. Prerequisite: course 111B or equivalent. Properties of passive real functions and tests for passive realizability. Synthesis of one- and two-port RLC and two-element kind networks. Mr. Temes (F)

113. Digital Signal Processing. (Formerly numbered 210E.) Prerequisite: course 111B. Relationship between continuous-time and discrete-time signals. The z-transform. The discrete Fourier transform. The fast Fourier transform. State equations for discrete-time systems. Network structures for digital filtering. Introduction to digital filter design techniques. Mr. Temes, Mr. Willson (F)

115A. Electronics I. (Formerly numbered 115A.) Lecture, four hours; recitation, one hour. Prerequisite: course 111A. Equivalent circuit modeling of electron devices. Device-circuit environment interactions. Design of single-stage amplifiers. Introduction to cascaded stages, coupling problems, and frequency responses. Mr. Abidi, Mr. Green (F, W, Sp)
115AL. Electronics I Laboratory (2 units). (Formerly numbered 116L.) Prerequisite: course 100L. Recommended: course 115A. Experimental determination of device characteristics, resistive diode circuits, single-stage amplifiers, compound transistor stages, effect of feedback on single-stage amplifiers. Mr. Martin (F, W, Sp).

115B. Electronics II. (Formerly numbered 116B.) Lecture, four hours; recitation, one hour. Prerequisite: course 115A. Electron device-circuit-environment interaction, with emphasis on multistage amplifiers, tuned amplifier considerations. Nonlinear situations requiring graphical method of solution. Emphasis on design techniques, including economics, reliability, and realization of performance specifications. Mr. Martin (F, W, Sp).

115BL. Electronics II Laboratory (2 units). (Formerly numbered 116M.) Laboratory, four hours. Prerequisite: course 115AL. Recommended: course 115B. Experimental and computer studies of multistage, wideband, tuned, and power amplifiers and multiloop feedback amplifiers. Introduction to thick film hybrid techniques. Construction of amplifier using hybrid thick film techniques. Mr. Willis (F, W, Sp).

115C. Digital Integrated Circuits. (Formerly numbered 116C.) Lecture, four hours; recitation, one hour. Prerequisite: courses 115A, 115B, Computer Science 151A. Modern logic families (TL, PL, ECL, NMOS, CMOS). Address, data, clock, control, flip-flops, registers, counters, PLAs, etc., digital computer realization techniques, VLSI memories, A/Ds, VLSI systems (time permitting). Laboratory experiments in switching techniques. Mr. Martin (F, W, Sp).

115CL. Pulse and Digital Methods Laboratory (2 units). (Formerly numbered 116N.) Laboratory, four hours. Corequisite: course 115C. Digital circuits laboratory, with three different logic families characterized (TL, PL, and CMOS). Use of synchronous machine techniques for building simple circuits, culminating in design of a 4-bit successive approximation A/D converter. Mr. Martin (F, W, Sp).


115E. Design Laboratory in Microcomputer Hardware and Interfacing. (Formerly numbered 116E.) Lecture, two hours; laboratory, six hours. Prerequisites: Computer Science 151B, 152B. A second-level design laboratory in microcomputer hardware and interfacing. Topics include microprocessor devices, I/O devices including serial interfaces, parallel interfaces, and timers. Assembly language programming. Advanced concepts such as interrupts, DMA, interprocessor communication, and industrial control applications in major design projects where practical digital systems are designed and realized. Mr. Martin (Sp).

116. Communication Circuits. (Formerly numbered 116G.) Lecture, four hours; recitation, one hour. Prerequisite: course 115A. Electrical and thermal noise in communication circuits, including diodes, transistors, and thyristors, and their application to power conditioning, conversion, and control. Emphasis on device limitations and design considerations. Examples from power amplifiers (switching and linear), inverters, and DC-to-DC converter drives. Mr. Schott (F).

118. Integrated Circuit Components and Design. (Formerly numbered 116E.) Lecture, four hours; recitation, one hour. Prerequisites: courses 115B, 121A. Realization of active and passive components in integrated circuit design. Passive components: resistors, capacitors, metal interconnections. Active devices: NPN and PNP BJTs, design rules, FET devices. Device interactions and layout rules. Mr. Martin, Mr. K. Wang (W).

121A. Principles of Design of Semiconductor Devices. (Formerly numbered 116F.) Lecture, four hours; recitation, one hour. Prerequisite: senior standing in engineering. Semiconductor technology. Schottky barrier, p-n junction, MOS capacitance, transistor fundamentals, drift transistor, high-frequency Gunn devices, field effect transistors, integrated electronics, applications and design of devices. Mr. Viswanathan, Mr. K. Wang (F, W, Sp).

122A. Semiconductor Devices Laboratory (2 units). (Formerly numbered 115F.) Laboratory, four hours; recitation, one hour. Prerequisites: courses 115B, 121A. Experimental determination of performance specifications. Mr. Martin (F, W, Sp).

122BL. Solid-State Electronics Laboratory (2 units). (Formerly numbered 115E.) Laboratory, four hours; recitation, one hour. Prerequisites: courses 115B, 121A. Laboratory experiments in using hybrid thick film techniques, integrated electronics, characterization of junction, field effect, and other semiconductor devices. In particular students perform various process tasks such as wafer preparation, oxidation, ion implantation, metallization, sintering, and photolithography. Mr. K. Wang (F, W, Sp).

123A. Fundamentals of Solid-State I. (Formerly numbered 115C.) Lecture, four hours; recitation, one hour. Prerequisite: junior standing in engineering. Introduction to atom concepts, quantum mechanical principles, energy level in complex atoms, quantum statistics, crystal structure, energy levels in solids, band theory. Mr. M. Thirumalai (F).

123B. Fundamentals of Solid-State II. (Formerly numbered 115B.) Lecture, four hours; recitation, one hour. Prerequisite: course 123A. A discussion of the solid-state properties, lattice vibrations, thermal properties, dielectric and magnetic properties. Mr. Fettermann, Mr. Stafsudd (W).

124. Semiconductor Physical Electronics. (Formerly numbered 115C.) Lecture, four hours; recitation, one hour. Prerequisite: course 123B. Band structure of semiconductors, homogeneity, defects, crystallographic imperfections, carriers, current conductors, semiconductors, solar cells, and thermal properties; application to design of devices. Mr. Allen, Mr. Pan (Sp).

131A. Probability. (Formerly numbered 120A.) Prerequisite: course 122A. An introduction to the theory and application of probability, including random variables and vectors, distributions and densities, characteristic functions, limit theorems, preliminary concepts of stochastic processes. Mr. Mortensen, Mr. Ruben (F, W).

131B. Introduction to Stochastic Processes. (Formerly numbered 120B.) Prerequisites: courses 102, 131A. Introduction to the theory and application of stochastic processes, emphasizing stationary processes,Markov processes, and functional equation, mean-square estimation, random and pseudorandom generation of processes with application to simulation. Elements of spectral analysis and FFT. Mr. Mortensen, Mr. Yao (Sp).

132A. Introduction to Communication Systems. (Formerly numbered 130.) Prerequisite: course 102 or equivalent. An introductory course on electronic communication systems. Models, digital and analog signals, random processes, performance measures, and satellite communication systems. Modulation formats, including amplitude modulation (AM) and frequency modulation (FM). Digital communications, including pulse amplitude modulation (PAM), pulse code modulation (PCM), frequency shift keying (FSK), and phase shift keying (PSK). Mr. Omura (W).

135. Introduction to Optimization Techniques. (Formerly numbered 129A.) Lecture, four hours; recitation, one hour. Prerequisites: course 103, Mathematics 32A, and 33A, or consent of instructor. Minimization of unconstrained functions of several variables, numerical solutions, Newton-Raphson, conjugate gradient, and quasi-Newton methods. Rates of convergence. Methods for constrained minimization: introduction to linear programming, gradient projection and reduced gradient methods, Lagrangian methods. Students are expected to use the school's microcomputers. Mr. Aoki, Mr. Jacobsen (F).

141. Principles of Feedback Control. (Formerly numbered 122A.) Prerequisite: course 102 or consent of instructor. Classical methods of analysis and design of feedback control systems as applied to problems selected from engineering, biology, and related areas. Mr. P.K.C. Wang (W).


151. Electromagnetic Waves I. (Formerly numbered 117A.) Lecture, four hours; recitation, one hour. Prerequisite: course 115B. Transmission line theory: guided waves in enclosed waveguide and on surfaces; Smith chart; excitation of guided waves; phase and group velocity; cavity resonators; concept of Q; perturbation theory; waves and fields in complex media (ferries, crystals, semiconductors, plasmas). Mr. Schott, Mr. Yeh (F, Sp).


162B. Antenna Design II. (Formerly numbered 117X.) Lecture, four hours; recitation, one hour. Prerequisite: course 162A. Radiation patterns of horns, slots, and patch antennas. Equivalent source representations. Synthesis of sum and difference patterns. Dohp-Chebyshev excitation. Design of slot arrays with mutual coupling. Design of traveling wave antennas, reflection, and leaky waves. Mr. Elliott (F).

164. Introduction to Microwave Circuits. (Formerly numbered 117Y.) Lecture, four hours; recitation, one hour. Prerequisite: course 161. Equivalent mode voltage/current representation of guided waves in arbitrary rectangular structures. Design of matching obstacles, attenuators, phase shifters, directional couplers, hybrid junctions, isolators, circulators, and microwave filters. Mr. Elliott (W).

165B. Microwave and Millimeter Wave Active Circuits. (Formerly numbered 117D.) Lecture, four hours; recitation, one hour. Prerequisite: course 161. Analysis of microwave and millimeter wave tubes such as klystrons, TWT, BWO, Magnetrons, and Gyrotrods, and solid-state circuits for IMPATTs, BARITTS, TUNNETS. Gunn effect devices, GaAs FETs, and bipolar transistors. Mr. Luhmann (W).

164AL: Electromagnetics Laboratory (2 units). (Formerly numbered 117L.) Lecture, one hour; laboratory, four hours. Prerequisite: course 161. Experimental design, fabrication, and testing of microwave and millimeter wave sources; coaxial, waveguide, and microstrip transmission systems; detectors and power measuring devices; cavity resonator studies. Mr. Luhmann (W)

164BL: Active Microwave Circuit Design Laboratory (2 units). (Formerly numbered 117M.) Laboratory, four hours. Prerequisite: course 164AL. The application of contemporary analytic design techniques to the development of microwave amplifiers and oscillators incorporating state-of-the-art commercially available microwave transistors (silicon bipolar and GaAs MESFET). Mr. Luhmann (Sp)

165. Modern Optics. (Formerly numbered 117E.) Lecture, four hours; recitation, one hour. Prerequisite: course 161. Two-dimensional transformations, Diffraction methods. Geometrical optics and applications. Gaussian beams. Coherent and incoherent imaging systems. Optical processing methods, holography, interferometry, and nonlinear effects. Mr. Alexopoulos (Sp)

172. Introduction to Lasers and Quantum Electronics. (Formerly numbered 113A.) Lecture, four hours; recitation, one hour. Prerequisite: course 101 or equivalent. Introduction to laser technology concepts, examples and applications of lasers and other quantum electronic devices. Interferometers, crystal optics, gain and saturation phenomena, and gas discharges. Mr. Stafsudd (F)

172L. Laser Laboratory (2 units). (Formerly numbered 113L.) Laboratory, four 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. Stafsudd (F)

182. Electrical Power Systems. (Formerly numbered 111A.) Lecture, four hours; recitation, one hour. Prerequisite: course 111A (100 for non-electrical engineering majors). Overall electrical power system requirements; typical systems; one-line diagrams. Per-unit quantities; characteristics of machines, transients, overhead lines, and cables; steady-state analysis of systems. Power limits and stability; fault calculations; relays and relay systems. Mr. Schott (W)

183. Electromechanical Energy Conversion. (Formerly numbered 111B.) Lecture, four hours; recitation, one hour. Prerequisite: course 111A (100 for non-electrical engineers). Energy conversion and power flow in electromagnetic interactions; electromechanics of actuators and rotating AC synchronous and induction machines and DC machines. Linear machines. Mr. Schott (Sp)

M185. Plasma Physics. (Formerly numbered M118.) (Same as Physics M122.) Lecture, four hours; recitation, one hour. Prerequisite: course 110 or Physics 110A. Senior-level introductory course to physics 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. Chen (F, even years; Sp)

199. Special Studies (2 to 8 units). Prerequisites: senior standing, consent of instructor. Individual investigation of a selected topic to be arranged with a faculty member. Enrollment request forms available in department office. Only two units may be applied toward the degree; the two units may 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 the degree. (F, W, Sp)

Graduate Courses

2015. Electrical Engineering Seminar (2 units). (Formerly numbered 201.) Prerequisite: graduate standing in engineering. Lectures on current research topics in electrical engineering. S/U grading. Mr. Green (F, W, Sp)

M206A. Analytical Methods of Engineering I. (Formerly numbered M291A.) (Same as Mechanical, Aerospace, and Nuclear Engineering 291A.) Prerequisites: Mathematics 131A, 132. Application of abstract mathematical methods to engineering problems; the solution of linear and non-linear differential equations, L theory — linear spaces and operators. Eigenvalue problems. Introduction to spectral theory — elementary distribution theory. Applications to problems in engineering. Mr. Gibson, Mr. Wirgau (W)

M206B. Analytical Methods of Engineering II. (Formerly numbered M291B.) (Same as Mechanical, Aerospace, and Nuclear Engineering 291B.) Prerequisite: course M206A or Mechanical, Aerospace, and Nuclear Engineering 291A or consent of instructor. Applications of modern mathematical methods to engineering problems. Review of spectral theory. Green's functions and eigenvalue problems for second-order ordinary differential equations and their adjoints. Discrete and continuous spectra for both regular and partial differential equations. Initial and boundary value problems. Mr. Gibson, Mr. Levan (Sp)


215A. Analog Integrated Circuits. (Formerly numbered 216A.) Prerequisite: course 115B. High-speed linear amplifiers: circuit design for optimum high-frequency response. Operational amplifiers, improved input impedance and slew rate, zero-pole compensation, high-performance operational amplifiers. SMV, Voltage multipliers, D/A and A/D converters. Mr. Abid, Mr. Martin (F)

215B. Digital Advanced Integrated Circuits. (Formerly numbered 216B.) Prerequisite: course 115C. Modern topics in the analysis and design of integrated circuits. Active and passive circuits, MOS digital circuits (flipflops, registers, counters, PLAs, etc.). VLSI memories (ROMs, RAMs, CCDs, bubble memories, EPROMs, EEPROMs). VLSI systems (microcomputers, PLAs, ADCs, etc.). Mr. Martin (W)

215C. Advanced Integrated Circuit Design. (Formerly numbered 216C.) Prerequisites: courses 118, 215A, 215B. Integrated circuit and system considerations: optimization and high-frequency effects, yield, reliability. Competing integrated circuit technologies: trade-offs in materials and circuit design, special functions, hard-wired and software trade-offs. Integrated circuit design project. Mr. Martin (F)


M216A. LSI in Computer System Design. (Formerly numbered M256A.) Lecture, four hours; laboratory, four hours. Prerequisites: graduate standing in computer science or electrical engineering, consent of instructor. LSI/VLSI design and application in computer systems. Fundamental design techniques that can be used to implement complex integrated systems on a chip. Mr. Viswanathan (F, W)

M216B-M216C. LSI in Computer System Design. (Formerly numbered M256B-M256C.) (Same as Computer Science M256B-M256C.) Lecture, four hours; laboratory, four hours. Prerequisites: course 118, M216A. LSI/VLSI design and application in computer systems. In-depth studies of VLSI architectures and VLSI design tools. In Progress grading. Mr. Viswanathan (W, M216B; Sp, M216C)

219A. Special Topics In Electric Circuit Theory. (Formerly numbered 219A.) Lecture (two units). An advanced course in electric circuit theory. The Hilbert transform. Allpass functions and networks. Design of linear-phase polynomials. Mr. Orchard (F)

221A. Physics of Semiconductor Devices I. (Formerly numbered 215D.) Prerequisite: course 121A. Physical principles and design considerations of semiconductor devices and charge-coupled devices. Mr. Allen, Mr. Viswanathan (F)

221B. Physics of Semiconductor Devices II. (Formerly numbered 215E.) Prerequisite: course 121A. Principles and design considerations of field effect devices and charge-coupled devices. Mr. Viswanathan (Sp)

221C. Microwave Semiconductor Devices. (Formerly numbered 215C.) Prerequisite: course 121A. Physical principles and design considerations of microwave devices. IMPATT diodes, tunnel diodes, microwave transistors. Mr. Fetterman, Mr. K. Wang (W)

223. Solid-State Electronics I. (Formerly numbered 215A.) Prerequisites: courses 124 and 270, or consent of instructor. Energy band theory, electronic band structure of various elementary, compound, and alloy semiconductors, defects in semiconductors. Recombination mechanisms, transport properties. Mr. Pan (F)

224. Solid-State Electronics II. (Formerly numbered 215B.) Prerequisite: course 223. Techniques to solve Boltzmann transport equation, various scattering mechanisms in semiconductors, high field transport properties in semiconductors, Monte Carlo method in transport. Optical properties. Mr. Pan (W, even years)

225. Seminars on Advanced Topics in Solid-State Electronics. (Formerly numbered 219B.) Prerequisites: circuit design techniques, device research areas, and radiation effects in semiconductor devices, diffusion in semiconductors, optical and microwave semiconductor devices, nonlinear optics, and electron emission.
229S. Advanced Electrical Engineering Seminar (2 units). (Formerly numbered 219X.) Prerequisite: successful completion of Ph.D. major field examination or consent of instructor. Seminar on current research topics in solid-state and quantum electronics (Section 1) or in electronic circuit theory and applications (Section 2). Students report on a tutorial topic and on a research topic in their dissertation area. May be repeated for credit. S/U grading.

230A. Estimation and Detection in Communication and Radar Engineering. (Formerly numbered 230.) Prerequisite: course 131A or equivalent. Not open for credit to students with credit for former System Science 227A. Applications of estimation and detection concepts in communication and radar engineering; random signal and noise characterizations by analytical and simulation methods; mean square (MS) and maximum likelihood (ML) estimations and algorithms; detection under ML, Bayes, and Neyman-Pearson (NP) criteria; optimal-to-noise-ratio (SNR) and error probability evaluations.

Mr. Omura, Mr. Rubin, Mr. Yao (F)

230B. Digital Communication Systems. (Formerly numbered 233.) Prerequisite: course 230A. Basic concepts and system design techniques for digital communication systems; applications; representation of bandpass waveforms; geometry and optimum receivers in white Gaussian noise; comparisons of digital modulation schemes; transmission over real channels; applications to satellite and mobile radio systems. Mr. Yao (W)


Mr. Levan (W)


Mr. Omura (W)

231A. Introduction to Information Channel and Source Coding. (Formerly numbered 231.) Prerequisite: course 230A. Not open for credit to students with credit for former System Science 227B. Fundamental concepts of information theory with applications to digital communications. Block and convolutional codes, Trellis, Viterbi, binary, and variable-rate codes, channel and source coding.

Mr. Baker, Mr. Omura (W)

231B. Error Control Codes and Cryptography. (Formerly numbered 236.) Prerequisite: course 231A. Introduction to Galois fields with applications to error control codes and cryptography. Linear block codes, cyclic codes, BCH codes, Reed-Solomon codes, and Goppa codes. Digital circuit implementation of encoders, decoders, and cryptographic systems. Convolutional and public key cryptosystems and key management.

Mr. Omura, Mr. Rubin, Mr. Yao (Sp)

231C. Rate Distortion Theory and Source Coding Techniques. Prerequisites: courses 230A and 231A, or consent of instructor. Sources and distortion measures, the rate distortion function and its evaluation for discrete and continuous sources, source coding theorems, comparisons of practical coding schemes to theoretical bounds, speech and image quantization.

Mr. Baker (Sp)

231D. Spread Spectrum Communications. (Formerly numbered 235.) Prerequisite: course 231A. Spread spectrum digital communications for anti-jam and multiple-access applications. Basic design approach, models, and a general analysis for spread spectrum systems. Direct sequence spread spectrum, binary phase-shift keying (BPSK) and frequency-hopped multiple-frequency-shift keying (MFSK) signals. Multiple access in spread spectrum digital radio networks. The Kautz graph. Mr. Omura (Sp)

231E. Algebraic Coding Theory. (Formerly numbered 227F.) Prerequisite: course 231A. Fundamentals of linear or parity-check codes and decoding algorithms based on the algebraic theory of finite fields and groups; cyclic codes; Hamming; Reed-Muller, Bose-Chaudhuri-Hocquenghem, and Reed-Solomon codes, and corresponding decoding algorithms.

Mr. Jacobsen (Sp)

232A. Stochastic Modeling with Applications to Telecommunication Systems. (Formerly numbered 232.) Prerequisite: course 131A or equivalent. Not open for credit to students with credit for former System Science 220D. Introduction to stochastic processes as applied to the study of telecommunication systems. Markov chains, Markov processes, discrete-time Markov chains; continuous-time Markov jump processes. Applications to traffic and queuing analysis of basic telecommunication system models, telephone traffic, call blocking.

Mr. Rubin (W)

232B. Telecommunication Switching and Queueing Systems. (Formerly numbered 232A.) Prerequisite: course 232A. Not open for credit to students with credit for former System Science 220A. Queueing models and analysis with applications to space-time digital switching systems and to integrated-service telecommunication systems. Fundamentals of traffic engineering and queuing theory. Queue size, waiting time, busy period, and blocking. For telecommunication networks.

Mr. Rubin (W)

232C. Telecommunication Architecture and Networks. (Formerly numbered 23D.) Prerequisite: course 232B. Analysis and design of integrated-service telecommunication networks and multiple-access procedures. Stochastic analysis of priority-based queueing system models. Queuing networks; network protocol architectures; error control; routing, flow, and access control. Applications to local-area, personal area, and satellite communication networks.

Mr. Rubin (Sp)

232D. Telecommunication Networks and Multiple-Access Communications. (Formerly numbered 2277.) Prerequisite: course 232B. Performance analysis of networks and multiple-access communication systems. Topics include architectures, multiplexing and multiple-access, access delays, error detection and flow control, switching, routing, protocols. Applications to local-area, packet-radios, distributed computer and satellite communication networks.

Mr. Omura (W)

232E. Graphs and Network Flows. (Formerly numbered 2200D.) Prerequisite: course 136 or consent of instructor. Solution to analysis and synthesis problems which may be formulated as flow problems in capacity constrained (or cost constrained) networks. Development of tools of network flow theory using graph theoretic methods; applications to communications, transportation, and transmission problems.

Mr. Jacobson (Sp)

236A. Linear Programming. (Formerly numbered 272A.) Prerequisite: Mathematics 115 or equivalent knowledge of linear algebra. Basic graduate course in linear programming. The simplex method and its variants. Convergence proofs. Duality theory. Geometry of linear programs. Parametric programming. Special structures such as decomposition and upper bounded variables. Complementary pivot theory. Quadratic programming.

Mr. Jacobson (F)

236B. Nonlinear Programming. (Formerly numbered 200B.) Prerequisite: course 236A or equivalent. Basic graduate course in nonlinear programming. Convex sets and functions and their basic properties; Kuhn-Tucker points, saddle points, and nonlinear or conjugate duality theory. Development of algorithms and convergence theory.

Mr. Jacobsen (W)

236C. Optimization Methods for Large-Scale Systems. (Formerly numbered 272C.) Prerequisite: course 236B. Theory and solution techniques for decomposing large-scale mathematical programming problems. Generalized linear programming, decomposition algorithms, column generation, economic implications. Application to stochastic programming, multi-commodity networks, nonconvex programming; minimizing concave functions on convex polyhedra, reverse convex programming.

Mr. Jacobsen, Mr. Mortensen (Sp)

237. Dynamic Programming. (Formerly numbered 273A.) Prerequisite: course 232A. Introduction to the mathematical analysis of sequential decision processes. The finite horizon model in both the deterministic and stochastic cases. The finite-state infinite horizon model. Banded approximate solution methods. Applications from inventory theory, finance, and transportation systems.

Mr. Jacobsen (W)

238. Reliability Theory with Applications. (Formerly numbered 275B.) Prerequisite: course 131A or equivalent. Basic graduate course in reliability theory. Development of reliability models for complex systems, coherent structures, modular decomposition, reliability bounds. Constant, monotone hazard functions. Optimization problems in reliability: redundancy allocation. The need for computer programs to solve reliability problems. Sensitivity analysis and risk assessment. Reliability models for complex systems, such as phase-coherent communication systems, optical channels, time-variant channels, feedback channels, broadcast channels, networks, coding and decoding techniques. May be repeated for credit with topic change.

239B. Topics in Operations Research. (Formerly numbered 272BA-272BZ.) Prerequisite: consent of instructor. Treatment of one or more selected topics from areas such as integer programming, stochastic optimization; network synthesis; scheduling, routing, location, and design problems; implementation and design of integer programming algorithms; stochastic programming; applications in engineering, computer science, economics. May be repeated for credit with topic change.

240A. Linear Dynamic Systems. (Formerly numbered 200A.) Prerequisite: course 142 or equivalent. Basic graduate course in linear systems and control. State-space description of dynamic systems. Deduction of state spaces from input-output data. State feedback; observability and state estimators. Stabilization and observability. Stability and state feedback stabilizability; state observer.

Mr. Balakrishnan (F)

240B. Linear Optimal Control. (Formerly numbered 221.) Prerequisites: courses 241 and equivalent. Basic graduate course in linear quadratic optimal control with emphasis on classical control theory and practical systems. Mr. P.K.C. Wang (F,Sp)

241A. Stochastic Processes. (Formerly numbered 200C.) Prerequisite: course 131B or equivalent. Fundamentals and applications of second-order theory. Stationary, ergodic and spectral density. Gaussian process, processing by digital systems, Bayes rule and conditional expectation; mean-square estimation and Kalman filtering.

Mr. Mortensen (F)

Mr. Balakrishnan (W)

241C. Stochastic Control. (Formerly numbered 222B.) Prerequisites: courses 240B, 241B. Estimation and control of linear discrete-time and continuous-time stochastic systems, separation theorem and applications; Kalman filtering.

Mr. Balakrishnan (Sp)

242. Nonlinear Control. (Formerly numbered 222A.) Prerequisite: course 240B. Techniques for studying nonlinear systems, with emphasis on their stability; Liapunov’s direct method; input-output stability; Popov’s method; linearization.

Mr. P.K.C. Wang (W)

M243. Biological Control Systems. (Formerly numbered M222F.) (Same as Anesthesiology M222.) Prerequisite: course 141 or equivalent. Introduction to the application of control theory to the modeling and analysis of biological control systems, such as the respiratory system, cardiovascular system, and neuromuscular system. Emphasis on solving problems of current interest in biomedicine.

Mr. Ward, Mr. Wiber (W)

2495. Topics in Control. (Formerly numbered 222EA-222EZ.) Prerequisite: consent of instructor. Theoretical treatment of one or more areas of control theory and applications, such as computational methods for optimal control, stability of distributed systems; identification; adaptive control; nonlinear filtering; differential games; linear quadratic Gaussian models, state estimation, and process control problems. Remarks may be repeated for credit with topic change.


Mr. Alexopoulos, Mr. Yeh (F: 260A; W: 260B)

261. Microwave and Millimeter Wave Circuits. (Formerly numbered 217C.) Prerequisite: course 161 or consent of instructor. Microwave and millimeter wave circuits, including waveguides, striplines, and planar microwave systems. Eigenmode and scattering analysis techniques. Application to the design of microwave systems.

Mr. Alexopoulos (Sp)


Mr. Elliott (W)

270. Quantum Electronics. Prerequisite: course 123A or consent of instructor. Review of quantum mechanics, approximation methods, interaction of radiation and matter.

Mr. Balakrishnan (F)

271. Quantum Electronics II. (Formerly numbered 217B.) Prerequisite: course 270 or consent of instructor. Optical beams and resonators, interaction of light with atoms (including amplification and saturation), properties of lasers (including power output and mode effects).

Mr. Stafus (W)

272. Quantum Electronics III. (Formerly numbered 217C.) Prerequisite: course 271 or consent of instructor. Properties of laser oscillators, including transient phenomena, quantum mechanical effects, and behavior of high-gain laser media.

Mr. Stafus (Sp)

273. Quantum Electronics IV. (Formerly numbered 217D.) Prerequisite: course 272 or consent of instructor. Quantum electronic systems, modulation, detection, acousto-optics, magnetooptics, nonlinear optics. Raman scattering, Brillouin scattering.

Mr. Stafus (Sp)

279S. Quantum Electronics Seminar. (2 units.) (Formerly numbered 213S.) Prerequisite: course 270 or consent of instructor. A series of lectures and student presentations on topics of current research interest in quantum electronics, modern optics, and laser physics. May be repeated for credit. S/U grading.

Mr. Stafus (W,Sp)

285A. Plasma Waves and Instabilities. (Formerly numbered 214A.) Prerequisites: courses 101, and M185 or Physics M122. Wave phenomena in plasmas described by the macroscopic fluid equations. Emphasis on homogeneous plasmas in uniform magnetic fields. Microwave propagation, plasma oscillations, ion acoustic waves, cyclotron waves, hydrodynamic waves, whistler and helicon waves, and their classification. Illustrative experiments.

Mr. Chen, Mr. Luhmann (W)

285B. Advanced Plasma Waves and Instabilities. (Formerly numbered 214B.) 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, echoes, laser heating. Emphasis on experimental considerations and techniques.

Mr. Chen, Mr. Luhmann (Sp)


Mr. Chen, (F, odd years)


Mr. Chen (W)

M288. Fusion Reactor Technology and Design. (Formerly numbered M214E.) (Same as Mechanical, Aerospace, and Nuclear Engineering M237C.) Prerequisite: Mechanical, Aerospace, and Nuclear Engineering 135 or consent of instructor. Fusion reactors, both magnetic and inertial. Operating conditions, power balance, system design, stability, shield design and analysis, induced radioactivity, tritium breeding, and processing; radiation damage effects, design of reactors for electricity production or as hybrid systems.

Mr. Chen (Sp)

298. Seminar in Engineering (2 to 4 units). Prerequisites: graduate standing 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.

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the 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. Viswanathan (F,Sp)

596. Directed Individual or Tutorial Studies (2 to 8 units). Prerequisites: graduate standing in electrical engineering, consent of instructor. Petition forms to request enrollment may be obtained from the Assistant Dean, Graduate Studies. Supervised investigation of advanced technical problems. S/U grading.

597A. Preparation for M.S. Comprehensive Examination (2 to 16 units). Prerequisites: graduate standing in electrical 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 electrical engineering, consent of instructor. Preparation for oral qualifying examination, including preliminary research on dissertation. S/U grading.

597C. Preparation for Ph.D. Oral Qualifying Examination (2 to 16 units). Prerequisites: graduate standing in electrical engineering, consent of instructor. Preparation for oral qualifying examination, including preliminary research on dissertation. S/U grading.

598. Research and Preparation of M.S. Thesis (2 to 12 units). Prerequisites: graduate standing in electrical engineering, consent of instructor. Supervised independent research for M.S. candidates, including thesis prospectus. S/U grading.

599. Research and Preparation of Ph.D. Dissertation (2 to 16 units). Prerequisites: graduate standing in electrical engineering, consent of instructor. Usually taken after student has been advanced to candidacy. S/U grading.

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 program, see Chapter 17 on the School of Public Health.

Materials Science and Engineering

6531K Boelter Hall, (213) 825-5534

Professors

Alan J. Ardell, Ph.D., Chair
RoiTian F. Bunshah, D.Sc.
David L. Douglass, Ph.D.
Bruce S. Durn, Ph.D.
John H. Lyman, Ph.D.
John D. Mackenzie, Ph.D.
Kojiro Oono, Ph.D.
Aly H. Shabaik, Ph.D.
George H. Sines, Ph.D.
Christian N. J. Wagner, D rer. nat.
Alfred S. Yue, Ph.D.
Daniel Rosenthal, Ph.D., Emeritus
Scope and Objectives
At the heart of materials science is an understanding of the microstructure of solids. "Microstructure" is used broadly in reference to solids viewed at the subatomic (electronic) and atomic levels, and the nature of the defects at these levels. The microstructure of solids at various levels profoundly influences the mechanical, electronic, chemical, and biological properties of solids. The phenomenological and mechanistic relationships between microstructure and the macroscopic properties of solids are, in essence, what materials science is all about.

Materials engineering, on the other hand, is concerned with the design, processing, 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 processing, 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; (3) nondestructive testing, which measures the degree of reliability of a processed part.

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 for students enrolled in the Department of Chemistry with an interest in materials science.

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. (Formerly numbered Engineering 14.) Lecture, three hours; demonstration, one hour; recitation, one hour. Prerequisites: 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.

Bachelor of Science in Materials Engineering
Materials engineering 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 plastics, 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.

Course requirements are as follows:
2. Materials Science and Engineering 140E, 141, 142A, 144A, 145A, 146A, 147A, 142L, and 146L, plus four additional laboratory units from 143L, 144L, 145B (one unit of lab credit), 147L; Mechanical, Aerospace, and Nuclear Engineering 191A, 192A or Chemical Engineering M192A (satisfies the mathematics requirement); Civil Engineering 106A (satisfies the engineering economics requirement).
4. English 3: Chemistry 11A, 11B/11BL; Computer Science 10C or 10F; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 8A, 8B/8BL, 8C/8CL, 8D/8DL (physics labs are optional); one life science elective course.
5. A minimum of seven courses from the humanities, social sciences, and/or fine arts approved list (at least three must be upper division; at least three — with two upper division courses — must be in the same academic department or otherwise reflect coherence with respect to subject matter; and one must satisfy the engineering and science in society requirement, which also may be satisfied within the free electives).
6. Two free elective courses.

Upper Division Courses


140E. Materials Selection and Engineering Design. (Formerly numbered Engineering 140E.) Prerequisites: courses 144A, 146A, 147A. Explicit guidance among the myriad materials available for design in engineering. Properties and applications of steels, nonferrous alloys, polymeric, ceramic and composite materials, coatings, materials selection, treatment, and serviceability emphasized as part of successful design. Design projects.


142L. Diffusion and Diffusion-Controlled Reactions Laboratory (2 units). Corequisite: course 142A. Experimentation in diffusion and heat-treating cycles and performing experiments to study interdiffusion, growth of intermediate phases, recrystallization, and grain growth in metals. Analysis of data. Comparison of results with theory.

143A. Mechanical Behavior of Materials. (Formerly numbered Engineering 143A.) Prerequisite: course 14, or equivalent; Engineering 104, 105A, 105D, 106, 108. Plastic flow of metals under simple and combined loading, strain rate and temperature effects, dislocations, fracture, microstructural effects, mechanical and thermal treatment of steel for engineering applications.

143B. Failure Analysis of Metals. Prerequisite: course 142A or 147A. The 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.
143L. Mechanical Testing Laboratory (2 units). (Formerly numbered Engineering 143L.) Laboratory, four hours; no credit toward Bachelor of Science degree. Experiments and procedures for the determination of mechanical properties of engineering materials. Emphasis on the use of various testing equipment for the determination of strength, modulus of elasticity, friction, thermal expansion, and other properties. Mr. Sines (W,Sp).

144A. Polymer Science. (Formerly numbered Engineering 144A.) Prerequisite: consent of instructor. Polymer chemistry, molecular weight and distribution, chemical structure and bonding, structural characterization and morphology, and the effects of molecular weight on physical properties. Glasses, spring polymers, elastomers, adhesives. Fiber forming polymers, polymer processing technology, plasticization. Mr. Ardell (W).

144L. Laboratory Experiments in Polymer Synthesis and Characterization (2 units). (Formerly numbered Engineering 144L.) Prerequisites: course 144A or consent of instructor. Synthesis of addition and condensation type polymers. Polymerization kinetics. Characterization of polymer molecular weights, glass transition temperature and melting temperature. Glasses, polymers and elastomers. Correlation of polymer structure and molecular weight with properties. Effect of polymer additives (e.g., plasticizers). Mr. Ardell (Sp).

145A. Introduction to Materials Characterization A (Crystal Structure and X-Ray Diffraction of Materials). (Formerly numbered Engineering 145A.) Lecture, three hours; laboratory, two hours. 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, unit-cell parameters; structure refinement by automatic procedures; structure determination by X-ray, neutron, and electron diffraction; phase diagram determination; X-ray stress measurements; X-ray spectroscopy; design of materials characterization procedures. Mr. Wagner (F).

145B. Introduction to Materials Characterization B (Electron Microscopy). (Formerly numbered Engineering 145B.) Lecture, three hours; laboratory, two hours. Prerequisites: courses 14, 145A. Characterization of microstructure and microchemistry of materials: transmission electron microscopy; reciprocal lattice, electron diffraction, stereographic projection, direct observation of defects in crystals, replicas; scanning electron microscopy: emissive and reflective electron images, chemical analysis; electron microprobe analysis; high resolution electron microscopes. Mr. Ardell (W).

146A. Introduction to Ceramics and Glasses. (Formerly numbered Engineering 146A.) Prerequisite: course 14 or equivalent. An 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. Mackenzie (F).

146B. Processing of Ceramics and Glasses. (Formerly numbered Engineering 146B.) Prerequisite: course 146A or equivalent. A study of the processes used in fabrication of ceramics and glasses, relationship to structure and properties. Processing operations, including materials preparation, forming, sintering, and melting. Design of processing to achieve desired characteristics of structure, properties, and cost. Mr. Mackenzie (W).

146C. Electronic Ceramics. (Formerly numbered Engineering 146C.) Prerequisites: course 14, Electrical Engineering 100, or equivalent. The utilization of ceramics in microelectronics; thick film and thin film resistors, capacitors, and substrates; design and processing of electronic ceramics and packaging: magnetic ceramics; ferroelectric ceramics and electro-optic devices; optical wave guide applications and devices. Mr. Dunn (F).

146L. Laboratory in Ceramics (2 units). (Formerly numbered Engineering 146L.) Laboratory, four hours. Prerequisite: course 146A or equivalent. Recommended corequisite: course 146B. Processing of common ceramics and glasses. Attainment of specific properties through process control for engineering applications. Quantitative evaluation of product properties: 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. Mackenzie (Sp).

147A. Introduction to Metallurgy. (Formerly numbered Engineering 147A.) Prerequisites: course 14, a course in thermodynamics. Introduction to metallic alloys used in engineering design. Metallurgical thermodynamics, phases in metal systems, phase diagrams for metallic alloys. The role of vacancies and interstitials in metallic alloys. The role of solutes in metallic alloys. Mr. Bunshah (Sp).


147E. Modern Process Metallurgy. (Formerly numbered Engineering 147E.) Prerequisites: course 147A, and/or Chemical Engineering M105A or Mechanical, Aerospace, and Nuclear Engineering M105A. Modern process metallurgy used in extraction and refining of metals and alloys. The role of vacuum processing in modernizing and enriching the scope of extractive metallurgy. Design of extractive and refining processes. Properties of vacuum-processed materials. Mr. Bunshah (W, even years).

147L. Manufacturing Processes Laboratory. (Formerly numbered Engineering 147L.) 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 isostatic pressing of powder. Mr. Shabaik (Sp).

148A. Structure and Properties of Composite Materials. (Formerly numbered Engineering 148A.) Prerequisites: course 14, one course from 143A, Mechanical, Aerospace, and Nuclear Engineering 156A, 156B, or Civil Engineering 156A. Relationship between structure and mechanical properties of composite materials with fiber and particulate reinforcement. Properties of fiber, matrix, and interfaces. Selection of macrostructures and material systems. Mr. Ono (Sp).

145A. Materials and Structures in Nature and in Civilization. Lecture, two hours; laboratory, four hours. Prerequisite for undergraduates: equivalent of preparation in natural science and competency in English and mathematics expected of entering college freshmen; for graduate students: consent of instructor. Not open to engineering or physical science students. A far-reaching effort at understanding mechanical properties of materials, especially as embodied in structures both by nature and throughout history. Laboratory techniques to determine mechanical behavior of selected materials and structures. Individual experimental project: report and presentation. Mr. Klement (Sp).


149E. Ceramic Materials in History and Archaeology. (Formerly numbered Engineering 149E.) Lecture: two hours; laboratory, four hours. Prerequisite: consent of instructor. A technical introduction to the origins and evolution of ceramics and related materials, with emphasis on fabrication processes and raw materials. Laboratory exercises aimed at the development of skills necessary for analytical studies for students in the humanities and sciences.

180B. Machine and Systems Biotechnology. (Formerly numbered Engineering 180B.) Prerequisite: course M107A or consent of instructor. Quantitative and computer methods for assessing and selecting components in engineering design applications. Limits and optimality of human psychophysiological capabilities applied to display-control design. Decision-making problems in the computer control of man-machine interactions in large-scale systems. Mr. Lyman (Sp).

199. Special Studies (2 to 8 units). Prerequisites: senior standing, consent of instructor. Individual investigation of a topic in engineering. Mr. Klement (W).

Graduate Courses


240B. Principles of Materials Science B (Structure of Materials). Prerequisite: course 145A 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 by crystals. Mr. Dunn (Sp).

241. Oxidation of Metals. Prerequisite: course 141 or equivalent or consent of instructor. The 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, factors influencing adhesion of surface films. Mr. Sines (F).

242A. Plasticity and Fracture Applied to Metalworking. Prerequisite: Mechanical, Aerospace, and Nuclear Engineering 156A. Fundamental concepts describing the mechanics of plastic deformation of homogeneous solid, field criteria. Methods of solution, including slip line field, of problems involving plastic deformation, with examples involving plane strain and axisymmetric deformation. Extrusion problem. Application of methods of solution. Mr. Shabaik (F).

243A. Fracture of Structure Materials. Prerequisite: Mechanical, Aerospace, and Nuclear Engineering 156A or equivalent. The engineering and scientific aspects of crack nucleation, slow crack growth, and unstable fracture. Stress corrosion and fatigue in metals, fracture in reactive environments, alloy development, fracture-safe design. Mr. Ono (Sp).

243C. Dislocations and Strengthening Mechanisms in Solids. Prerequisite: course 143A or Mechanical, Aerospace, and Nuclear Engineering 158A. Elastic and plastic behavior of crystals, the geometry, mechanics, and interaction of dislocations, mechanisms of yielding, work hardening, and other strengthening. Mr. Ono (Sp, odd years)

244. Electron Microscopy. Prerequisite: course 145B or equivalent. Essential features of the electron microscope, theory of electron diffraction, kinematical and dynamical theories of electron diffraction, including anomalous absorption, applications of theory to defects in crystals. Mr. Wagner (Sp, odd years)

244C. Diffraction Methods in Science of Materials. Prerequisite: course 145A or equivalent. Theory of the diffraction of waves (X rays, electrons, and neutrons) and the application of these principles in Electron devices. Applications in solid-state technology, 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 imaging to defects in crystals. Moire fringes, direct lattice imaging to defects in crystals. Mr. Ono (Sp, odd years)

245. Mechanical Properties of Nonmetallic Crystalline Solids. Prerequisite: course 146A. Mechanical and environmental factors affecting the mechanical properties of nonmetallic crystalline solids, including atomic bonding and structure, mechanical and optical properties of glasses and relationship to structure. Mr. Mackenzie (Sp, odd years)

246. Electronic and Optical Properties of Ceramics. Prerequisite: course 146A. Principles governing electronic properties of ceramic single crystals and glasses and effects of processing and microstructure on properties of electronic ceramics, ferroelectricity, and photochromism. Magnetic ceramics. Infrared, visible, and ultraviolet transmission. Unique application of ceramics. Mr. Mackenzie (Sp, even years)


247C. Advanced Solidification. Prerequisites: courses 141, 147A, or equivalent. Liquid state concept of constitutional supercooling; nucleation from the liquid phase; solute redistribution during liquid-solid transformation; fluid motion; interface morphology; eutectic growth; determination of phase diagrams. Students report on current topics in solidification. Mr. Yue (Sp, odd years)

248A. Experimental Methods in Materials Synthesis. Prerequisite: bachelor's degree in chemistry, physics, or engineering. Techniques used in materials synthesis temperature measurement, vacuum techniques, methods of heating and quenching, solidification and refining of metals, crystal growth, thin film deposition and thick film deposition. Laboratory experiments and demonstrations. Mr. Bunshah (F)

248B. Deposition Technologies and Their Applications. Prerequisites: courses 146A, 147A, and 248A, or consent of instructor. Deposition methods used in high technology application. Theory and experimental details of physical vapor deposition (PVD), chemical vapor deposition (CVD), plasma spray, electrodeposition. Applications in semiconductor, chemical, optical, mechanical, and metallurgical industries. Mr. Bunshah (W, odd years)

280A. Advanced Biotechnology. (Formerly numbered Engineering Systems 280A.) Prerequisite: course 180B or Mechanical, Aerospace, and Nuclear Engineering 180A or consent of instructor. Review and analysis of contemporary bioscience research which bears on problems of engineering component and system design. Emphasis on methodological and scientific factors underlying man-machine-environment interactions.

280B. Advanced Biotechnology. (Formerly numbered Engineering Systems 280B.) Prerequisite: course 180B or Mechanical, Aerospace, and Nuclear Engineering 180A or consent of instructor. Specialized coverage of "human factors" and "human engineering" with orientation toward obtaining design optimization of the functions of humans in relation to engineering parameters of environment, communication, and control.

298. Seminar in Engineering (2 to 4 units). Prerequisite: graduate standing in materials science and engineering, consent of instructor. Seminars may be organized in advance 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. A teaching apprenticeship under the active guidance and supervision of a permanent member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading.

396. Directed Individual or Tutorial Studies (2 to 8 units). Prerequisites: graduate standing in materials science and engineering, consent of instructor. Petition forms for request enrollment may be obtained from the Assistant Dean, Graduate Studies. Supervised investigation of advanced technical problems. S/U grading.

397A. Preparation for M.S. Comprehensive Examination (2 to 12 units). Prerequisite: graduate standing in materials science and engineering, consent of instructor. Reading and preparation for M.S. comprehensive examinations. S/U grading.

397B. Preparation for Ph.D. Preliminary Examinations (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.

398. 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 advanced to candidacy. S/U grading.

Mathematics/Computer Science (Interdepartmental)

For details on this undergraduate program, see Chapter 5 on the College of Letters and Science.
Scope and Objectives

The Mechanical, Aerospace, and Nuclear Engineering Department encompasses professional disciplines that are often divided into separate departments at other engineering schools. Curricula in mechanical engineering and aerospace engineering are offered on the undergraduate and graduate levels, while nuclear engineering is primarily a graduate discipline. The recent Conference Board of Associated Research Councils' study ranked UCLA's mechanical engineering program ninth in the nation for both teaching and research.

Because of the scope of the department, faculty research and teaching cover an extremely wide range of technical disciplines. Research in thermal engineering emphasizes basic heat and mass transfer processes as well as thermal hydraulics. Topics in the area of design, dynamics, and control include robotics, mechanism design, helicopter dynamics and aeromechanics, dynamics and control of large space structures. Studies in structural mechanics range from fracture mechanics and wave propagation to structural dynamics and aeroelasticity. In the area of fluid mechanics and acoustics, investigations are underway on combustion, flow instabilities, turbulence and thermal convection, aeroacoustics, and unsteady aerodynamics of turbomachines and helicopter rotors. Other key areas of research include fusion reactor design, experimental tokamak confinement physics, and surface physics; particle transport theory; light water reactor safety; reliability and risk assessment methodology and application; societal risk management; and nuclear materials. The department also has growing activity in computer-aided design and manufacturing.

At the undergraduate level, the department offers accredited programs leading to the Bachelor of Science degrees in Aerospace Engineering and Mechanical Engineering. The former includes opportunity to emphasize propulsion, heat and mass transfer, fluids, dynamics, and control, or structures, while the latter includes opportunity to emphasize mechanical design, dynamics, and control, thermal science and power systems, or manufacturing processes.

At the graduate level, the department offers programs leading to M.S. and Ph.D. degrees in three separate areas: mechanical engineering, aerospace engineering, and nuclear engineering. An M.S. in Manufacturing Engineering is also offered.

Bachelor of Science in Aerospace Engineering

Aerospace engineering is concerned with the design and construction of spacecraft and exploration and utilization of space and related technological fields.

Aerospace engineering is characterized by a very high level of technology. The aerospace engineer is likely to operate at the forefront of scientific discoveries, often stimulating these discoveries and providing the inspiration for the creation of new scientific concepts. Meeting these demands requires the imaginative use of many disciplines, including fluid mechanics and aerodynamics, structural mechanics, materials and aeroelasticity, dynamics, control and guidance, propulsion, and energy conversion.

Course requirements are as follows:

1. Eight core courses: Civil Engineering 108, Electrical Engineering 100, 102, Materials Science and Engineering 14, Mechanical, Aerospace, and Nuclear Engineering 102, 103, M105A, M105D.

2. Mechanical, Aerospace, and Nuclear Engineering 150A, 150B, 150P, 154A, 154B, 154S, 166A, 171A, and 161A or M169A; 157A (satisfy the laboratory requirement); Civil Engineering 106A (satisfies the engineering economics requirement); Mechanical, Aerospace, and Nuclear Engineering 157B and 162M (satisfy the design requirement); one mathematics course from Mechanical, Aerospace, and Nuclear Engineering 191A, M192A (recommended), 192B, 192C, 193A, 193B, or Electrical Engineering 103.

Eight laboratory units: Mechanical, Aerospace, and Nuclear Engineering 157, plus four additional units from one of the following subject areas:

Manufacturing Processes: Materials Science and Engineering 143L, 144L, 146L, 147L, Mechanical, Aerospace, and Nuclear Engineering 150L, 159L.

Mechanical Design, Dynamics, and Control: Civil Engineering 157B (two units of lab credit), 169L. Materials Science and Engineering 143L, Mechanical, Aerospace, and Nuclear Engineering 162C (two units of lab credit).

Thermal Science and Power Systems: Mechanical, Aerospace, and Nuclear Engineering 153L.

3. Four elective courses, approved by your adviser, to be selected from a list of areas.

(a) Materials Science and Engineering 143A, Mechanical, Aerospace, and Nuclear Engineering 158A, 163A, 164.

(b) Civil Engineering 174A, Mechanical, Aerospace, and Nuclear Engineering 174B, 194A, 194B.

Mechanical Design, Dynamics, and Control:

(a) Mechanical, Aerospace, and Nuclear Engineering 155, 162A, 163, M169A, 171A.


*Unless taken as part of the core.
Upper Division Courses

102. Mechanics of Particles and Rigid Bodies. (Formerly numbered Engineering 102.) Lecture, three 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. Melkanoff (F,Sp)

103. Elementary Fluid Mechanics. (Formerly numbered Engineering 103.) Lecture, three hours; recitation, two hours. Prerequisites: Mathematics 33A, Physics 6B. An introductory course dealing with the application of the principles of mechanics to the flow of compressible and incompressible fluids.

Mr. Meecham (F,W,Sp)

M105A. Introduction to Engineering Thermodynamics. (Formerly numbered Engineering 105A.) Lecture, four hours; four recitations, one hour. Prerequisites: Mathematics 32B. Phenomenological thermodynamics. Concepts of equilibrium, temperature, and reversibility. First law and concept of entropy; second law and concept of entropy. Equations of state and thermodynamic properties. Engineering applications of these principles in the analysis and design of closed and open systems.

Mr. Dhir (F,Sp)

M105D. Transport Phenomena. (Formerly numbered Engineering 105D.) Lecture, four hours; four recitations, one hour. Prerequisites: Physics 8B, Mathematics 32B, 33A. Transport phenomena; heat conduction, mass and momentum diffusion, convective heat and mass transfer, and radiation. Engineering applications in thermal and environmental control.

Ms. Lavine (F,W,Sp)


Mr. Catton (F,Sp)

M109AL. Thermal Sciences Laboratory. (Formerly numbered Engineering 131AL.) Laboratory, eight hours. Prerequisites: courses 131A, 157. Basic experimental investigations and analysis of the energy transformation and rate processes. Experiments include examples from thermodynamics and heat and mass transfer. Students take and analyze the data and discuss the physical phenomena.

Mr. Mills (Sp)

M130A. Intermediate Heat Transfer. (Formerly numbered Engineering 130A.) Prerequisite: course M105D. The 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. Mills (Sp)

M130A. Engineering Thermodynamics. (Formerly numbered Engineering 130A.) Prerequisite: course M105D. Fundamentals of energy systems. Rankine cycle and other power cycles, refrigeration, psychrometry, reactive and nonreactive fluid systems. Practice of engineers in the decision process. Emphasis on opportunities for the useful development of engineers with two upper division courses or more or higher standing in engineering.

Mr. Conn (F,Sp)


Mr. Mills (Sp)

M133A. New Energy Technology: Resources, Conversion, Constraints. (Same as Civil Engineering M133A.) Prerequisite: course M105A or equivalent in physics or chemistry or consent of instructor. Energy resources: fossil fuels, nuclear fuels, hydro, solar, wind, geothermal, and biomass sources. Conversion methods for power production and other energy uses. Consideration of thermodynamic, economic, and environmental constraints.

Mr. Kastenberg

M134A. Solar Energy Use and Control. (Formerly numbered Engineering 134A.) Prerequisite: course M105D 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 (Sp)

M135. Fundamentals of Nuclear Power. (Formerly numbered 135A.) Prerequisite: junior standing. Introduction to nuclear engineering; nuclear physics, neutron cross sections, nuclear fission and fusion; elementary analysis and design of reactors. Criticality, reactor neutrons diffusion theory; heat removal, and heterogeneous effects.

Mr. Kastenberg (F)

135D. Introduction to Fusion Engineering and Reactor Design. (Formerly numbered Engineering 135D.) Corequisite: course 135 or consent of instructor. Fusion reactions, fuel cycle, and operating conditions. Magnetic and inertial confinement, including tokamaks. Reversibility, mirror fusion, and seeded others. Concepts for and subsystems of fusion reactors. Design of reactors and key subsystems. Application of fusion principles for electricity, fissionable fuel, and/or chemical fuel production.

Mr. Dhir (W)


Mr. Apostolakis (F)


Mr. Ghoniem (W)

150A. Intermediate Fluid Mechanics. (Formerly numbered Engineering 150A.) Prerequisite: courses 103 or equivalent or consent of instructor. The basic equations for fluid motion. Transitions of the Navier-Stokes equations. Lubrication theory. Elementary potential flow theory. Boundary layer theory. Turbulent flow in pipes and boundary layers. Compressible flow: normal shocks, channel flow with friction or heat addition.

Mr. Kelly (F, W)


Mr. Kelly (Sp)

150P. Jet Propulsion Systems. (Formerly numbered Engineering 150P.) Prerequisites: courses 103, M105A. Thermodynamic properties of gases, design and analysis of aircraft jet engine components, cycle analysis, design and analysis of combustion systems, performance of rocket vehicles.

Ms. Karagozian (F)

151. Performance of Vehicles. (Formerly numbered Engineering 151.) Prerequisites: courses 103, M105A. Preliminary design analysis of the performance of a variety of vehicles, including ground vehicles, rail vehicles, aircraft, rocket-powered vehicles, ground effect machines, ships and sailboats; performance parameters include speed, range, payload, efficiency, dynamics and stability, noise, and air or water resistance.

Mr. Charwat (Sp)

153A. Engineering Acoustics. (Formerly numbered Engineering 153A.) Prerequisite: upper division standing in engineering or consent of instructor. Fundamental course in acoustics, including the ear and hearing; basic acoustical instrumentation; propagation of sound; sources of sound; architectural reverberation; selected subjects.

Mr. Meecham (W)
153B. Acoustics Laboratory. (Formerly numbered Engineering 153B. Laboratory, eight hours.) Prerequisite: course 153A or consent of instructor. Experimental studies in the field of acoustics, including audiometry, noise and noise control, acoustical filters, interference measurements, transducer characteristics, and interference. Occasionally field trips may be necessary to obtain data.

Mr. Meecham

153C. Noise and Noise Control Design. (Formerly numbered Engineering 153C.) Prerequisite: course 153A or consent of instructor. Practical concepts in design, construction, measurement, and analysis of noise suppression techniques. Equipment, transducers, environmental factors in sound propagation, enclosures, properties of materials, sound interaction in structures, mufflers, isolators, damping of panels, ducts, aerodynamic noise, noise criteria and standards.

Mr. Meecham

154A. Preliminary Design of Aircraft. (Formerly numbered Engineering 154A.) Laboratory, three hours; lecture, three hours. Classical preliminary design of an aircraft, including weight estimation, performance and stability, and control consideration. Quarter assignment consists of the preliminary design of a low-speed aircraft.

Mr. Friedmann (W)


Mr. Friedmann (Sp)

154S. Flight Mechanics, Stability, and Control of Aircraft. (Formerly numbered Engineering 154S.) Laboratory, eight hours. Prerequisite: course 150A, 150B. Aircraft performance, flight mechanics, stability, and control; some of the engineering demands faced by the aerospace industry. The effects of airplane flexibility on stability derivatives.

Mr. Friedmann, Mr. Westmann (F)

155. Intermediate Dynamics. (Formerly numbered Engineering 155.) Prerequisite: course 102 or equivalent. Study of general coordinate systems. Lagrange's equations, variational principles: central force motion; kinematics and dynamics of a rigid body. Euler's equations, motion of rotating bodies, oscillatory motion, normal coordinates, orthogonality relations, the vibrational modes.

Mr. Gibson (Sp)

156A. Advanced Strength of Materials. (Formerly numbered Engineering 156A.) Prerequisite: Civil Engineering 106. Columns and beam columns. Torsion; Axisymmetric analysis; strength of thin-walled structures. Loads on rollers. Rotating disks, thick hollow spheres, thick hollow circular cylinders, curved beams, coiled springs.

Mr. Westmann (F,Sp)

157. Basic Mechanical Engineering Laboratory. (Formerly numbered Engineering 157.) Lecture, four hours; laboratory, eight hours. Prerequisites: courses 103, M105A, M105D, Civil Engineering 108. Methods of measurement of basic quantities and performance of basic experiments in the thermodynamics, fluid mechanics, and structures. Primary sensors, transducers (motion, force and stress, temperature), recording equipment, signal processing, and data analysis.

Mr. Mills, (F,Sp)

157A. Fluid Mechanics/Aerodynamics Laboratory. (Formerly numbered Engineering 157A.) Laboratory, eight hours. Prerequisites: courses 150A, 157. An experimental illustration of important physical phenomena in the area of fluid mechanics-aerodynamics, as well as hands-on experience with modern experimental tools and techniques in the field, including the basics of digital data acquisition.

Mr. Monkiewitz


Mr. Westmann (W)

161A. Introduction to Astronautics. (Formerly numbered Engineering 161A.) Prerequisite: course 102. The space environment of man, earth orbits and trajectories, step rockets and staging, the two-body problem, orbital transfer and rendezvous, elementary perturbation theory, influence of earth's oblateness.

Mr. Kastenberg (F)

162A. Introduction to Mechanisms and Mechanical Systems. (Formerly numbered Engineering 162A.) Prerequisite: course 102. The analysis and synthesis of mechanisms and mechanical systems, including both kinematics and dynamics aspects. Mechanisms from a wide range of applications, including automatic machinery, transportation systems, and computer peripheral equipment.

Mr. Yang (F)

162B. Fundamentals of Mechanical Design. (Formerly numbered Engineering 162B.) Lecture, three hours; laboratory, three hours. Prerequisites: course 102, Civil Engineering 108. Techniques of modern design and development of mechanical systems, including simple mechanisms, design methods and subsystems such as gear trains, bearings, hydraulic and pneumatic subsystems. The dynamics of high-speed machines. Students create a design of their choice.

Mr. Yang (Sp)

162C. Electromechanical Systems Design Laboratory. (Formerly numbered Engineering 162C.) Lecture, one hour; laboratory, five hours. Prerequisite: course 162B or consent of instructor. Laboratory and design course for students interested in development of complex mechanical and electromechanical systems. Students, with consent of instructor, select a system they which develop, build, and instrument. Behavior of this system studied in detail.

Mr. Yang (Sp)

152M. Senior Mechanical Engineering Design. (Formerly numbered Engineering 162M.) Lecture, one hour; laboratory, five hours. Prerequisites: course 162B, Civil Engineering 106A, Materials Science and Engineering 147B. During the last quarters of the academic program. Students conceptualize, analyze, synthesize, and optimize group design projects. Consideration of constraints such as environmental, manufacturing, time, cost, and social impact. Presentation, including a report with engineering specifications and drawings, made in competition among groups.

Mr. Samson (Sp)

163. Dynamics and Control of Physical Systems. (Formerly numbered Engineering 163.) Prerequisites: courses 155 or M169A (may be taken concurrently). 171A. Application of the principles of dynamics and classical control theory to a wide range of physical systems, including simplified models of machines and electromechanical devices, space and ground transportation vehicles, and biomechanical systems. Mathematical modeling and computer simulation.

Mr. Yang


Mr. Melkanoff (F)

163L. Robotics Laboratory. (Formerly numbered Engineering 163L.) Laboratory, eight hours. Prerequisite: consent of instructor. Hands-on experience in programming and operating industrial robots. Research projects in industrial applications in robotics systems, languages, sensory systems, and artificial intelligence.

Mr. Melkanoff (F, W)


Mr. Meecham, Mr. Westmann (F)

166A. Analysis of Flight Structures. (Formerly numbered M166.) Prerequisite: Civil Engineering 108. Introduction to 2-D elasticity, strain-stress 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, Mr. Westmann (F)

168. Introduction to Finite Element Technology. Lecture, four hours; laboratory, four hours. Prerequisites: course 94, Civil Engineering 108, Computer Science 109. Mathematics 33A. Recommended: courses 150A, 150B. For students enrolled in the senior design project. Limited to 20 senior students. Introduction to the finite element method (FEM) and its matrix formulation; computer implementation of FEM concepts, FEM coding. Preprocessing and postprocessing techniques; system problems; design 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. Fleury (Sp)


Mr. Friedmann (W)

171A. Introduction to Feedback and Control System Theory. (Formerly numbered Engineering 171A.) Prerequisite: consent of instructor. Recommended: Electrical Engineering 102. 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; computational analysis and design.

Mr. Mingori (F, W)


Mr. Leonardi (F, Sp)

174B. Reliability and Quality Assurance. (Formerly named Engineering 174B.) Prerequisite: course 193A or consent of instructor. An introduction to the manufacturing-oriented and related fields of reliability and quality assurance. Emphasis on planning, implementation, and analysis of major functional tasks, statistical and other techniques, and elements of engineering analysis.

Mr. Apostolakis (F)
180A. Environmental Biotechnology. (Formerly numbered Environmental Biotechnologies M107A or consent of instructor. Physical, physiological, and psychological aspects of the interaction between man and thermal, atmospheric, radiant, and mechanical agents and energies in the environment. Biological and physical requirements for engineering control of the environment; applications to complex systems. Mr. O'Brien

191A. Laplace Transforms and Applied Complex Variables. (Formerly numbered Engineering M107A.) Prerequisites: course 102, Electrical Engineering 100. Introduction to the Laplace transformation: application to electrical and mechanical problems, convolution-type integral equations, difference equations, and simple boundary value problems in partial differential equations. Complex variable theory, contour integrals, residues; application to transform inversion and partial differential equations. Mr. Forster (W,Sp)


192B. Numerical Methods for Engineering Applications. (Formerly numbered Engineering 192C.) Prerequisite: course M192A or equivalent. Applications of mathematical methods for engineering problems. Special problems for continuous systems and the related special functions. Mr. Kastenberg (F,Sp)


194A. Fundamentals of Computer-Aided Design and Lecturing Engineering. (Formerly numbered Engineering 194A.) Prerequisite: junior standing in engineering or mathematics. Corequisite: course 194B. Basic course in computer-aided design and manufacturing area. Foundation of computerized drafting, including primitives, operators, and machining. Design representations and representations of solid objects; hardware, software, and available commercial systems. The data processing and numerical control aspects of computer-aided manufacturing. Mr. Melkanof (W)

194B. Computer-Aided Design Laboratory (2 units). (Formerly numbered Engineering 194B.) Laboratory, four hours. Prerequisite: junior standing in engineering or mathematics. Corequisite: course 194A. Students are taught how to utilize a full-scale computer-aided system, to draw and to design various parts and systems. Mr. Melkanof (W)

195A. Numerically Controlled Machine Programming and Control Software Design. Prerequisite: FORTRAN programming language. Advanced programming of machining processes in APT. Introduction to IBM APT-AC numerically controlled processor. Design of postprocessors. Variable programming in numerically controlled languages. Method of generating numerical control programs by using CAD systems. Mr. Melkanof (W)

195L. Numerically Controlled Machining Laboratory. Laboratory, eight hours. Prerequisite: consent of instructor. Programming and control of numerically controlled machining centers. Numerically controlled programming in various languages. Postprocessors utilization. Direct interface to computer-aided design. Mr. Melkanof (W)

199. Special Studies (2 to 6 units). Prerequisites: senior status, consent of instructor. Individual investigation of a 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)

Graduate Courses

201. Mechanical, Aerospace, and Nuclear Engineering Seminar (2 units). Prerequisite: graduate standing in engineering. Lectures on current research problems. May be repeated for credit. S/U grading. Mr. Kastenberg


210A. Advanced Power Production and Propulsion. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 231F.) Prerequisite: course 131A, 150A. Generalized constitutive equations for various two-phase flow regimes. Interfacial heat and mass transfer, Equilibrium and nonequilibrium flow models. Two-phase flow instability. One-dimensional wave propagation. Two-phase heat transfer applications: convective boiling, pressure drop, critical and oscillatory flows. Mr. Dhir (F)

211. Advanced Heat Transfer. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 231E.) Prerequisites: courses 131A, 132A. Transport phenomena. Derivation of general convective heat and mass transfer problem, including equilibrium and nonequilibrium theory. Similar and nonsimilar solutions for laminar flows; solution procedures for turbulent flows. Multicomponent diffusion. Application to the hypersonic boundary layer, ablation and transpiration, cooling combustion. Mr. Mills


231A. Convective Heat Transfer Theory. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 231A.) Prerequisite: course 131A. The convergence equations for flow of real fluids. Analysis of heat transfer in laminar and turbulent, incompressible and compressible flows. Internal and external flows; free-convection. Various wall temperature effects of variable fluid properties. Analyses among convective transfer processes. Mr. Melkanof

231B. Radiation Heat Transfer. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 231B.) Prerequisite: course 131A. Radiant intensity and flux. Radiation properties of surfaces and particulates. Heat transfer by combined conduction, convection, and radiation in nonabsorbing and absorbing media. Applications to industrial, aerospace, energy, and architectural problems. Mr. Melkanof


231D. Application of Numerical Methods to Transport Phenomena. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 231D.) Prerequisites: course 132A or consent of instructor. Numerical techniques for solving selected problems in heat and mass transfer. Applications include free convection, boundary layer flow, two-phase flow, separated flow in porous media. Effects of concentration and temperature gradients, chemical reactions, radiation, and magnetic fields. Mr. Kastenberg (Sp)

231E. Two-Phase Flow Heat Transfer. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 231E.) Prerequisites: courses 131A, 150A. Generalized constitutive equations for various two-phase flow regimes. Interfacial heat and mass transfer, Equilibrium and nonequilibrium flow models. Two-phase flow instability. One-dimensional wave propagation. Two-phase heat transfer applications: convective boiling, pressure drop, critical and oscillatory flows. Mr. Dhir (F)

232A. Advanced Mass Transfer. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 232A.) Prerequisites: courses 131A, 132A. The formulation of the general convective heat and mass transfer problem, including equilibrium and nonequilibrium theory. Similar and nonsimilar solutions for laminar flows; solution procedures for turbulent flows. Multicomponent diffusion. Application to the hypersonic boundary layer, ablation and transpiration, cooling combustion. Mr. Mills


234A. Topics in Thermal Design. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 234A.) Prerequisites: courses 131A, 132A. Consideration of thermal design problems selected from applications, as in heat exchangers, cooling coils, pipes, thermal environment control, spacecraft temperature control, and solar thermal conversion. Presentations made by the staff and occasionally by invited off-campus specialists. Mr. Mills (Sp)

235A. Nuclear Reactor Theory. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 235A.) Prerequisites: courses 135, M192A. The underlying physics and mathematics of nuclear reactor (fission) core design. Diffusion theory, reactor kinetics, slowing down and thermalization, multigroup methods, introduction to transport theory. Mr. Pommerning (W)

235B. Kinetic Theory of Plasmas and Particle Transport. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 235B.) Prerequisite: course 135 or 135D and Electrical Engineering 158D, or consent of instructor. Unified kinetic theory treatment of plasma, neutron, and radiation transport phenomena. The Liouville equation, Boltzmann collision integral and H-theorem. Derivation of Fokker-Planck, neutron, and radiation transport equations. Fluid moment equations, dispersion relations, space and time relaxation phenomena. Applications from fusion transport, plasma physics, and radiative transfer. Mr. Conn, Mr. Pommerning (Sp)
235C. Methods of Nuclear Reactor Analysis. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 235C.) Prerequisite: course 235A or consent of instructor. The analysis of nuclear reactor systems by approximation techniques, analytical methods, and numerical methods. A synthesis of reactor physics and engineering, with applications to various systems. Mr. Pomeranz.

236A. Nuclear Fuel Element Behavior. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 236A.) Prerequisite: course 136C. Void swelling of cladding materials, fuel swelling due to fission gases, pore migration and fuel restructuring, fission gas release, computer codes for swelling and gas release, densification, and hot pressing, modeling of the structural behavior of fuel elements and assemblies. Mr. Pomeranz.

236B. Radiation Damage in Reactor Materials. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 236B.) Prerequisite: course 136C. Fundamentals of radiation damage; energy loss and Lindhard's theory; atom displacement; fuel collision cascade focusing and channeling effects, computer simulations and experiments on cascades, damage simulation techniques for material testing, bulk effects of radiation; void swelling and irradiation creep, surface effects; blistering and sputtering of fuel surfaces. Mr. Ghenomi (W).

236C. Nuclear Reactor Safety. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 236C.) Prerequisite: course 135B. Safety-related characteristics of thermal and fast nuclear power reactors; design criteria and siting considerations; methods of accident analysis; general risk considerations. Analysis of specific accidents; anticipated transients with or without loss-of-coolant accidents, and transient surges. Mr. Okrent (W).

236D. Probabilistic Risk Assessment. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 236D.) Prerequisite: course 136A. Basic concepts of risk benefit; low probability — high consequence events; methods for the evaluation of risk; fault event tree analysis; dependent failures; data evaluation; decision theory; applications to large technological systems (e.g., nuclear power reactors, chemical process systems, dams, etc.). Mr. Apostolakis (Sp).

236E. Advanced Problems in Reactor Design. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 236E.) Prerequisite: at least four courses from 236A, 236C, 236D, 236B. Methods of attack and solution for advanced problems in reactor design, including fuel elements, power reactor cores, pulsed reactors, fuel cycle and fuel management, thermal-hydraulic, safety, and reactor transients. Mr. Kustenberg (Sp).


M237C. Fusion Reactor Technology and Design. (Formerly numbered M252.) (Same as Electrical Engineering M258.) Prerequisites: courses 135 and consent of instructor. Reactors, both magnetic and inertial. Operating conditions, power balance, system Q. Drivers for inertial confinement, magnet systems; blanket and shield design and analysis, induced radioactivity, threat breeding and processing; radiation damage effects, design of reactors for electricity production or as hybrid systems. Mr. Abdou (Sp).

239B-239BZ. Seminar: Current Topics in Transport Phenomena (2 to 4 units each). (Formerly numbered Chemical, Nuclear, and Thermal Engineering 239BA-239BZ.) 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.

239D-239DZ. Seminar: Current Topics in Nuclear Engineering (2 to 4 units each). (Formerly numbered Chemical, Nuclear, and Thermal Engineering 239DA-239DZ.) 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.

239F-239FZ. Special Topics In Transport Phenomena (2 to 4 units each). (Formerly numbered Chemical, Nuclear, and Thermal Engineering 239FA-239FZ.) Prerequisites: permission of instructor, additional prerequisites for each offering as announced. Advanced study of one or more aspects of heat and mass transfer, such as turbulence, instability, and transition, buoyancy effects, variational methods, and measurement techniques. May be repeated for credit with topic change. S/U grading.

239G-239GZ. Special Topics In Nuclear Engineering (2 to 4 units each). (Formerly numbered Chemical, Nuclear, and Thermal Engineering 239GA-239GZ.) Prerequisites: permission of instructor, additional prerequisites for each offering as announced, advanced study of one or more aspects of nuclear reactor safety, risk-benefit trade-offs, reactor safety, reactor transients. May be repeated for credit with topic change. S/U grading.

239H-239HZ. Special Topics In Fusion Physics, Engineering, and Technology (2 to 4 units each). (Formerly numbered Chemical, Nuclear, and Thermal Engineering 239HA-239HZ.) Prerequisites: consent of instructor, additional prerequisites for each offering as announced. Advanced study of one or more aspects of nuclear reactor safety, risk-benefit trade-offs, reactor safety, reactor transients. May be repeated for credit with topic change. S/U grading.

250A. Foundations of Fluid Dynamics. Prerequisite: course 150A or consent of instructor. The fundamental theorems of fluid dynamics. Ideal fluids, potential flow, vortex motion, and viscous flow. The history of fluid dynamics, illustrated with problems drawn from mechanics, aerodynamics, and geophysics. Mr. Kelly (F).

250B. Viscous and Turbulent Flows. Prerequisite: course 150A or consent of instructor. The fundamental theorems of fluid dynamics applied to the study of fluid resistance. States of fluid motion discussed in terms of advanced Reynolds numbers, waves, boundary layers, instability, transition, boundary layer flow, and separation. Mr. Kelly, Mr. Monkwitz (W).

250C. Compressible Flows. Prerequisite: course 150A or 150B or consent of instructor. Effects of compressibility in viscous and inviscid flows. Steady and unsteady, inviscid subsonic and supersonic flows. Method of characteristics; small disturbance theories (linearized and hypersonic); shock dynamics. Mr. Charwat (Sp).

251A. Stratified and Rotating Fluids. Prerequisite: courses 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, gravity currents. Mr. Kelly (F).

251B. Marine Hydrodynamics. Prerequisites: courses 150A, 153A, and 153B, or equivalent, or consent of instructor. Basic hydrodynamics; small amplitude waves; boundary layer instability; marine hydrodynamics; naval architecture. Mr. Kelly (F).

251C. Fluid Dynamics of Pollution. Prerequisite: course 150A or consent of instructor. Defined to include: dimensional random processes; use of wave models to describe fluid mechanical aspect of pollution problems. The fluid dynamics of photochemical smog, oil slicks, and pollution in waterways. Mr. Liu (F).

252A. Stability of Fluid Motion. Prerequisite: course 150A or equivalent or consent of instructor. Mechanisms by which laminar flows can become unstable and lead to turbulence of secondary motions. Basic stability theory; thermal, centrifugal, and shear instabilities; boundary layer instability characteristics; finite amplitude and wave theories; sufficient criteria for stability, subcritical instabilities, supercritical states, transition to turbulence. Mr. Kelly (W).

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, Kolmogorov similarity, analytical theorems, and origins of Reynolds stress. Mr. Meemaeh (Sp).

253A. Advanced Engineering Acoustics. Advanced studies in engineering acoustics, including three-dimensional wave propagation; propagation in bounded media; Ray acoustics; attenuation mechanisms in fluids. Mr. Meemaeh (F).


253C. Sound and Vibration. Prerequisite: consent of instructor. Theoretical analysis of the interaction of sound and structures; acoustic transmission through fluid layers and walls; structural wave propagation, medium waves, wave number and frequency space; response and radiation of infinite and finite structures; statistical energy analysis. Mr. Meemaeh (F).

254A. Special Topics in Aerodynamics. Prerequisites: courses 150A and 150B; Media 150B, and 1920, 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. Menegh (W).

255A. Advanced Dynamics. Prerequisites: courses 150A and 156A, Media 150B, and 1920, or equivalent, or consent of instructor. Variational principles and Lagrange's equations. Kinematics and dynamics of rigid bodies; processional and motion of a spinning top. Mr. Mingori (F).

255B. Mathematical Methods in Dynamics. Prerequisite: course 255A. Concepts of stability; state space interpretation; stability determination by simulation, linearization, and Liapunov's direct method; the Hamiltonian as a Liapunov function; nonautonomous systems; averaging and perturbation methods of nonlinear analysis; parametric excitation and non-linear resonance. Application to mechanical systems. Mr. Gibson (W).
256A. Mechanics of Deformable Solids. Prerequisites: course 156A, and 166A, or consent of instructor. Kinematics of deformation, strain tensors, invariance, compatibility, conservation laws; stress tensors; equations of motion; boundary conditions; constitutive equations: general theory, linearization, anisotropy, plasticity, linear viscoelasticity, creep problems, plane and generalized plane problems; dynamical problems. Mr. Mal, Mr. Westman (F)

256C. Plasticity, Creep, and Thermal Stresses. Prerequisite: course 156A or 158A or consent of instructor. Kinematics and mechanics of materials; 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, structures, plates, and shells. Mr. Westman (Sp)

256F. Analytical Fracture Mechanics. Prerequisites: course 156A, 158A, or 166A, and Materials Science and Engineering 243A. Review of modern fracture mechanics, elementary stress analyses; analytical and numerical methods for calculation of crack tip stress intensity factors; engineering applications in stiffened structures, pressure vessels, plates, and shells. Mr. Westman (Sp)

257A. Elastic Wave Propagation I. (Same as Earth and Space Sciences M224A.) Prerequisite: course 156A or 166A or consent of instructor. Review of elasticity theory; elastic waves in unbounded media; reflection and refraction of plane elastic waves; surface waves, propagation on a pile, and on a parade; waves generated by concentrated loads; radiation from dislocations; attenuation; representative applications in engineering and seismology. Mr. Mal (F)

257B. Elastic Wave Propagation II. (Same as Earth and Space Sciences M224B.) Prerequisite: course M257A. Diffraction and scattering of elastic waves by isolated cracks and inclusions; normal mode theories for dynamic elastic bodies; dynamic theories of fracture; representative applications in engineering and seismology. Mr. Mal (F)

258. Experimental Techniques in Fluid Mechanics and Thermal Science. Prerequisite: consent of instructor. Survey of wind tunnels and other facilities for research in fluid mechanics, aerodynamics, and heat transfer; analysis of their critical design features. Modern sensors, instruments, and measurement techniques. Signal processing and storage by analog and digital techniques. Mr. Fleury (F)

259A. Seminar on Advanced Topics in Fluid Mechanics. Prerequisite: consent of instructor. Advanced study of selected fields of fluid mechanics on topics which may vary from term to term. Topics include dynamics, elasticity, plasticity, and stability of solids. Mr. Westman

260AA-260ZZ. Seminar: Current Topics in Mechanical Engineering (2 to 4 units each). Formerly numbered 259AA-259ZZ.) Prerequisite: consent of instructor. Lectures, discussions, and student presentations and projects in areas of current interest in mechanical engineering. May be repeated for credit. SU or SP


262A. Advanced Mechanisms and Mechanical Systems. Prerequisite: course 162A. The kinematic analysis and synthesis of mechanisms and mechanical systems, with special emphasis on use of modern analytical methods. The use of computer techniques, with a broad group of example systems. Mr. Yang

263A. Dynamics and Control of Machines and Electromechanical Systems. Prerequisite: course 163 or consent of instructor. The analysis of complex machines and electromechanical systems. Emphasis on the performance and dynamic response of systems, including the design of feedback elements, and other complex components and subsystems. Application of both classical methods and modern computer-based techniques. Mr. Yang (Sp)

263B. Topics in Modeling and Dynamics of Aerospace Vehicles. Prerequisites: courses 171A, 255A. Recommended: courses 154A, 255B, M269A. Modeling, dynamics, and stability of aerospace vehicles; improvement of performance using active control; applications to spinning and dual-spin in space structures, robots and control of space vehicles. Mr. Mingori (Sp, even years)

263C. Motion and Control of Industrial Robots. Prerequisite: course 163A or consent of instructor. Theory and implementation of industrial robots. Design considerations. Kinematic structure, modeling, trajectory planning, and systems dynamics. Control concepts and control computer algorithms. Mr. Yang (W)

267A. Optimum Structural Design. (Same as Civil Engineering M267A.) Prerequisite: course 261A or Civil Engineering 265A or consent of instructor. Synthesis of structural systems; analysis and design as optimization problems; techniques for synthesis and optimization; application to aerospace and civil structures. Mr. Feiton, Mr. Schmit (W)

268B. Failure of Structural Systems. Prerequisite: Civil Engineering 165B. Philosophy of structural safety. Principles of design for prevention of failure (other than buckling). Fatigue, brittle failure, delayed cracking, creep, design of efficient joints, environmental effects. Emphasis on current problem in actual structures. Mr. Sines (F)

269A. Dynamics of Structures. (Formerly numbered 269A.) (Same as Civil Engineering M269A.) Prerequisite: course M169A. Principles of dynamics. Determination of natural frequencies by differential and integral equation solutions. Transient and steady state response. Emphasis on derivation and solution of governing equations using matrix formalism. Mr. Friedmann, Mr. Mingori (Sp, even years)

269B. Advanced Dynamics of Structures. Prerequisites: course M269A, Civil Engineering 265A, Analysis of linear and nonlinear response of structures to dynamic loadings. Distress and deflections in structures. Structural damping and self-induced vibrations. Mr. Friedmann (F)

269C. Introduction to Probabilistic Dynamics. (Formerly numbered 269C.) (Same as Civil Engineering M269C.) Prerequisite: course M169A. Response of structural and mechanical systems to random vibrations. Stationary and nonstationary excitations. Response of systems with random parameters. Discrete and continuous linear systems. Applications to earthquakes, wind, and waves, buildings, gust response, vibrations due to bearing inaccuracies, train vibrations. Mr. Friedmann


271C. Dynamic Systems Identification, Stability, and Adaptive Control. (Formerly numbered Engineering Systems 271C.) Prerequisite: course 271A or consent of instructor. Course 271B is recommended. Nonlinear system stability. Dynamic systems modeling, identification, and parameter estimation techniques. Combined identification and control and self-adaptive control. Mr. Leondes (W)

275A. Linear and Special Topics in Dynamic Systems Control. (Formerly numbered Engineering Systems 271D.) Prerequisite: consent of instructor. Seminar on current research topics in dynamic systems modeling, control, and applications. Topics selected from process control, differential games, nonlinear estimation, adaptive filtering, industrial and aerospace applications, etc. Mr. Leondes (Sp)

279A. Analytical Methods of Engineering I. (Same as Electrical Engineering M208A.) Prerequisites: course 271A or Electrical Engineering 271A. Introduction to dynamical systems with state-space descriptions. Kalman filtering, optimal state estimation and stochastic control problems. Emphasis on current research topics in the field. Mr. Leondes (Sp)


279C. Systems Control. (Same as Electrical Engineering M208C.) Prerequisite: course 279B or Electrical Engineering 271C. Optimal control of systems with state-space descriptions. Kalman filtering, optimal state estimation and stochastic control problems. Emphasis on current research topics in the field. Mr. Leondes (Sp)

291C. Integral Equations in Engineering. (Formerly numbered Engineering 291C.) Prerequisite: Mathematics 290B. Introduction to generalized function theory and Green's functions. Conversion of partial equations to integral equations and classification of integral equations. Solution to integral equations with degenerate kernels; discussions of successive approximations and Fredholm and Hilbert-Schmidt theory. Mr. Westman (Sp)

295A. Computer-Aided Manufacturing. Prerequisite: course 184L. Analysis and design of the usage of the computer in manufacturing. Manufacturing information systems; group technology; computer-aided manufacturing process planning; flexible manufacturing systems. Mr. Meikkanoff (F)

295B. Computer-Integrated Manufacturing. Prerequisite: course 295A. Systems analysis and design of computer-integrated manufacturing, including automated factories and flexible manufacturing systems. Mr. Meikkanoff (W)
Bioengineering Major Field

Area I

Area I is an area of specialization within the context of the major fields of chemical engineering, civil engineering, etc., and is designed to provide (1) engineering fundamentals and (2) specialization in a basic engineering discipline combined with bioengineering and life science courses.

This area of specialization within bioengineering is intended for students who wish to emphasize a traditional engineering discipline (e.g., civil, electrical, chemical) while preparing for a possible career and/or graduate study in bioengineering.

Course requirements are as follows:

(1) Eight recommended core courses: Chemical Engineering M105A (or Mechanical, Aerospace, and Nuclear Engineering M105A), Civil Engineering 108, Electrical Engineering 100, 102, Materials Science and Engineering 14, Mechanical, Aerospace, and Nuclear Engineering 102, 103, and Chemical Engineering M105D or Mechanical, Aerospace, and Nuclear Engineering M105D (for applied biochemistry) or Engineering 106B (for biostuctural mechanics and biotechnology).

If you substitute courses for any of the recommended courses listed above, you must satisfy the engineering curriculum core requirements as follows:

The core consists of eight courses (32 units) selected from the five subject areas listed above. The minimum and maximum number of units allowed is given for each.

Computer Processes (0 to 4 units): Electrical Engineering 103.
Electrical Sciences (4 to 8 units): Electrical Engineering 100, 101.
Mechanics (8 to 12 units): Civil Engineering 108, Mechanical, Aerospace, and Nuclear Engineering 102, 103.
Systems (4 to 8 units): Electrical Engineering 102, Engineering 106B.

(2) Civil Engineering 106A (satisfies the engineering economics requirement); one upper division mathematics course selected in consultation with your faculty adviser; and the following courses, depending on your subject area:


Biocybernetics: Civil Engineering 160, Computer Science 171, 196A, M196B, Electrical Engineering 111A, 115A, 131A, Materials Science and Engineering M107A, Mechanical, Aerospace, and Nuclear Engineering 171A or Electrical Engineering 141, Mechanical, Aerospace, and Nuclear Engineering 171C or Electrical Engineering 142; Electrical Engineering 100L, Biology 166 (two units of lab credit), and one additional laboratory course (satisfy the laboratory requirement).

Biostuctural Mechanics: Civil Engineering 160, 165A, 165B, 166, M169A (or Mechanical, Aerospace, and Nuclear Engineering M169A), Computer Science 196A, 196B, Mechanical, Aerospace, and Nuclear Engineering 162B, Kinesiology 12B, 14, 122; eight laboratory units (Civil Engineering 157B and Mechanical, Aerospace, and Nuclear Engineering 157 are recommended; an additional two-unit laboratory course must be taken if course 157B is selected).

Biotechnology: Civil Engineering 174A, Computer Science 196A, M196B, Materials Science and Engineering M107A, 180B, Mechanical, Aerospace, and Nuclear Engineering 171A, 180A, 193B or Psychology 150, and two courses from Psychology 115, 120, Public Health 100B, 100C, 100D, 110; eight laboratory units (Engineering 106C and 106D are recommended).

(3) Required technical elective courses: Chemistry 11C/11CL, 21, 23, and 25 (may be used to satisfy the life science requirement) for applied biochemistry and biocybernetics; Kinesiology 12B, 14, and one free elective course for biostuctural mechanics.


(5) A minimum of seven courses from the humanities, social sciences, and/or fine arts approved list (at least three must be upper division; at least three — with two upper division — must be in the same academic department or otherwise reflect coherence with respect to subject matter; and one must satisfy the engineering and science in society requirement, which may also be satisfied by one of the free elective courses).

(6) Three free elective courses, which must be used to satisfy the required technical elective courses for the applied biochemistry, biocybernetics, and biostuctural mechanics subject areas.
Area II
Area II is a multidisciplinary major field consisting of a core of courses in bioengineering and the physical and life sciences, and provides (1) engineering fundamentals, (2) breadth in the physical and biological sciences, (3) breadth in several bioengineering disciplines. This area of specialization within bioengineering is intended for students desiring broad exposure to these three subject areas in preparation for a career and/or graduate study in bioengineering, biological science, behavioral science, or medical or dental school. This area satisfies all the life science requirements, except biological chemistry, for the Ph.D. program in Bioengineering at UCLA.

Course requirements are as follows:


If you substitute courses for any of the recommended courses listed above, you must satisfy the engineering curriculum core requirements as follows:

The core consists of eight courses (32 units) selected from the five subject areas listed below. The minimum and maximum number of units allowed is given for each.

Computer Processes (0 to 4 units): Electrical Engineering 103.

Electrical Sciences (4 to 8 units): Electrical Engineering 100, 101.

Mechanics (8 to 12 units): Civil Engineering 108, Mechanical, Aerospace, and Nuclear Engineering 102, 103.

Systems (4 to 8 units): Electrical Engineering 102, Engineering 106B.


(2) Civil Engineering 160, Computer Science 171, 196A, M196B, Electrical Engineering 111A, 115A, Materials Science and Engineering M107A, Mechanical, Aerospace, and Nuclear Engineering 171A or Electrical Engineering 141; Electrical Engineering 100L, Biology 166 (two units of lab credit), and four additional laboratory units; Civil Engineering 106A or any other course that satisfies the engineering economics requirement; Electrical Engineering 131A or Mathematics 152A (satisfies the mathematics requirement); two elective courses selected in consultation with a bioengineering faculty adviser (e.g., acoustics, control systems, electronics, materials, computer science, mechanics, biotechnology, biocybernec-.tics, etc.).

(3) A minimum of six life science core courses, including Biology 5 and 7 (may be used to satisfy the life science requirement), Chemistry 21, 23, and at least one course from Chemistry 25 (may be used to satisfy the life science requirement), Kinesiology 14, Psychology 115; Chemistry 11C/11CL are required technical electives.

(4) English 3; Chemistry 11A, 11B/11BL; Computer Science 10C or 10F; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 8A, 8B/8BL, 8C/8CL, 8D/8DL; one life science elective course.

(5) A minimum of seven courses from the humanities, social sciences, and/or fine arts approved list (at least three must be upper division; at least three — with two upper division — must be in the same academic department or otherwise reflect coherence with respect to subject matter; and one must satisfy the engineering and science in society requirement).

(6) Three free elective courses which must be used to satisfy the required technical electives and other required courses in the life science core.

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.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 Courses
11. Patterns of Problem Solving. An introduction to patterns of reasoning in the process of problem solution and decision making. Exposure to concepts, theories, and techniques in the analysis and synthesis of total systems in our complex technological civilization. Mr. Rubinstein (F, W, Sp)

12. Applied Patterns of Problem Solving. Prerequisite: course 11. An application of the tools and methods discussed in course 11 to three specific problems of a social and technical nature. Mr. Rubinstein (Sp)

Upper Division Courses

106C. Experimental Design Laboratory. Laboratory, eight hours. Prerequisite: course 106B or equivalent. Creation and experimental projects for student designs in any engineering domain where individual students have preparation and interest, exemplifying the professional method. Predicted idealized performed and constrained minimization problems. Methods, experimental realities. Student project competition entries encouraged. Mr. O'Brien (F, W, Sp)

176A. Introduction to Optimization Methods for Engineering Design. Prerequisites: Computer Science 10C, Mathematics 32A, 32B, 33A, 33B. Introduction to optimization as an engineering design tool. Computational algorithms and chemical, civil, electrical, mechanical, and structural applications. Methods for solving the general unconstrained and constrained minimization problem. Methodology for converting the general inequality constrained problem to a sequence of unconstrained problems. Mr. Rosenfield (F)

Graduate Courses
375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the 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. O'Neill (F, W, Sp)

470A-470D. The Engineer in the Technical Environment (3 units each). Limited to students in the Engineering Executive Program. Theory and application of quantitative methods in the analysis and synthesis of engineering systems for the purpose of making management decisions. Optimization of outputs with respect to dollar costs, time, material, energy, information, and manpower. Case studies and individual projects. Mr. O'Neill (F, W, Sp)

471A-471B-471C. The Engineer in the General Environment (3 units, 3 units, 1½ units). Limited to students in the Engineering Executive Program. Influences of human relations, laws, social sciences, humanities, and fine arts on the development and utilization of natural and human resources. The interaction of technology and society past, present, and future. Change agents and resistance to change. In Progress grading for courses 471B-471C only (credit to be given only on completion of course 471C). Mr. O'Neill (F, W, Sp)
472A-472D. The Engineer in the Business Environment (3 units, 3 units, 3 units, 1.1/2 units). Limited to students in the Engineering Executive Program. The 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 the firm, the community, and the nation, provided through cooperation and participation with California business corporations and government agencies. In Progress grading (credit to be given on completion of courses 472B 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 the Engineering Executive Program. A problem area of modern industry or government is selected as a class project, and its solution is synthesized using quantitative tools and methods. The project also serves as a laboratory in organization for a goal-oriented technical group. In Progress and S/U grading.

485. 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. Course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

Schoolwide Engineering Faculty

Professor
Allen B. Rosenstein, Ph.D.

Emeritus Professors
Edward P. Coleman, Ph.D.
J. Morley English, Ph.D.
Warren A. Hall, Ph.D.
Alfred C. Ingersoll, Ph.D.
Herbert B. Nottage, Ph.D.
Arthur F. Pillsbury, Engineer
Bonham Spence-Campbell, E.E.

Visiting Lecturers
Iris Firstenberg, Ph.D.
Thomas A. Sabol, Ph.D.
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) is playing an important role in understanding these changes and contributing to their direction.

Professional education is the central concern of GSAUP. Our belief is that a small, high-quality school of architecture and urban planning can make a great contribution to professional education, under conditions of rapid professional change and experimentation. To supplement the classroom experience and to help bring the public and the professional community into active relationship with the school, a series of public lectures and various exhibits are scheduled throughout the academic year. In addition, the school has created the Urban Innovations Group (UIG) as an independent, nonprofit, professionally managed practice arm where faculty and students undertake projects on a contract basis to provide opportunities for students to gain practical professional experience.

A noted regular faculty is supplemented by distinguished visiting faculty. The student body comes from around the world. Developed as a small school with an enrollment of 350, GSAUP encourages close interaction between faculty and student to maximize the educational experience.

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Photo: Architectural rendering produced by introductory computer graphics students on the school's Computervision system.
Graduate School of Architecture and Urban Planning

1317 Architecture, (213) 825-3791

The Graduate School of Architecture and Urban Planning at UCLA offers programs of study leading to the degrees of Master of Architecture (M.Arch.), M.A. in Architecture/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 that are not yet common in practice, but which reflect emerging social needs. It offers a choice of two major programs: Architecture/Urban Design and Urban Planning.

Architecture/Urban Design

B315 Architecture, (213) 825-0525, 825-7857

Professors
Marvin Adelson, Ph.D.
Samuel Aroni, Ph.D.
Baruch Givony, Ph.D.
Thomas S. Hines, Ph.D.
Lionel March, Sc.D., Program Head
Murray A. Milne, M.Arch.
Barton Phelps, M.Arch.
Kuppaswamy lyengar, M.Arch.
Barton Myers, M.Arch.
Richard Schoen, M.Arch.
George Stiny, Ph.D.
Thomas R. Vreeland, Jr., M.Arch.
Richard S. Weinstein, M.A., Dean

Associate Professors
F. Eugene Kupper, M.Arch.
Jurg Lang, Dipl.Arch. ETH.
Robin Liggett, Ph.D.
George Rand, Ph.D.

Assistant Professors
Diane Favro, Ph.D.
Ben Rettzau, M.Arch.

Lecturers
Berger Aran, Ph.D.
Charles Griggs, B.Arch.
Jeffrey Hamer, M.Arch.
Anthony Lumsden, B.Arch.
Donald Milis, B.Arch.
John Ruble, M.Arch.
Robert Yudell, M.Arch.

Adjunct and Visiting Professors
Charles Jenkins, Ph.D., Adjunct
William J. Mitchell, M.E.D., Visiting
Charles W. Moore, Ph.D., Adjunct
Rex Lotery, B.Arch., Adjunct

Adjunct Associate Professors
Franklin Israel, M.Arch.
Barton Phelps, M.Arch.

Scope and Objectives

Architecture/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. Applicants 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, Architecture/Urban Design, Graduate School of Architecture and Urban Planning, B315 Architecture, UCLA, Los Angeles, CA 90024.

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: urban design; policy, programming, and evaluation (including social building); technology (including energy conserving design); design theory and methods (including computer-aided design); history, analysis, and criticism of architecture.

Course Requirements

You must complete a minimum of 27 courses, at least 24 of which must be graduate courses. The total number of units required is 108. The required courses, listed below, must be taken in the sequence indicated.

First Year
Fall: Courses 411, 421, 200
Winter: Courses 412, 437, 431
Spring: Courses 413, 442, 432

Second Year
Fall: Courses 414, 433, 291, elective
Winter: Courses 415, 441, elective
Spring: Elective studio/project, plus two other electives

Third Year
Fall: Course 416, two electives
Winter: Elective studio, course 461, elective
Spring: Course 598A
Elective courses allow you to explore in depth specific subject areas and to gain exposure to a variety of topics. You are required to take a minimum of seven elective courses. At least four of these must be taken within the school. During the second year at least two electives must be in preparation for undertaking a specific studio or project in the Spring Quarter of your second year.

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. However, permission to waive required courses does not reduce the minimum number of 27 courses required for the M.Arch. I degree nor does it reduce the nine-quarter 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.

Students with undergraduate degrees in architecture or undergraduate degrees with majors in architecture may, at the end of their first quarter, petition the curriculum committee for advanced standing. You are then permitted to waive specified required courses and may enter second-year courses at the beginning of your second quarter. A petition for advanced standing should include a transcript documenting relevant prior academic work, a portfolio demonstrating level of design competence, and a plan showing how waived courses will be replaced by a program of elective work in specified areas of specialization. Advanced standing requires the concurrence of both the curriculum committee and the faculty member in charge of each specific course to be waived. It does not reduce the number of courses (27) required for the M.Arch. I degree nor does it reduce the nine-quarter residence requirement.

You must enroll in at least four and no more than eight units of Architecture and Urban Planning 598A. You may also apply eight units of course 596A toward the unit requirements for graduation with prior consent of your advisor. No more than eight units may be applied without consent of the curriculum committee; application of more than 16 units requires Graduate Division approval. A maximum of eight units of 596 courses taken outside the school may be applied toward graduation. All independent work is graded on an S/U basis.

**Thesis or Comprehensive Examination Plan**

M.Arch. I students generally present a large-scale design project that functions as a design thesis at the end of their three-year course of study. Occasionally, students who have already demonstrated superior design skills will elect to do more research-oriented work instead. Because of the format required by the nature of an architectural presentation, the projects are all classified as "comprehensive examinations."

You should obtain faculty approval of project topics at least three months, and preferably six months, before presentation dates.

**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 and your choice of the comprehensive examination or thesis option on your application, as you are admitted to a specific major and option and may change only by petition to the advanced studies curriculum committee. A minimum of three academic quarters 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 quarter in residence, take any required English (ESL) 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 include: architectural design; urban design; policy, programming, and evaluation; technology; design theory and methods; history, analysis, and criticism of architecture.

**Course Requirements**

A minimum of 36 units of coursework (normally nine four-unit courses) is required. At least 24 units must be at the graduate level; the remaining 12 units may be either upper division or graduate courses. No more than eight units of Architecture and Urban Planning 596A may be applied toward the requirements for graduation. In addition to coursework, four units of course 597A or eight units of course 598A are required but may not be applied toward the minimum course requirements.

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 design must complete a year-long sequence of related urban design studio and seminar courses consisting of one studio and one seminar course each quarter.

Students in the other four major areas (policy, programming, and evaluation; technology; design theory and methods; history, analysis, and criticism of architecture) 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 Planning 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 written thesis or a design project. A three-person thesis committee must be established at least one quarter before submission of the thesis, and you must take eight units of Architecture and Urban Planning 598A, which may not be applied toward the minimum course requirement. The thesis may, in exceptional cases, be presented after three quarters in residence, but you should normally expect to take from four to six quarters to complete the thesis plan. 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 chair at least one quarter before taking the examination and to receive approval of an examination topic from the curriculum committee. You are then required to take four units of Architecture and Urban Planning 597A, which may not be applied toward the minimum course requirement. The examination consists of a research paper or design project on the approved topic, which is to be publicly presented and defended after the completion of all required coursework, usually at the end of the Spring Quarter, or at any point up to 12 months later. The faculty examination committee votes on acceptance or rejection. In the event of rejection, you may repeat the examination once.
Master of Arts in Architecture/Urban Planning

Admission

This program offers an academic degree and prepares students to do specialized research or teaching in fields related to the architectural profession. 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 admission, applicants should submit the "Departmental Supplement," available from the Admissions Office, Architecture,Urban Design, 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

You are required to focus your work on a specific academic area or professional issue. See "Major Fields" under the Ph.D. program for specializations currently available. 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.

Course Requirements

1. Candidates for the M.A. are expected to be in residence at UCLA for at least two years and undertake six quarters of study.

2. A thesis or a comprehensive design project is required. When the committee members have signed the thesis proposal, you may take Architecture and Urban Planning 596A and begin work on the thesis itself. The course should be taken at some point during your last year of study.

3. You are required to complete a minimum of 16 courses (64 units) of graduate or upper division work, at least 12 of which must be graduate courses.

4. You must select and pursue one area of specialization.

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 596A. You may also apply 12 units of course 596A toward the unit requirements for graduation with prior consent of your adviser. No more than 12 units may be applied without the consent of the curriculum committee; application of more than 16 units requires Graduate Division approval. A maximum of eight units of course 596 taken outside the school may be applied toward graduation. All independent work is graded on an S/U basis. (Courses in the 400 series may not be applied toward the graduate course requirement for the M.A. degree.)

Thesis or Comprehensive Examination Plan

M.A. students can choose to present a design project as a comprehensive examination (see M.Arch. 1) 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 resume, 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; (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 at an early stage to assure adequacy of research skills. You may apply for this evaluation no earlier than your second quarter in residence, and no later than the fourth quarter. 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 apply for reevaluation 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 quarter, 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: policy, programming, and evaluation; technology; design and methods; and history, analysis, and criticism of architecture.

Majors outside these areas, or combinations of some of them, may be undertaken, subject to the approval of the Ph.D. program committee. Majors are 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.

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/Urban Design Program (i.e., outside the school or within the Urban Planning Program). 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 Architecture/Urban Design 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.

(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; (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 at an early stage to assure adequacy of research skills. You may apply for this evaluation no earlier than your second quarter in residence, and no later than the fourth quarter. 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 apply for reevaluation 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 quarter, you are subject to termination from the program.
Students who are admitted to the Ph.D. program without having the background of a professional degree in architecture are required to take at least 24 units of basic professional courses (400 series) in architecture 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 the preliminary evaluative of research skills, the mathematics, computing, or foreign language requirements, and the course 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 quarter and must not extend over more than two quarters.

The major and minor field examinations are conducted by a five-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
187. Planning and Designing Our Cities. An introduction to urban planning and urban design, with emphasis on methods and tools used in practice. An overview of the planning field; physical planning for redevelopment, for projects in expanding areas, and for new towns. Lectures (with illustrated examples), field visits, and presentation of students' own projects create the framework for expanding the understanding of the urban planning and design process.

Mr. Kamnitzer

190. The Human Environment: An Introduction to Architecture and Urban Planning. The kinds of problems that arise in creating and maintaining an environment for urban activities, and the approaches and methods of architecture and urban planning in helping to cope with such problems. The complexities involved in giving expression to human needs and desires in the provision of shelters and movement systems, to the possibilities and limitations of technological and building forms, and to the issues involved in relating the human-made to the natural environment. Students are encouraged to comprehend the major urban issues both as citizens and as potential technical experts.

Mr. Rand (F)

199. Special Studies (2 to 8 units). 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. Introduction to the History of Architecture. Lecture, three hours. A survey of Western architecture from prehistoric to the present day. Examination of the major architectural styles, but the aesthetic, social, political, economic, technological, and theoretical determinants of architectural heritage. Ms. Favro

201. Introduction to Architectural Theory. (Formerly numbered 201A.) Lecture, three hours. An overview of major architectural theorists from antiquity to the early 20th century. Exposure to the content of theoretical writings and to the complex cultural, philosophical, and pragmatic concerns which stimulated the evolution of architectural ideas in different contexts.

Ms. Favro

203. Decision Making in Planning and Design. (Formerly numbered 203A-203B.) Lecture, three hours. Exploration of the 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.

204. Imaging the Future. 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 the role of forecasting in environmental planning, design, and management processes.

Mr. Adelson

219. Special Topics in the Built Environment (2 to 8 units). Lecture, three hours. Seminar on topics in the built environment selected by the faculty. May be repeated for credit.

224A-224B. Design Theory. (Formerly numbered 224.) Lecture, three hours. Examination of design as a cultural enterprise in which rules are adopted and then followed to compose, describe, and evaluate designs. Development in detail of contemporary and historical examples from architecture, painting, sculpture, and other fine and applied arts.

Mr. March, Mr. Stiny (F,W)

225A. Computer Graphics. (Formerly numbered 225A.) Lecture, three hours. Use of graphics examples and practical graphics programming exercises to introduce basic concepts of computer programming in the PASCAL language. Provides the foundation necessary to undertake more advanced work in computer-aided design.

Ms. Liggett (F)

225B. Computer Applications in Architecture and Urban Planning. (Formerly numbered 225B.) Lecture, three hours. Prerequisite: course 225A or equivalent. The logic of problem solving using the computer, with emphasis on algorithms and data structures specifically applicable to architecture, urban design, and planning.

Ms. Liggett
227A. Introduction to Physical Planning. Lecture, three hours. An assessment of physical planning that analyzes contemporary approaches to the built environ- 
ment, reviews historical antecedents and consider- 
fations for the future, focuses on issues and tech- 
niques used by planners, and gives students an un- 
derstanding of the issues and skills with which to 
carry out land-use and policy recommendations. 
Ms. Leavitt

278. Research Methods in Human-Environment 
Design. Lecture, three hours; discussion, three 
hours. A survey of a variety of research methods ap- 
plicable to problems on the human-environment in- 
terface, including both those now frequently em- 
ployed (e.g., surveys, interviews, questionnaires) and 
other that encourage qualitative research methods (e.g., participant obser- 
vation, photographic observation). Emphasis on the 
application of research methods to selected exer-
cises, the scientific interests of stu- 
dents' own research interests. 
Ms. Leavitt

279. Housing for Developing Countries. (Formerly numbered 279A.) Discussion, three hours. Consider- 
ations of sociocultural, economic, and political fac- 
tors, resources, and urban shelter architec- 
ture and manufacturing technologies related to the 
priorities of developing countries in housing poli- 
cies and the planning and design of shelter. 
Mr. Aron (Sp)

281. Introduction to the History of the Built Envi- 
ronment in the United States. Lecture, three hours. 
Open to advanced undergraduates with consent of 
instructor. An introduction to American urban, envi- 
ronmental, and architectural history, a survey of the 
main economic, political, social, and aesthetic for- 
tums forming the built environment. The Colonial 
period to the present, with emphasis on the importance of the 
spatial design of cities and buildings to public policy. 
Ms. Han

282A. Roots of Modernism. (Formerly numbered 189.) Lecture, three hours. An overview of develop- 
ments in Western architecture during the 18th and 
19th centuries, covering the Romantic and historical 
trends of the 1800s, and turn-of-the-century premodern develop- 
ments including art nouveau. 
Mr. Jencks

282B. Modern and Postmodern Architecture. 
(Formerly numbered 189.) Lecture, three hours. 
An exploration of architectural developments from the revolutionary concepts of the modern movement, including their manifestations in the inter- 
national style, to the current eclectic trends of post-
modernism. 
Mr. Jencks

282C. History of the American Household and the 
American Home. Lecture, 90 minutes; discussion, 
90 minutes. Prerequisite: course 281 or consent of 
instructor. An introduction to the history of housing 
design in the United States, emphasizing the chang- 
ing roles of women and men from Colonial times to 
the present and the effects of these social changes on the 
physical form of the dwelling and the settlement. 
Discussion of the concerns of professional architects 
and planners, as well as the activity of bankers, build- 
ers, and homemakers. 
Ms. Hayden

284. The Ideal City in History. Prerequisite: course 
281 or consent of instructor. Since the time of Thomas 
More's Utopia, creating the ideal city has been a 
favorite device used by novelists, political theorists, 
economic and social critics, and architects to critique 
existing society and demonstrate the dramatic possi- 
blesties of thoroughgoing reform. The utopian tradition 
in its literal, social, and aesthetic facets, examines 
satirical cities, moral cities, and urban fantasies from the 
16th century to the present. 
Ms. Hayden

286A-286B. Architecture in Europe and the Middle East, 
400 to 1500. Lecture, three hours. Prerequisite: con- 
sent of instructor. A study of East-West relationships, 
cultural concerns, and social interactions as seen 
through some major urban and architectural develop- 
ments in Europe and the Middle East. 
Mr. Arad

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415. Comprehensive Design Studio. Studio, 12 hours. Prerequisite: completion of required coursework up to first quarter of third year, consent of instructor. Course completes the regular required sequence of design work; preparing students for the third-year thesis preparation course. 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. Architectural Drawing. Discussion, three hours. Prerequisite: completion of required coursework up to first quarter of third year, consent of instructor. Discussion of architectural drawing techniques and skills, including sketching, drafting, freehand drawing, drafting techniques, introduction to axonometric projection and perspective. (F)

422. Advanced Architectural Drawing (2 to 4 units). Discussion, three hours; laboratory, three hours. Prerequisite: course 421 or consent of instructor. Emphasis on the exploration of the interrelationship between drawing and design. More advanced design strategies and modes of graphic exploration and presentation. (W)

431. Structures I. Lecture, three hours. Prerequisites: basic algebra, geometry, trigonometry, consent of instructor. Introduction to structural behavior and structural statics. Operations with forces and vectors, both algebraically and graphically. Equilibrium of force systems; polygon of forces and funicular polygon. Internal actions: axial force and bending moment. Reactions, stability, and analysis of systems. Determinate frames. Truss analysis and design. Mr. Aroni, Mr. Iyengar (W)


433. Structures III. Lecture, three hours. Prerequisites: course 432, consent of instructor. Introduction to statically indeterminate analysis. Structural materials and loads. Wind loads: distribution with height, design for comfort, structural analysis. Seismic loads. Steel construction and concepts for high-rise structures. Structural case studies in timber and stone, introduction to earthquakes: seismology, magnitude and intensity, instrumentation. Case studies of recent earthquakes and damage. Earthquake design concepts and seismic code requirements. Mr. Aroni, Mr. Iyengar (F)


436. Building Construction. (Formerly numbered 437.) Lecture/studio, eight hours. Limited to M.Arch. I students. Introduction to the history and evolution of building materials, building systems, and construction processes. Focus on the design and construction of building elements and systems. Mr. Aroni (W)

437. Construction Documents. (Formerly numbered 436.) Studio, eight hours. Prerequisite: completion of basic building construction (such as 436) or consent of instructor. Office and construction practices encountered in the design and drafting of building projects. Mr. Schoen (W)


441. Environmental Control Systems. Lecture, three hours. Prerequisite: consent of instructor. The determination of the mechanical necessity for the functioning of large buildings: air handling, fire and life safety, plumbing, vertical and horizontal circulation, communication and electrical power distribution, analysis of the interaction of these systems, and the integrated effects on the architectural form of a building. (W)

442. Building Climatology. Prerequisite: basic physics. The design of buildings which specifically respond to the local climate; utilization of preexisting natural environments, human thermal comfort; sun motion and sun control devices; use of plant materials and landform to modify microclimate. Mr. Givoni, Mr. Milne (Sp)

443A. Passively Integrated Solar Systems: Heating. (Formerly numbered 443.) Prerequisite: courses 242 and 442, or consent of instructor. Analysis of the different passively integrated solar systems for heating buildings, considering their anticipated performance and suitability for different climates and building types. Passively integrated solar systems for cooling buildings, considering their anticipated performance and suitability for different climates and building types. Focus on qualitative aspects, including calculations of performance in terms of energy saving and expected indoor comfort conditions. Mr. Givoni (Sp)

443B. Passively Integrated Solar Systems: Cooling. (Formerly numbered 443.) Prerequisite: courses 242 and 442, or consent of instructor. Analysis of the different passively integrated solar systems for cooling buildings, considering their anticipated performance and suitability for different climates and building types. Focus on qualitative aspects, including calculations of performance in terms of energy saving and expected indoor comfort conditions. Mr. Givoni (Sp)

444. Light and the Visual Environment. Seminar, three hours. Prerequisite: course 442 or consent of instructor. The exploration of the extent to which the physical form of a building controls the luminous environment of its occupants; the design of naturally and artificially illuminated environments; parameters of human visual comfort. Mr. Milne (W)

445. Sound and the Auditory Environment. Lecture, two to four hours. Prerequisite: course 442 or consent of instructor. Exploration of the extent to which the physical form of a building controls the auditory environment of its occupants; the design of spaces for auditory privacy and for auditory enhancement; parameters of human audition. Mr. Milne (W)

446. Communication and Diffusion of Innovation. Seminar, three hours. Prerequisite: course 442 or consent of instructor. The role of industry and the design professions. Successful creation and introduction of innovative products, processes, and technologies. Students are expected to contribute to the larger literature of the field through case studies and projects. Visitors and field trips. Mr. Schoen (W)

460. Computer-Aided Design Practice. (Not the same as course 460 prior to Fall Quarter 1986.) Lecture, three hours. Prerequisite: completion of course 444, or consent of instructor. Office and field practices encountered in the design of simple structures and creation of basic working drawings and outline specifications. Introduction to CADD (computer-aided design and drafting) systems. Mr. Schoen (Sp)
Urban Planning

1125J Architecture, (213) 825-7331, 825-8957

Professors
Leland S. Burns, Ph.D.
John Friedmann, Ph.D., Program Head
Dolores Hayden, M.Arch.
Peter Kamnitzer, M.P.L.
Peter Marris, B.A.
Donald Shoup, Ph.D.
Edward W. Soja, Ph.D.
Martin Wachs, Ph.D.

Associate Professors
Leobardo Estrada, Ph.D.
J. Eugene Grigsby III, Ph.D.
Allan Heskin, Ph.D., LL.B.
Jacqueline Leavitt, Ph.D., Acting
Robin Liggett, Ph.D.

Assistant Professors
Margaret Firz Simmons, Ph.D.
Rebecca Morales, Ph.D.
Paul Ong, Ph.D.
Michael Sterner, Ph.D.

Adjunct Associate Professor
Karen Hill Scott, Ed.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 Urban Planning Program. Graduates have taken positions in local, state, and national government, and increasingly with private companies whose products and services affect the urban environment. While most UCLA graduates find positions in the United States, 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 are available which enable students to combine study for an M.A. in Architecture/Urban Planning with work toward an M.B.A. in the Graduate School of Management, a J.D. in the School of Law, or an M.A. in Latin American Studies.

The Urban Planning Program at UCLA takes pride in its collegial atmosphere. It features a lively mix of students from diverse academic backgrounds, drawn from many foreign countries and from every avenue of American life. It includes many members of racial and ethnic minority groups. A number of student organizations provide an interesting program of extracurricular activities.

Requirements for Graduate Degrees

Admission

The Urban Planning Program admits students in the 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 by writing to Admissions, Urban Planning Program, Graduate School of Architecture and Urban Planning, 1125J Architecture, UCLA, Los Angeles, CA 90024.

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 attended and be 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. Refer to "Proficiency in English" under "Graduate Admission" in Chapter 3 for further information.

A maximum of two work samples may be submitted in support of the application (e.g., reports, papers, slides, etc.). Work samples will be returned only on request. (Applicants in the U.S. must enclose a self-addressed, stamped envelope.)

Areas of Concentration

You should select an area of concentration by the end of your first quarter 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:

Urban and Regional Development: Rural poverty and urban migration, unemployment, the problems of economically depressed areas, and the deterioration of inner-city neighborhoods all present problems which call for comprehensive analysis and innovative solutions. Within this area, you are expected to select an emphasis either on developments within the United States and other advanced industrial nations, with a focus on community or on problems of development in newly industrializing countries.

Social Policy and Analysis: This field of study concentrates on services, approaching questions of equity and social structure through the planning and analysis of services that are supplied publicly or semipublicly. It is concerned with the economic, political, and social context of service delivery systems, with analytic techniques for planning and evaluating them, and with the implications of different ways of financing them.

Natural Environment and Resources: 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, consequences which appear both as environmental hazards to human health and well-being and as problems in the management of natural resources. 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 and architecture. It deals with the social and economic forces affecting the built environment and with the built environment on an urban scale. Within this area, you can select one of three specializations: history, theory, and criticism of the built environment; public policy and the built environment; or urban design and physical planning.

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 program head.

International Development Studies: If you wish to focus your studies on policy and planning problems of newly industrializing countries, you can do so in the context of one of the
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major areas of concentration. Coursework is currently offered in rural development, urbanization policies, housing, the environmental impacts of resource-based development, spatial policies for development, and the role of women in development. In addition, a number of courses are concerned with the evolving world economy, general development issues, and related ideological questions.

In its four Area Studies Centers, UCLA has major institutional resources that facilitate research and furnish a rich environment in which to study development issues in a global context. Opportunities for work exist with international agencies, voluntary agencies, and foreign governments. doctoral students are encouraged to pursue careers in teaching, research, and consulting.

Students wishing to pursue comparative development studies at either the M.A. or Ph.D. level should contact Professor John Friedmann.

**Master of Arts in Architecture/Urban Planning**

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 quarter, 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. Seven core courses are required: Architecture and Urban Planning 207, 220A (waiver by examination), 220B, two core courses in theory and context, and two additional courses (three if course 220A is waived) from a selection of 12 remaining core courses in methods, theory and context, and/or practice.

On entering the program, you must pass examinations indicating competence in basic mathematics and microeconomics before enrolling in courses 220A and 207 respectively. Copies of sample examinations are mailed with admission offers 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 quarter of studies.

**Area Course Requirement:** You must select an area of concentration. A list of courses is prepared for each area of concentration, from which you are required to select at least five; two are generally specified.

**Fieldwork Requirement:** Two fieldwork courses (eight units) are required (subject to waiver).

You are encouraged to seek waivers for requirements which have been met in your previous education.

**Thesis 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 examinations 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. 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 the Fall Quarter of your second year. Academic credit for thesis preparation is given through Architecture and Urban Planning 597P (four units each in Fall, Winter, and Spring Quarters).

**Comprehensive Examination Plan**

If you select the comprehensive examination option, you may choose either Plan A or Plan B.

**Plan A (Long-Term 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 approximates that of the thesis. Academic credit for project involvement is given through Architecture and Urban Planning 597P (four units each in Winter and Spring Quarters).

As an alternative under Plan A, you are encouraged to take courses 217A-217B (group comprehensive project sequence), offered Winter and Spring Quarters, to fulfill the comprehensive examination requirement.

**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 three faculty members (appointed by the area of concentration coordinator) offers, reads, and grades the examination. No course credit is received.

**Fieldwork**

Master's students who come to the Graduate School of Architecture and Urban Planning without prior experience in planning are required to complete eight units of fieldwork. Fieldwork is defined as clinical or "real world" experience with a planning office, a private organization involved in planning, a community action agency, or applied research within a clinical context (excluding conventional university-based research projects). Details on fulfilling this requirement are available in the program office.

**Concurrent Degree Programs**

**J.D./M.A.-Architecture/Urban Planning**

The Graduate School of Architecture and 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 schools 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 Program, and the Graduate Division. For additional information, contact the graduate counselor in the Urban Planning Program.

**M.B.A./M.A.-Architecture/Urban Planning**

The Graduate School of Architecture and Urban Planning and the 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 should request all application materials from the M.B.A. Admissions Office, Graduate School of Management. Further details may be obtained from the graduate counselor in the Urban Planning Program.


The Urban Planning Program 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 concurrent degree program provides an integrated curriculum through which students can develop...
op professional knowledge and skills while re-
ceiving advanced area studies and language 
training.

Students should apply through the Urban Plan-
ning Program. Further details may be obtained 
from the graduate counselor in the Urban Plan-
ning Program.

Ph.D. in Urban Planning

Admission

Students admitted to the Ph.D. program in Ur-
ban Planning must have a master's degree in 
planning or a closely related field.

You must have a minimum 3.5 grade-point 
average in all graduate work completed for 
consideration for the Ph.D. program. Employ-
ment experience in planning or a closely relat-
ed field is strongly recommended.

Foreign Language Requirement

A foreign language is not required either for 
admission or completion of the doctoral pro-
gram. However, students who are expecting to 
do dissertation research abroad are strongly 
advise to obtain the necessary language 
skills prior to beginning such research.

Course Requirements and 
Qualifying Examinations

You must demonstrate a high level of compet-
tence in a major field, a minor field, and in 
planning theory as measured by coursework 
and doctoral examinations. In addition, you 
must satisfy a requirement in research meth-
ods and are required to take Architecture and 
Urban Planning 208 to aid in preparation of 
dissertation research and writing.

Planning Theory Requirement

Planning theory is concerned with the ideas 
which have influenced planning since the be-
ingen of the 19th century and with philosophi-
cal issues in societal guidance and social 
transformation.

You are required to take Architecture and 
Urban Planning 210A, 210B, and 210C and 
to present, at the end of your third quarter, an 
original research paper on a topic related to 
planning theory selected in consultation with 
faculty. The planning theory requirement 
should be completed in your first year in the 
program, prior to taking the major field examination.

Research Methods Requirement

The research methods field covers a variety of 
techniques useful for collecting, organizing, 
processing, and analyzing information for 
planning decisions. The methods to be 
covered emphasize statistics and their applica-
tion to urban and regional studies and planning.

Statistical tools include probability theory, prob-
ability distribution, sampling, survey methods, 
estimation techniques, hypothesis testing, 
analysis of variance, correlation, regression, 
and factor analysis. You may also study meth-
ods which address research of a more qualita-
tive nature, including ethnomethodology, an-
thropological field methods, historiography, 
and Marxist methodologies.

To fulfill the research methods requirement, 
you must complete a sequence of three meth-
ods courses beyond the introductory level with 
a grade of B or better. In order to meet a mini-
mum requirement in statistics, one of the three 
courses must be Architecture and Urban Plan-
ning 220B or the equivalent. The courses must 
be approved by your adviser and should begin 
during your first year in the Ph.D. program.

Major Field Examination

The major field examination tests your compe-
tence in a substantive area of study in planning.

Following a prescribed process (available in 
detail from the graduate counselor), a 
committee of three faculty members is ap-
pointed by the program head to supervise your 
preparation for the field examination, which 
normally takes from six months to a year fol-
lowing successful completion of the planning 
theory requirement. The examination has two 
parts — one written, one oral. The written part 
gives each quarter simultaneously to all stu-
dents on the Friday of the seventh week of 
classes; the oral part is given before the end of 
the same quarter. You may receive academic 
credit for the preparation of the examination by 
enrolling in Architecture and Urban Planning 597P.

Minor Field Requirement

The minor field requirement is intended to pro-
vide a breadth of knowledge which extends 
beyond the specific area of the major field. This 
requirement is closely adjusted to your disserta-
tion focus and is fulfilled by taking 12 units of 
coursework, with grades of B or better, in a 
related field approved by your principal adviser.

Oral Qualifying Examination

After successful completion of the planning 
theory, research methods, and major and mi-
nor field requirements, you may petition the 
Graduate Division for approval of your doctoral 
committee.

The doctoral committee administers the Uni-
versity Oral Qualifying Examination at which 
you defend your dissertation prospectus. To 
assist in the development of the proposal, you 
are required to complete Architecture and Ur-
ban Planning 208.

The University Oral Qualifying Examination is 
normally taken by the end of your third year of 
doctoral study.

Final Oral Examination

This examination, which is optional at the dis-
cretion of the doctoral committee, involves a 
defense of the completed dissertation.

Upper Division Courses

179. Variable Topics in Urban Planning (2 to 8 
units). Lecture, three hours. A variable topics course in 
selected subjects in social policy and public ser-
sives, urban and regional development, natural envi-
ronment and resources, and the built environment. 
May be repeated for credit.

187. Planning and Designing Our Cities. See list-
ing under "Urban Planning." 
Mr. Kramnitzer

190. The Human Environment: An Introduction to 
Architecture and Urban Planning. See listing under 
"Architecture-Urban Design." 
Mr. Rand (F)

M195S. Engineering and Environmental Geology 
(Same as Earth and Space Sciences M139.) Lecture, 
two and one-half hours. Prerequisite: Earth and 
Space Sciences 1 or more. Recommended: Earth and 
Space Sciences 195. Analysis of techniques of 
mechanics and foundation engineering in light of 
geomorphic conditions, recognition, prediction, and con-
trol or abatement of subsidence, landslides, earth-
quakes, and other geologic aspects of urban planning 
and subsurface disposal of liquids and solid wastes. 
Mr. Merrifield (W)

197. Planning for Minority Communities. Lecture, 
three hours. Introduction to inner-city policy issues 
on three separate levels: (1) each student develops a 
comprehensive inner-city urban program using mate-
rials from the Alternatives Inner-City Future Exercise, 
(2) each student is expected to identify the values 
assumptions and theories of social justice implicit 
in alternative intervention programs, and (3) each 
student is expected to participate in class discus-
sions that emphasize minority issues which affect 
implementation. 
Mr. Estrada

199. Special Studies (2 to 8 units). See listing under 
"Architecture-Urban Design."

Graduate Courses

M202A. Public Control of Land Development (3 to 
6 units). Analysis of the legal and administratively 
aspects of the regulation of land use and develop-
ment, and the problems and tech-
niques of urban planning; dwelling legislation, build-
ing codes, zoning, subdivision controls, public acqui-
sition of land, taxation, and urban development. 
Mr. McGee

M202B. Governance: State, Regional, and Local 
(3 to 4 units). (Same as Law M285.) Lecture, three 
hours. Legal problems involving local governmental 
entities; sources and extent of powers and duties with 
respect to personnel, finance, public works, com-
nunity development, and related topics.

M202C. Seminar: Urban Affairs (3 to 6 units). 
(Same as Law M529.) Exploration in a concrete case 
setting of the application of legal tools to the solution 
of planning and land-use problems. Real situa-
tions are selected in which significant planning prob-
lem exist that appear to be amenable to solution by 
care-
ful analysis and application of legal tools. A number of case studies are selected so that students may 
choose one issue which directly interests them. For 
each case, a specific client works with the class in 
presenting the problem that client is facing and re-
mains available through the course of the project for 
consultation; the end product for each case is the 
preparation of a formal report. Clients include the 
City Planning Commission, the Environmental Qual-
ity Board, the Housing Authority, and others.

M205C. Urban Government. (Same as Political Sci-
cence CM229.) An analysis of the policies, processes, 
interrelationships, and organization of governments in 
heavily populated areas.
212. Uses of Forecasts in Policy-Making. Alternative concepts of the future and their relationship to planning. Emphasis on practical institutional arrangements that forecasts be conducted by planners; the technical characteristics of forecasts themselves and the relationship between technical forecasting methods and assumptions about the future; case studies of the use of forecasting in policy-making drawn from a variety of sectors: transportation, housing, energy, and water supply; an examination of ethical dilemmas facing forecasters in complex policy-making situations. Ms. Grigsby

214. Ethics in Planning. 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, the concept of environmental ethics, and the evolution of the code of ethics in the American planning profession. Mr. Wachs

215B. Spatial Statistics. (Same as Geography M272.) Lecture, two hours; discussion, one hour; laboratory, one hour. Prerequisites: Geography 171 or Mathematics 50. Emphasis on the techniques useful in the analysis of spatial distributions, including both point and areal patterns and emphasizing spatial descriptive statistics, probability models of spatial distributions, and statistical surfaces. Mr. Krack

217A-217B. Comprehensive Planning Project. Prerequisite: second-year standing. The comprehensive project is offered by at least two faculty members representing different areas of policy concentration in the urban planning program and brings together students of varying backgrounds and interests in joint solution of a problem in urban planning and development. Each project is the equivalent of eight units total and spans two quarters. Because of the time required for the completion of project work, it is expected that students enrolled in a project will select the comprehensive examination plan option in place of the master's thesis. Credit to be given on completion of course 217B. Mr. Wachs

219. Special Topics in Planning Theory (2 to 8 units). Lecture, three hours. Seminar on topics in planning theory selected by the faculty. May be repeated for credit.

220A. History of Planning Thought since 1800. (Formerly numbered 201B.) Lecture, three hours. A historical introduction to the major ideas and theories of planning that have influenced its development from the early 19th century to the present. Ms. FitzSimmons (F)

220B. Colloquium in Planning Theory. (Formerly numbered 201C.) Lecture, one hour; discussion, two hours. Prerequisites: course 210A. Intended for Ph.D. students. M.A. students may enroll by departmental petition only. An introduction to some of the theoretical issues of contemporary planning, such as the role of planning in the state, the nature of social and economic processes, with emphasis on planning methods. Topics include internal and international migration, crime analysis, transportation demand, and economic activity forecasting. Mr. Estrada, Mr. Levine

224. Public Resource Allocation. Lecture, three hours. Prerequisite: passing score on a microeconomics examination given the first day of class. The practical use of economics in analyzing public resource allocation problems. Topics include a review of the economic role of the computer as a tool in statistical analysis and model building in the typical urban planning research projects. Use of the computer as a tool in statistical analysis and model building. Topics include data sources, and errors, mortality, fertility, age structure, and their effects on planning policy. Mr. Estrada, Mr. Levine

227. Social Indicators and Reports for Metropolitan Regions. Discussion, three hours. Prerequisite: second-year standing. Research seminar concerned with the development of social indicators for evaluating and reporting the performance of complex systems. Mr. Wachs

228. Seminar in Advanced Research Methods. (Formerly numbered 208A.) Lecture, three hours. Prerequisites: doctoral standing, consent of instructor. Required of Ph.D. students in or following the second year. The process of developing and presenting a dissertation proposal; introduction to the alternative conceptions of science (or rigorous scholarship) now apparent in various social science paradigms: S/U grading. Ms. Lopiparo (W)

229. Special Topics in Planning Theory (2 to 8 units). Lecture, three hours. Seminar on topics in planning methodology selected by the faculty. May be repeated for credit.

230. Research Seminar in Planning Theory. Discussion, three hours. Prerequisite: course 210B. Limited to Ph.D. students. A seminar to prepare Ph.D. students for their research paper in planning theory. Presentations by students and lectures and discussions on topics selected for research by the class. Mr. Soja (W)

231. Law and the Quality of Urban Life. Lecture, three hours. An introduction to law as an urban system, directed primarily toward those interested in social and advocacy planning. Urban problems, such as employment, housing, social welfare, and land use; the law's role as a partial cause and cure of these problems. Examination of law as a changing process rather than as an application of principles, so that students develop a facility to interact with law and legal institutions in a positive and forceful manner. Mr. Heskin

232. Urban Evaluation Methods. (Formerly numbered 221A, 221B.) Lecture, three hours. Prerequisites: courses 210A, 210B, or equivalent. An introduction to the planning profession and more specifically, to the Urban Planning Program at UCLA. An overview of the forces that shaped its practice over time and an exploration of various professional roles for planners. Planning education viewed as a response to changing needs and as a catalyst for emerging roles for professional planners. Several short projects designed to expose students to "real world" planning. Mr. Scott (W)
235A-235B. Urbanization and Rural Development in Third World Countries. Lecture, 90 minutes; discussion, 90 minutes. Prerequisite for course 235A: course 266 or consent of instructor; for course 235B: course 235A or consent of instructor. Questions of urbanization and planning in first quarter; rural development in second quarter. Case studies from Latin America, Africa, and Asia. Lectures, student presentations, and policy debates.

Mr. Friedmann (W,Sp)

236A. Urban and Regional Economic Development I. Lecture, three hours. An introduction to basic principles of urban and regional economics as they bear on public policy formation and urban and regional planning, especially in the U.S. context. Contemporary economic problems, theoretical frameworks for analyzing these problems, and methods of analysis. Major topics include regional distribution of employment/unemployment income and standards of living, with special attention to sectoral shifts in employment and demographic and migratory changes in the U.S. Emphasis on economic growth policies and development planning in cities and regions.

Ms. Morales, Mr. Storper (W)

236B. Urban and Regional Economic Development II. Lecture, three hours. A seminar focusing on local economic development, meaning job creation, job retention, or various forms of income redistribution for the purposes of developing or stabilizing a community's economy. Reasons for and measurement of unemployment and impoverishment, programmatic approaches for dealing with these problems, and a critical analysis of the objectives, outcomes, and public accountability of the different approaches. Topics include labor market considerations in economic development planning; incentives to private enterprise investment; alternative institutions for local economic development; and financing public and private investment.

Ms. Morales (Sp)

236C. Urban and Regional Economic Development III. Discussion, three hours. Prerequisite: course 236B. An advanced seminar for students wanting to design or critically evaluate programs in economic development. Two- to three-week intensive workshops on financing techniques and economic development law in first part of course; individual student projects during remainder of course.

Ms. Morales (F)

238. Advanced Seminar in Urban and Regional Development. Lecture, two hours; discussion, two hours. Prerequisite: doctoral standing or consent of instructor. An advanced research seminar on major issues in urban and regional development theory and policy. Topics usually reflect faculty research projects and change from year to year. May be repeated for credit.

239. Special Topics in Urban and Regional Development Policy (2 to 8 units). Lecture, three hours. Seminar on topics in urban and regional development policy selected by the faculty. May be repeated for credit.

241A. Urban Transportation Planning I. (Formerly numbered M241A.) Lecture, three hours. Historical development of urban transportation planning and the current political and administrative frameworks for planning; the relationship between transportation systems and urban form; historical review of automobile and public transit systems; urban highway and transit planning programs; the financing of urban transportation; environmental and social impacts of transportation systems; current policy dilemmas; controlling the automobile; promoting mass transit, energy issues, needs of elderly and handicapped.

Mr. Wachs

241B. Urban Transportation Planning II. (Formerly numbered M241B.) Prerequisites: courses 207 2208, 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.

Mr. Wachs
241C. Urban Transportation Planning III. (Formerly numbered 241C and 241C-E. Prerequisites: courses 207, 220B, 241A, and 241B, or consent of instructor. Recent experience and case studies in transportation planning and policy. Planning a rail system and downtown people mover for Los Angeles; community dial-a-ride services; express buses on freeways; the Santa Monica Freeway diamond lane project; decision making in the case of the Century Freeway; a parking management program for Los Angeles; carpooling and vanpooling programs, field trips and guest speakers.) Mr. Wachs (F)

244. Housing Markets. Lecture, three hours. The 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 filtering, housing search, segmentation, pricing, production efficiency, organization of the construction industry, market failure, and appropriate policy responses. Mr. Burns

245. Urban Public Finance. Lecture, three hours. Prerequisites: courses 207 and 220A, or consent of instructor. Theory and practice of urban public finance, with emphasis on the role of public infrastructure. Topics include fiscal impact analysis of real estate development, the effects of taxes on land-use decisions, benefit assessments to finance neighborhood improvement, private and institutional contracting as a method of supplying urban public services, tax increment finance for urban redevelopment, and the municipal bond market. The equity of public service distribution among urban areas; review of the results of lawsuits to equalize public services. Mr. Shoup

246. Housing in Social and Economic Development Policy. Lecture, three hours. Prerequisite: course 207 or equivalent. Instructor. Seminar on the position of housing in national and regional development strategies, with focus on policies for Third World nations. Topics include the nature of housing "need," market responses, evolution of housing policy, theory of intervention, alternative policies for increasing the housing supply. Numerous case studies. Mr. Shoup

249. Special Topics in Social Policy and Analysis (2 to 8 units). Lecture, three hours. Seminar on topics to be selected by the faculty. May be repeated for credit.

251. Planning for Multiple Publics. Lecture, three hours. Prerequisite: prior background in statistics and research design. Exploration of the planning needs of various social groups in urban settings; reading, literature, and research studies to determine appropriate mechanisms of planning for multiple publics. Analysis of communities in the Los Angeles metropolitan area as a means of gaining insights into the practical, theoretical, and methodological problems of planning for multiple publics. Generally taken in the first year. Mr. Grigsby

252A. Human Lives in Development. Lecture, three hours. The growth and development of the individual throughout the life cycle. Attention to four major schools of thought regarding human development, drawing implications to planning approaches. Emphasis on the psychosocial basis of individual development and its relationship to planning. Ms. Hill Scott

252B. Social Policy in Human Development. Prerequisite: course 252A or consent of instructor. The applications of human development information on the formulation of child care and family policy. Examination of a wide variety of data on child development, family structure, female labor force participation, and the economics of public investments and its use in developing policies regarding the organization and supply of child care services. Ms. Hill Scott

253. Social Theory for Planners. Lecture, three hours. Prior knowledge of sociological theory would be useful but is not essential. The sociological tradition as it relates to issues of change, the role of the state, and the relationship between knowledge and values as they affect planning. Insights and crucial issues which have arisen from social theory as they relate to the concerns of planning and social policy. Contemporary developments in urban sociology. Ms. Marris

254. Social Research Methods. Lecture, three hours. Prerequisite: course 220B or equivalent. Review of basic methods commonly used in planning and applied social research and, in particular, survey research. Topics include conceptualizing the research problem; developing a research design; sampling, instrumentation, and data collection; and time management of a research study. Mr. Estrada, Mr. Levine

256. Social Impact Analysis. Lecture, three hours. Prerequisites: courses 220A and 220B, or consent of instructor. The formulation of child care and family policy. Examinations of a wide variety of data on child development, and its relationship to planning. Mr. Burns

260A. Political Economy and the Environment. 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 economic systems. In order to understand the policy formulation for assisting in community development. Generally taken in the second year. Mr. Grigsby

260B. Political Economy and the Environment. Lecture, three hours. Prerequisites: courses 220A, 220B, a course in advanced statistics, and consent of instructor. The basics of land use as a commodity in the first part: land economics, land markets. Development, impacts. Gives students important background for the conservation/preservationist division at the turn of the century, the environmental implications of those concepts of regional integration developed by the RPAA and others in the 1920s which were institutionalized in the New Deal, the rise of environmental activism after World War II, and the emergence of a legislative and judicial framework for environmental politics. Ms. FitzSimmons, Mr. Gottlieb

262B. Urban Environmental Problems: Wastes and Hazards. Lecture, three hours. Prerequisites: courses 220A, 220B. Examination of the conservation/preservationist division at the turn of the century, the environmental implications of those concepts of regional integration developed by the RPAA and others in the 1920s which were institutionalized in the New Deal, the rise of environmental activism after World War II, and the emergence of a legislative and judicial framework for environmental politics. Ms. FitzSimmons, Mr. Gottlieb

262C. Urban Environmental Problems: Water Resources. Lecture, three hours. Prerequisites: course 220A, or consent of instructor. Exploration, through reading, discussion, and student presentations, of the meaning of resource conservation, its desirability, and ways of achieving it. Emphasis on the integrated management of the public lands, though students may attend particularly to a specific resource (mineral, wildlife, cultural, etc.). Ms. FitzSimmons

262D. Environmental Law and Policy (3 to 4 units). (Same as Law M260.) Lecture, three hours. Examination, from perspectives meaningful to legal institutions, of the nature of environmental problems. The means by which law has responded, and, in contrast to a strict development orientation, problems of environmental quality. Both common law and legislative and administrative measures considered. The air pollution problem is the subject of a seminar study.

265. History of American Environmentalism. Discussion, three hours. Prerequisites: courses 260A, 260B. Readings, discussion, and student papers on the conservationist/preservationist division at the turn of the century, the environmental implications of those concepts of regional integration developed by the RPAA and others in the 1920s which were institutionalized in the New Deal, the rise of environmental activism after World War II, and the emergence of a legislative and judicial framework for environmental politics. Ms. FitzSimmons, Mr. Gottlieb

266. City and Countryside in the Third World. (Not the same as course 266 prior to Fall Quarter 1984.) Lecture, three hours. Review of the basic literature and theories of development in Third World countries, through an analysis of the impact of mercantilism, colonialism, capitalism, and socialism on various urban and rural social and economic structures in the Third World. Presentation, through an evaluation of theoretical writings and case studies, of the complexity and diversity of developing countries. Emphasis on the linkages between policy and the rural and urban impacts. Gives students important background for courses 267A, 267B, and many of the other planning courses addressing Third World issues. Ms. Hecht

267A. Resource-Based Development Planning. Discussion, three hours. Recommended prerequisite: course 266. Some of the major issues associated with the development of specific natural resources. Topics include the nature of the particular resource (or region associated with it), its previous management, the involvement of the state, communities, and local groups, and the environmental and social impact of its development. Ms. Hecht

267B. Rural Development Issues. Lecture, three hours. Recommended prerequisite: course 266. Development policies are more thoroughly of themes raised in earlier courses. Topics may include peasants, development and rural women, agricultural ecology, comparative land reform, agrarian revolution, and the special problems of tropical development. May be repeated for credit with consent of instructor. Ms. Hecht
268. Advanced Seminar in Natural Environment and Resources. (Formerly numbered 260.) Discussion, three hours. Prerequisite: consent of instructor. Exploration of broad issues related to environmental and resource planning. Generally intended for second-year M.A. and Ph.D. students. May be repeated for credit.

269. Special Topics in Natural Environment and Resources (2 to 8 units). Lecture, three hours. Seminar on topics in natural environment and resources selected by the faculty. May be repeated for credit.

272. Real Estate Development for Planners and Architects. See listing under "Architecture/Urban Design." Ms. Leavitt

273. Site Planning. (Formerly numbered 267.) Lecture, 90 minutes; discussion, 90 minutes. Introduction to principles of site planning for urban areas, including new towns, new towns-in-town, shopping centers, industrial parks, office parks, housing, and recreation areas. Discussion of case studies in Southern California; exercises at the scale of the small city, the urban neighborhood, and the superblock.

274. Introduction to Physical Planning. See listing under "Architecture/Urban Design." Ms. Leavitt

276. Planning Workshop (4 to 8 units). Laboratory, six hours. Prerequisite: course 421 or 422 or Design 32A or demonstrated background in architectural design or consent of instructor. Planning projects with a focus on physical planning. Emphasis on synthesis combined with iterative evaluation of the emerging solutions. Projects may be reality bound, hypothetical, or in the form of exploring the impact of nonphysical forces on the physical environment. Development of presentation skills, both graphic and verbal, is an essential component of this workshop.

277. Introduction to Historic Preservation. Lecture, two hours; discussion, one hour; one-day field trip. Following an explanation of the philosophy and history of the preservation movement, lectures focus on various aspects of historic preservation, such as current legislation, tax incentives for developers, preservation planning for cities, methods of recognizing significant buildings and of conducting a survey, adaptive reuse, citizen involvement from national to local levels, appropriate restoration techniques, structural reinforcement of masonry buildings, and social problems caused by preservation (such as gentrification and displacement).

278. Research Methods in Human-Environment Relations. See listing under "Architecture/Urban Design." Ms. Leavitt

281. Introduction to the History of the Built Environment in the United States. Lecture, three hours. Open to advanced undergraduates with consent of instructor. An introduction to American urban, environmental, and architectural history; a survey of the main economic, political, social, and aesthetic forces forming the built environment. The Colonial period to the present, with emphasis on the importance of the spatial design of cities and buildings to public policy.

Ms. Hayden

283. History of the American Household and the American Home. Lecture, 90 minutes; discussion, 90 minutes. Prerequisite: course 281 or consent of instructor. An introduction to the history of housing design in the United States, emphasizing the changing roles of women and men from Colonial times to the present and the effects of these social changes on the physical form of the dwelling and the settlement. Discussion of the concerns of professional architects and planners, as well as the activity of bankers, builders, and homemakers.

Ms. Hayden

284. The Ideal City in History. Prerequisite: course 281 or consent of instructor. Since the time of Thomas More's Utopia, creating the ideal city has been a favorite device used by novelists, political theorists, economic and social critics, and architects to criticize existing society and demonstrate the dramatic possibilities of thoroughgoing reform. The utopian tradition in its literary, political, and aesthetic forms, examining satirical cities, moral cities, and urban fantasies from the 16th century to the present.

Ms. Hayden

285. Private Life, Public Life, and the Built Environment: Planning for the Changing Household and the Changing Work Force. Lecture, 90 minutes; discussion, 90 minutes. An introduction to the substantial literature on the relationship between gender and urban experience. Alternative research strategies attempt to define a private/public urban split; to describe an inadequate fit between American households, housing, and services; and to document environmental inequities women and children face in contemporary cities. Students prepare seminar papers using one or more of these approaches to explore topics in the areas of housing, neighborhood development, transportation, or social services.

Ms. Hayden

375. Teaching Apprentice Practicum (1 to 4 units). See listing under "Architecture/Urban Design."


494. Supervised Independent Teaching (2 to 8 units). Supervised individual teaching experience. May be repeated for credit. S/U grading.

496F. Field Projects (2 to 8 units). May be repeated for credit. S/U grading.

501. Cooperative Program (2 to 8 units). Prerequisite: consent of UCLA graduate adviser and graduate dean. Course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

506P. Research in Planning (2 to 8 units). May be repeated for credit.

507P. Preparation for M.A. Comprehensive Examination or Ph.D. Qualifying Examinations (2 to 8 units). May be repeated for credit. S/U grading.

508P. Preparation for M.A. Thesis in Urban Planning (2 to 8 units). May be repeated for credit. S/U grading.

509P. Ph.D. Dissertation Research in Planning (2 to 8 units). May be repeated for credit. S/U grading.
The primary goal of the Graduate School of Education is "the improvement of educational practice." In attainment of this goal, the functions of the school have expanded markedly in the past several decades to include a major commitment to educational research, to the advanced education of professional leaders and specialists, to the study and criticism of educational policy, and to field consultative services — all in addition to the traditional preparation of teachers.

The school, largest of its kind in the University of California system, provides a full range of academic and professional degree programs. Students may select from programmatic offerings consistent with individual goals and professional aspirations. At the master's degree level, professional Master of Education and academic Master of Arts programs are offered; at the doctoral level, qualified students may pursue the professional Doctor of Education or the academic Doctor of Philosophy degree. Additionally, several instructional and services credential sequences are available.

In order to assure that each candidate is advantaged through preparation which provides for variation in individual objectives and anticipates qualification for careers of the future, the faculty of the school engages in an ongoing review and any needed revision of curricular offerings. Further, an attractive array of fellowships is available to assist in recruitment of outstanding students both locally and nationwide.
Graduate School of Education

Office of Student Services: 201 Moore Hall, (213) 825-8325

Professors
Marvin C. Akin, Ed.D.
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.
Leigh Burstein, Ph.D.
Burton R. Clark, Ph.D. (Allan M. Carter Professor of Higher Education)
Arthur M. Cohen, Ph.D.
Carl Weinberg, Ed.D.
Louise L. Tyler, Ph.D.
Lewis C. Solmon, Ph.D., Dean
Rodney W. Skager, Ph.D.
W. James Popham, Ed. D.
Marilyn H. Kourilsky, Ph.D.
Antoinette Krupski, Ph.D.
C. Wayne Gordon, Ph.D.
Clarence Fielstra, Ph.D.
Claude W. Fawcett, Ph.D.
Wilbur H. Dutton, Ed.D.
Aimee Dorr, Ph.D.
Sol Cohen, Ph.D.
Val D. Rust, Ph.D.
David O'Shea, Ph.D.
Geoffrey Saxe, Ph.D.

Emeritus Professors
Melvin L. Barlow, Ed.D.
Wilbur H. Dutton, Ed.D.
Lawrence W. Erickson, Ed.D.
Claude W. Fawcett, Ph.D.
Clarence Fielstra, Ph.D.
John I. Goodlad, Ph.D., L.H.D., LL.D.
C. Wayne Gordon, Ph.D.
John A. Hockett, Ph.D.
David F. Jackey, Ph.D.
B. Lamar Johnson, Ph.D.
Evan R. Keislar, Ph.D.
Frederick C. Kintzer, Ed.D.
Dorothy M. Leahy, Ed.D.
Erick L. Lindman, Ph.D.
William H. Lucio, Ph.D.
C. Robert Pace, Ph.D.
Rosemary Park, Ph.D., L.H.D., L.H.D., L.H.D.
Samuel J. Wanous, Ph.D.

Associate Professors
Frederick S. Elliott, Jr., Ph.D.
Charles C. Healy, Ph.D.
Antoinette Krupski, Ph.D.
Bengt Muthén, Ph.D.
David O'Shea, Ph.D.
Val D. Rust, Ph.D.
Geoffrey Saxe, Ph.D.
Deborah J. Stipek, Ph.D.
Romelia Tidwell, Ph.D.
James W. Trent, Ph.D.

Concepción Valdevec, Ph.D.
Noreen M. Webb, Ph.D.
Weilford Wilms, Ph.D.
Julia C. Wrigley, Ph.D.
Simon González, Ed.D., Emeritus
Wendell P. Jones, Ph.D., Emeritus
Frances M. Obst, Ed.D., Emeritus

Assistant Professors
James S. Catterall, Ph.D.
Donald Dorr-Bromme, Ph.D.
David P. Ericson, Ph.D.
Sandra Graham, Ph.D.
Barbara Hecht, Ph.D.
Carollee Howes, Ph.D.
Harold G. Levine, Ph.D.
Don T. Nakano, Ph.D.

Visiting Assistant Professor
Carol Mock, M.S.

Adjunct and Visiting Lecturers
Marjorie S. Day, Ph.D., Adjunct
Philip Ender, Ph.D., Visiting
Madeline Hunter, Ed.D., Visiting
Virginia Kennedy, Ph.D., Visiting
Ann Phelps, Ph.D., Visiting
Burtis Taylor, Ed.D., Visiting

Degrees Offered
Master of Education (M.Ed.)
Master of Arts in Education
Doctor of Education (Ed.D.)
Doctor of Philosophy in Education

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. A minimum total score of 1,000 on the combined quantitative and verbal sections of the Graduate Record Examination (GRE).

2. Acceptance in a particular specialization is dependent on the availability of openings in that field; preference may be given to applicants with related backgrounds and/or experience.

Admission to an initial advanced degree program occurs simultaneously with admission to graduate standing and to the Graduate School of Education. No screening examination (other than described above) and no specific coursework are required for admission to a degree program.

Note: Applicants who do not meet the University minimum grade average and/or GRE score requirements may be admitted to the school on the basis of relevant work experiences, accomplishments, or public service.

Letters of recommendation, while not required, may prove useful in documenting qualifications and/or professional experiences. The Graduate School of Education has an application form for both master's and doctoral degree programs which must be completed in addition to the one used by the Graduate Admissions Office.

Application forms and departmental brochures are available from the Office of Student Services, Graduate School of Education, 201 Moore Hall, UCLA, Los Angeles, CA 90024.

For information on the proficiency in English requirements for international graduate students, refer to "Graduate Admission" in Chapter 3.

Major Fields or Subdisciplines

Area I — Social and Philosophical Studies in Education
Comparative and International Education — 204A, 204B, 204C, 204D, 204E, 204F, 205A, 205B, 205C, 205D, 205E, 205F, 205G, 205H


Area II — Educational Psychology


Area III — Organization and Administrative Studies in Education


Teacher Education


Academic Interinstitutional Programs


Special Studies


Fields of specialization which may be selected in completion of the specified degree programs 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 field of specialization.

Master of Education — Administrative and policy studies in education; bilingual/cross-cultural education (not offered in 1986-87); curriculum and the study of schooling; teacher education.

Master of Arts in Education — Area I (education and the social sciences; philosophy of education); Area II (all specializations); Area III (education and work; higher education).

Doctor of Education — Area II (all specializations, except counseling); Area III (all specializations).

Note: No specializations in Area I are approved for major study in the Doctor of Education degree program. Since the Ed.D. program is oriented toward key concepts and issues in education, study includes specialized content in the selected field of specialization, as well as content from related specializations.

Doctor of Philosophy in Education — Areas I, II, III (all specializations).

Master of Education

The Master of Education (M.Ed.) professional degree program is designed for individuals preparing for a mid-level professional position in schooling or for advanced professional study; it is the appropriate degree to provide professional foundation study in preparation for the Ed.D. program.

Admission

Requirements are applicable in accordance with selected specializations:

(1) Administrative and Policy Studies in Education: Possession of a valid teaching 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 teaching 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. (This M.Ed. specialization will not be offered in 1986-87.)

(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 specialization field is advantageous.

(4) Teacher Education: This is a four-quarter program leading to qualification for a Multiple or Single Subject Instruction Credential and a Master of Education degree. Individuals with the highest qualifications in all subject areas, including mathematics, science, and the humanities, are sought. 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, although no specific upper division courses are necessary. At least five courses (20 units) must be in the professional education (400) series. No 500-series courses may be applied toward the degree. Education 597 may be taken on an optional basis.

Information regarding specific course requirements in a selected M.Ed. specialization may be obtained from the Office of Student Services.

Teaching Experience

For some M.Ed. specializations, teaching experience is required. Specific information may be obtained from the Office of Student Services.

Comprehensive Examination Plan

There is no thesis plan offered in this program. Comprehensive examinations for master's degrees are offered twice yearly, once in Fall Quarter and once in Spring Quarter. They consist of:

(1) A comprehensive written examination designed to assess (a) comprehension of the professional knowledge basic to the selected field of specialization, 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) A performance examination designed to assess your 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. specialization is available from your academic adviser.

The comprehensive examination may be taken twice. After a second failure, you are allowed to continue in the Graduate School of Education only in highly unusual circumstances.

Master of Arts in Education

The Master of Arts academic degree program in Education is designed to meet the needs of the individual preparing for a career in basic research or for advanced graduate study; it is the appropriate prerequisite education degree to the Ph.D. degree program.

Course Requirements

A minimum of nine upper division and graduate courses (36 units) must be completed in graduate standing, although no specific upper division courses are necessary. Six courses (24 units) must be taken in the Education 200 and 500 series. A minimum of two 500-series courses (eight units) may be applied toward the divisional course minimum and toward the graduate course minimum.

Two courses must be selected from Education 200A, 200B, 210A, 210B. Additional courses to complete the 36-unit requirement may be selected from offerings in Education and/or other departments with consent of your assigned adviser.

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 Graduate School of Education and the chair of your thesis committee.
The thesis committee must be formed, and a Petition for Advancement to Candidacy for the Master of Arts must be filed no later than one quarter prior to completion of course requirements for the degree.

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 major area of study and field of specialization. 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 comprehensive examination, offered twice yearly in Fall and Spring Quarters, may be taken twice. After a second failure, you are allowed to continue in the Graduate School of Education only in highly unusual circumstances.

Doctor of Education

The Doctor of Education (Ed.D.) professional degree program is designed to meet the needs of individuals preparing for careers of leadership and applied research in the schools and community educational programs. Emphases include practice, applied studies, and knowledge related to professional skills.

Admission

A Master of Education degree or equivalent is required; at least two years of successful professional experience in education or equivalent must be completed prior to advancement to candidacy.

Course Requirements

A minimum of 18 courses is required, as follows:

1. Three research methods courses, with no more than two introductory courses and at least one advanced course, selected from the departmental list approved for the Ed.D.

2. Nine education courses, of which four must be in areas other than the specialization (to comprise a complementary support area) and of which at least six must be from the Education 400 series; all courses must be approved by the academic adviser.

3. Three supplemental courses selected from offerings in the school (usually outside the specialization) or in another UCLA professional school or department.

4. A sequential three-quarter field practicum to include a research paper or similar product submitted by the end of the sequence.

Individual course requirements may be waived, under exceptional circumstances, at the discretion of the committee on graduate degrees, admissions, and standards; in unusual cases, however, an academic adviser may recommend additional coursework.

Qualifying Examinations

After satisfying the above requirements, you are eligible to take the following qualifying examinations:

1. A specialization-designed written examination which is offered twice yearly, once in Fall Quarter and once in Spring Quarter. After a second failure, you are allowed to continue in the Graduate School of Education only in highly unusual circumstances.

2. The University Oral Qualifying Examination, conducted by the doctoral committee, which employs topics from education which are related to your written research proposal. In case of failure, the examination may be repeated once on the recommendation of your doctoral committee.

3. 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.

4. A sequential three-quarter research practicum to include a research paper submitted by the end of the sequence.

Qualifying Examinations

After satisfying the above requirements, you are eligible to take the following qualifying examinations:

1. A specialization-designed written examination which is offered twice yearly, once in Fall Quarter and once in Spring Quarter. After a second failure, you are allowed to continue in the Graduate School of Education only in highly unusual circumstances.

2. The University Oral Qualifying Examination, conducted by the doctoral committee, which employs topics from both education and the cognate discipline(s) which are related to your written research proposal. In case of failure, the examination may be repeated once on the recommendation of your doctoral committee.

3. 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).

Final Oral Examination

At the option of the certifying members of the doctoral committee, a final oral examination may be required.

Ph.D. in Education

The Doctor of Philosophy academic degree program in Education is designed for individuals preparing for a career in basic research or college-level instruction. Emphases include theory, research methodology, basic studies, and in-depth knowledge in education and an approved cognate field.

Admission

A master’s degree or equivalent in either education or the cognate field in which you plan to work is required.

Foreign Language Requirement

There is a foreign language requirement for the Ph.D. in some specializations. Detailed information is available from the graduate adviser in the Office of Student Services.

Course Requirements

A minimum of 18 courses is required, as follows:

1. Three research methods courses, with no more than two introductory courses and at least one advanced course, selected from the departmental list approved for the Ph.D.

2. Nine education courses, of which four must be in areas other than the specialization (to comprise a complementary support area) and of which at least six must be from the Education 200 series; all courses must be approved by the academic adviser.

3. For students with an academic master’s degree, three cognate courses selected from discipline-based studies in one or more UCLA academic departments (five cognate courses are required of students with a degree other than an academic master’s degree).

4. A sequential three-quarter research practicum to include a research paper submitted by the end of the sequence.

Qualifying Examinations

After satisfying the above requirements, you are eligible to take the following qualifying examinations:

1. A specialization-designed written examination which is offered twice yearly, once in Fall Quarter and once in Spring Quarter. After a second failure, you are allowed to continue in the Graduate School of Education only in highly unusual circumstances.

2. The University Oral Qualifying Examination, conducted by the doctoral committee, which employs topics from education and the cognate discipline(s) which are related to your written research proposal. In case of failure, the examination may be repeated once on the recommendation of your doctoral committee.

3. 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).

Final Oral Examination

At the option of the certifying members of the doctoral committee, a final oral examination may be required.

Cooperative Degree Programs

For details regarding the following cooperative degree programs, contact the Office of Student Services.

J.D./Education Program

The Graduate School 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 schools, students are awarded both degrees on its completion. (This program will not be offered in 1986-87.)

M.A.-Latin American Studies/ M.Ed.
The Graduate School 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 a specialization 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 goals of the joint program are (1) the stimulation and preparation of research workers of high competence in the various fields of special education; (2) improved preparation for potential teachers of exceptional individuals; and (3) improved preparation of personnel for research and in policy formation in the public schools of California. Students seeking information regarding emphases and requirements should consult the joint doctoral adviser at UCLA (126B Moore Hall) or the chair of the Department of Special Education at CSULA.

Certificate (Credential) Programs

The California Commission on Teacher Credentialing has authorized the Graduate School of Education to offer professional programs that lead to (1) the Multiple Subject Instruction Credential, (2) the Single Subject Instruction Credential, (3) the Bilingual Emphasis Instruction Credential, (4) the Administrative Services Credential, (5) the Pupil Personnel Services Credential, (6) the School Psychologist Services Credential, and (7) the Severely Handicapped Specialist Credential.

Upper Division Courses

100. Cultural Foundations of Education. (Formerly numbered 100A, 100B.) Prerequisite: consent of instructor. Analysis of significant problems and issues in contemporary American education using historical, philosophical, sociological, and organizational perspectives, including those of particular minority groups in the United States. Patterns of intergroup and school-community relations.

Mr. Dorr-Bremme, Mr. Rust

M102. The Mexican-American and the Schools. (Formerly numbered 102.) (Same as Chicano Studies M102.) Prerequisite: consent of instructor. Review of research and teaching strategies. Analysis of school policies and practices and their effect on the development of Mexican-American and Chicano youth and communities.

M108. Sociology of Education. (Same as Sociology M143.) Prerequisite: Sociology 1. Study of social processes and interaction patterns in educational organizations; the relationship of such organizations to aspects of society, social class, and power; social relations within the school, college, and university: formal and informal groups, subcultures in educational systems; roles of teachers, students, and administrators.

Mr. O'Shea, Mr. Weingarten

112. Psychological Foundations of Education. Prerequisite: consent of instructor. Analysis of learning processes in school situations. Processes of human motivation, the affective, cognitive, social, and personal development of children and adolescents, the evaluation of learning, individual differences, and the implications of relevant theory and research for instructional practices.

Ms. Graham, Ms. Kourilsky, Mr. Silberman

125A. The Education of Exceptional Individuals. Prerequisite: Psychology 10 or equivalent. An introduction to the field of special education, with emphasis on the psychology of individual differences, the learning characteristics of exceptional individuals, and application of research and theory to special education problems.

Mr. Hewett

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 individual and classroom management. Observation in schools.

Ms. Astin

148. Women in Higher Education. (Same as Women's Studies M148.) Prerequisite: upper division standing. The 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, affirming action, and other recent legislation.

Ms. Astin

180. Social Psychology of Higher Education. An overview of significant studies in the social psychology of higher education. Focus on institutional characteristics and students' interpersonal and intrapersonal processes, with special emphasis on identifying and explaining the effects of the college experience on student development and achievement.

Mr. Trent

M197. Senior Seminar in Women's Studies. (Same as Women's Studies M197). Discussion; three hours; laboratory, one hour. Prerequisites: Women's Studies 100B or 100C, two study courses for seniors and juniors; consent of instructor. Designed for students completing work in women's studies. Each student pursues research on a specific topic concerning women, explores frameworks for understanding female experience (biological, economic, historical, and psychological), and refines methods for research.

Ms. Astin

198. Special Studies (2 to 8 units). Prerequisites: senior standing, consent of instructor. Independent study of individual problems.

Graduate Courses

200A. Historical Research and Writing. Techniques of historical research and writing for students who are or who will be engaged in research and in report or paper or thesis writing, regardless of their field of study.

Mr. Rust

200B. Survey Research Methods in Education. Prerequisite: course 210A or equivalent. Problems of conceptualization, organization, and gathering non-experimental and quasi-experimental quantitative and qualitative data.

Mr. O'Shea

200C. Analysis of Survey Data in Education. Lecture, three hours; laboratory, two hours. Prerequisite: course 200B. Introduction to techniques of processing and analyzing nonexperimental and quasi-experimental quantitative data.

Mr. O'Shea

M201C. History of American Education. (Same as History M264.) Seminar, three hours. The intellectual and social forces impinging on American education from the 1860s to the present. Analysis of the relationship between educational movements and social, political, and economic forces.

Mr. S. Cohen

202. Evaluation Theory. (Formerly numbered 411B.) Prevalent evaluation theories, systems for categorizing these theories, and the process of theory development in educational evaluation.

Mr. Alkin, Mr. Eliott

203. Educational Anthropology. Recommended preparation: Anthropology 22. Study of education through the research of the cultural anthropologist. Interdependence of culture and education, with emphasis on cross-cultural studies of enculturation, schooling, values, cognition, language, and cultural change.

204A. Topics and Issues in International and Comparative Education. Analysis of basic topics and issues in comparative and international education. Emphasis on those topics and issues that cut across national boundaries and are at the forefront of educational policy and practice in both developed and developing nations.

Mr. Hawkins, Mr. Nakanishi, Mr. Rust

204B. Introduction to Comparative Education. An examination of conceptual and methodological questions underlying comparative education. Particular attention to the development of the field and to styles of social analysis which may be applied to comparative and cross-national studies in education.

Mr. Hawkins, Mr. Nakanishi, Mr. Rust

204C. Education and National Development. Application of social science perspectives and methodologies to education in the international context. Emphasis on relevant research literature and development processes and strategies for international development education, with concentration on so-called less developed countries.

Mr. Hawkins and the Staff

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. Hawkins, Mr. Nakanishi

204E. International Efforts in Education. Analysis of programs and concepts related to diffusion, borrowing, and adaptation across cultural and national boundaries. Activities of bilateral and multilateral agencies in promoting international education, as well as conceptual and practical curricular efforts which intend to increase international understanding.

Mr. Hawkins and the Staff

204F. Nonformal Education in Comparative Perspective. A 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 action, skills training, literacy, and extension programs.

Mr. Hawkins, Mr. Rust

205. Computers in the Educational Process. Introduction to the theory, experimentation, evaluation, and future of computer systems in education, with emphasis on computer-assisted instruction (CAI), and the use of computers to teach programming and to foster development of writing, computational, and filing skills.

Ms. Dorr

206A. Philosophy of Education: Introduction. Systematic introduction to the field, indicating ways in which philosophy serves to elucidate educational aims, content, methods, and values.

Mr. Eliott, Mr. Ericson, Mr. Weinberg

206B. Philosophy of Education: Existentialism and Humanism. Examination of existentialist ideas and their application in contemporary humanistic movements in school and society.

Mr. Eliott, Mr. Weinberg
206C. Philosophy of Education: Logic and Language. Conceptual analysis of recurrent and contemporary themes in the field. Emphasis on the development of logical and linguistic skills used in the analysis of educational problems and issues.

Mr. Ellett, Mr. Ericson

206D. Philosophy of Education: Ethics and Values. A study of ethics and value theory in teaching and learning, educational organization and policy, and curriculum design and validation.

Mr. Ettell, Mr. Ericson

206E. Philosophy of Education: Introduction to Humanism in Education. The philosophical foundations of humanism and their relationships to educational theory and practice.

Mr. Weinberg

207. Politics and Education. The political dimensions of both formal and nonformal educational enterprises in a national and international perspective. Political theory explored in the context of such educational issues as policy formation, pressure groups, and public and private elites.

Mr. Hawkins and the Staff

208A. Perspectives on the Sociology of Education. Sociological perspectives on current issues in education: policy and practice, education and social change, education and economic development, education and social class, education and social stratification, decentralization, equality of educational opportunity, structure of educational organization, teacher-student relationships, reform in education at the elementary, secondary, and higher education levels.

Mr. O'Shea, Ms. Wrigley

208B. Issues in Education: Sociological Perspectives. Prerequisite: course 208A or equivalent. Exploration of educational issues and the structure and processes of formal schooling, from sociological perspectives such as functionalism, conflict theory, symbolic interactionism, ethnomethodology, and critical sociology.

Mr. O'Shea

208C. Explanation in the Social Sciences and Educational Research. Lecture, two hours; discussion, two hours. Prerequisite: graduate standing or consent of instructor. An overview of basic strategies and forms of explanation relevant to inquiry in education from the vantage point of the various social and behavioral science disciplines.

Mr. Blumton Jones, Mr. Ericson

209A. History of Higher Education. An examination of the development of postsecondary education in the United States, with attention to the social context and to the scope and variety of institutions.

Mr. Asin, Mr. A. Cohen, Ms. Mock

209B. Issues in Higher Education. Identification, analysis, and discussion of current issues, innovations, trends, and policies in postsecondary education.

Mr. Clark, Mr. A. Cohen

209C. Problems in Research and Evaluation in Higher Education. A critical review of research and evaluation studies of higher education, with special attention to the need for studies of new programs and problems, and to the design and methodology of evaluative research.

Mr. Asin, Mr. A. Cohen

209D. The System of Higher Education. An analysis of the structure and function of American postsecondary education from a systems perspective. Emphasis on the structure of the system and comparative characteristics, such as size, scope, function, outputs, and the different types of institutions.

Mr. Asin, Mr. Clark

210A. Basic Concepts in Educational Research. Fundamentals of research design. The language of research. Planning and conduct of research. Interpretation and reporting of research outcomes. Introduction to descriptive statistics: mean, median, mode, and variance. Introduction to the use of tables and charts, and factorial analysis of variance, and selected nonparametric tests.

Mr. Shavelson, Mr. Skager, Ms. Webb

210C. Experimental Design: Advanced Topics. Prerequisite: course 210B or equivalent. Coverage randomized designs, randomized block designs, nested designs, and their combinations into advanced factorial designs using fixed, random, and mixed models. Analysis of covariance, introduction to multiple regression and quasi-experimental designs.

Mr. Shavelson, Ms. Webb, and the Staff


Mr. Muthen, Ms. Webb, and the Staff

211A. The Measurement of Educational Achievement and Aptitude. Prerequisite: course 210A. A critical study of tests of achievement and aptitude, with emphasis on group tests; the relation of achievement to aptitude; social implications of the measurement of intelligence, elements of validity and reliability.

Mr. Burstein, Mr. Shavelson, Ms. Webb

211C. Problems in Measurement. Prerequisites: courses 210C, 211B, or equivalent. Generalizability theory, statistical theories of test scores; item response theory, factor analysis.

Mr. Muthen, Ms. Webb, and the Staff

212A. Learning and Education. Models of learning, modeling, reinforcement, motivation, encoding, memory, transfer, individual differences, and instruction.

Ms. Graham, Mr. Silberman, Mr. Wittrock

212B. Motivation and Affect in the Educational Process. Prerequisites: courses 210A, 212A. A review of the theoretical and empirical literature on motivational factors in school settings and the conditions for the acquisition of affective outcomes.

Ms. Graham

212C. Cognition and Creativity in Education. Prerequisite: course 212B. A review of the theoretical and empirical literature on cognitive processes in school learning, including concept learning, problem solving, learning to learn, and creativity.

Mr. Wittrock

213A. Fundamentals of Student Personnel Work. Prerequisite: graduate standing or consent of instructor. An overview of the work of student and pupil personnel service workers, with emphasis on tasks groups and evaluation.

Mr. Healy, Mr. Sorenson

213B. Legal and Ethical Bases of Student Personnel Work. Prerequisite: course 213A. Ethical and legal codes relevant to pupil personnel services; relation of value systems and personality; case studies in the implications of personal values in counseling situations.

Mr. Berry, Mr. Sorenson

213C. Group Counseling Theory and Process. Lecture, three hours; discussion, one hour. Prerequisites: courses 213A, 214A, and 214B, or consent of instructor. Group productivity, leadership in groups, social perception, attitude formation, and the effect of behavior changes in individuals and groups. Evaluation of the social, psychological, and educational principles related to the therapeutic experiences of individuals in small groups.

Mr. Berry, Mr. Sorenson

214A. Counseling Theory and Practice. Application of concepts derived from cognitive psychology to the nonacademic problems which people encounter in their everyday life. Analysis of theories, principles, and techniques for achieving satisfying interpersonal relationships, and making productive use of leisure time.

Mr. Sorenson

214B. Advanced Counseling Theory and Practice. Limited to advanced degree candidates whose interest is counseling and to selected high school and college counselors. Counseling procedures, educational planning, and methods for helping students handle a personal problem that interferes with school progress; critical evaluation of procedures.

Mr. Sorenson

214C. Principles of Career Planning. Examination of the nature of careers across ages and ethnic and sex groups in order to determine implications for career planning in postindustrial society.

Mr. Healy


Mr. Berry, Mr. Healy

214E. Alcohol and Other Drugs in Contemporary Society. Extent and variety of substance abuse and dependency in schools and wider society. Relevant theory, including predisposing factors, effects on users and significant others, and recovery process. Critical indicators of substance dependency in the counseling interview. Prevention education and intervention strategies for youths and adults.

Mr. Skager

M215. Personality, Motivation, and Attribution. (Same as Psychology M239.) Current research and theoretical perspectives on personality (e.g., attraction, status, esteem, self-esteem) to motivational concerns such as persistence and intensity of behavior. Perceived causes of outcomes in achievement and affiliative domains.

216. Counseling Models from a Cross-Cultural Perspective. Prerequisite: course 213A or consent of instructor. Research related to the psychological, educational, and sociocultural characteristics of counseling clients within a cross-cultural perspective and the implications for counseling models. Evaluation of counseling practices through an analysis of school, community, and mental health counseling models.

Mr. Saxe

217A. Social Development and Education. Biological and familial, school, and other influences on the child; development in the context of current research and theoretical models; consideration of theoretical and methodological research on family, peer group, and school; application of developmental theory and research to educational practice.

Ms. Howes

217B. Cognitive Development and Education. Lecture, two hours; discussion, two hours. Prerequisite: course 216 or consent of instructor. A critical review of theories of cognitive development and research in cognitive development, focusing on the work of Piaget and Vygotsky, and the relation of this work to issues in educational practice.

Ms. Saxe, Ms. Stipek

M217C. Personality Development and Education. (Same as Psychology M245.) Review of research and theory of critical content areas in personality development that bear on school performance: achievement, motivation, self-concept, aggression, sex differences, empathy, and other social behaviors; review of the status of emotional behavior in personality theory and development.

Ms. Feshbach

217D. Language Development and Education. Research and theory on how children develop their first language; sociolinguistic and psycholinguistic issues in preschool and primary years; bilingual and dialectical issues.

Ms. Valadez

217F. Human Development and the Educational Process. Cognitive and social development; cultural, family, peer, and school influences on human development; application of developmental theory and research to educational practice.

Ms. Howes, Mr. Saxe, Ms. Stipek

218A. Multiple Regression Analysis. Prerequisite: course 210B. Regression-based techniques for analyzing and interpreting data; multiple regression equations, multiple correlation, partial correlation; introduction to the general linear model, with direct application to educational inquiry.

Mr. Burstein, Ms. Webb
218B. Advanced Quantitative Models in Non-Experimental Research. Prerequisites: course 21A or equivalent, consent of instructor. Quasi-experimental research designs, longitudinal models, introduction to causal models, path analysis, recursive and non-recursive structural equation models. Emphasis on conceptual and methodological foundations, assumptions, applications, and limitations.

Mr. Burstein, Mr. Muthén

218C. Structural Equation Modeling. Prerequisites: courses 210B, 218B, or equivalent. Advanced methods path analysis (causal modeling) by considering models with measurement errors and multiple indicators of latent variables. The LISREL approach, including confirmatory factor analysis, covariance structure modeling, and multiple-group analysis. Identification, estimation, testing, and model building considerations.

Mr. Muthén

219. Laboratory: Advanced Topics in Research Methodology. Provides assistance in the design of research and interpretation of data to advanced students from other specialties. Coverage of special topics not included in other courses on research methods.

Mr. Burstein, Mr. Shavelson, Mr. Webb

220A. Inquiry into Schooling: Organization and Change. Critical analysis of issues in the reconstruction of schooling; concepts of function and structure of school organization; social-psychological approaches in the analysis of organization development and change.

Ms. Crabtree, Ms. Kourilsky, Ms. Tyler


Ms. Crabtree, Mr. Kourilsky, Ms. Tyler

221. Computer Analyses of Empirical Data in Education. A seminar in computer utilization in educational research. Prerequisites: courses 20SC (section 1), 210A, or equivalent. Designed to develop conceptual and technical skills needed for designing and executing empirical research utilizing statistical packages. Each student conducts two original studies. Equal emphasis on techniques of data analysis and interpretation of results.

Ms. Lin

222A. A Laboratory for Naturalistic Observations: Developing Skills and Techniques. (Same as Anthropology M236Q and Psychiatry M235.) Lecture, three hours. Prerequisite: consent of instructor. Introduction to observational behavior in natural settings, with emphasis on field training and practice in observing behavior. Discussion of some of the uses of observations and their implications for research on the social sciences. Students are expected to integrate observational work into their current research interests. May be repeated for credit.

Mr. Levine

222B. Design Issues in Naturalistic Research. Lecture, three hours; discussion, one hour. Prerequisite: course M222A or consent of instructor. Issues in 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 is given to these factors in the design of naturalistic research studies.

Mr. Levine

222C. Quantitative Data Reduction and Analysis. Lecture, two hours; discussion, two hours. Prerequisite: course M222A or consent of instructor. 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 perspectives.

Mr. Levine

223. Aesthetics and the Curriculum. Lecture, two hours; discussion, two hours. An examination of various ideas and theories in aesthetics and the application of those ideas to the school environment.

Mr. Levine

224. Problems and Issues in Bilingual and Multicultural Education. Introduction to the development and implementation of bilingual and multicultural programs in the U.S. Analysis of program goals, models, typologies, and effectiveness.

Ms. Velázquez

225A. Issues in the Education of Exceptional Individuals. Prerequisite: consent of instructor. Development of research design and major research regarding contemporary trends, issues, and programs for the exceptional; consideration of commonalities and differences among exceptional individuals.

Ms. Hecht, Ms. Krupski, and the Staff

225B. Advanced Issues in the Education of Exceptional Individuals. Prerequisite: consent of instructor. A synthesis of developmental and educational theories relevant to the study of exceptional individuals, including consideration of the historical context of current research and applied issues in special education.

Ms. Keogh

226. Research in the Education of Learning Handicapped Individuals. Prerequisite: course 227A or consent of instructor. Research on the education of individuals with learning handicaps, with emphasis on assessment and instructional modifications.

227A. Research on the Learning Characteristics of Exceptional Individuals. Prerequisite: course 225B. An overview of research and theory regarding learning characteristics of exceptional individuals and discussion of the application of this work to educational practice.

Ms. Krupski

227B. Research on the Cognitive and Language Characteristics of Exceptional Individuals. Prerequisite: course 227A. Review of the empirical and theoretical literature on language and cognitive development of exceptional individuals; focus on intervention programs developing language and cognition.

Ms. Hecht

227C. Research on the Behavioral and Social Characteristics of Exceptional Individuals. Prerequisite: course 227B. Analysis of social and emotional development of exceptional individuals and the development of social competence in special education programs.

Ms. Lin

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. Burton Jones


Mr. Lin

230. Criterion-Referenced and Norm-Referenced Test Construction. (Formerly numbered 410.) Prerequisite: course 221A. Construction of criterion- and norm-referenced assessment instruments. Appropriateness of different assessment devices in relation to research, development, and evaluation.

Mr. Popham

M231. The Structure of Occupations. (Same as Sociology M231.) Lecture, two hours; discussion, two hours. Shifts in the occupational structure of the United States, changing skill requirements for jobs, the effects of automation on work environments, and the role of formal and informal education in preparing people for changing job alters in the United States.

Mr. Lin

232. Industrialism, Work, and Education. Study of the relationship between education and the making of a working class in the new urban industrial America, 1860 to the present.

Mr. Smith

233. Emotional Incentives and Social-Semantic Development of Job Training. Institutional incentives and social values that affect the development of job training programs, relevant research, and potential future job training policy.

Mr. Wilms

234. Education and Social Stratification. The relationship between education and social stratification, including occupations and earnings. Competing theories used in studying education and social stratification; relevant research. Conclusions regarding individual and collective decisions, social policies, and theories of society.

Mr. O’Shea, Ms. Wrigley

235. Education and Work. A review of the theoretical and empirical literature on issues concerning the integration of education and work; the role of education in the school-to-work transition of youth and an appraisal of present vocational training and manpower development programs.

Mr. Silberman

236. Human Abilities. Prerequisite: course 210D or equivalent. Emphasis on the development of intellectual abilities and their relations to learning and instruction. Review of research and theory of models of ability and test development.

Mr. Webb

237. Principles for Effective Media. Prerequisites: courses 205, 210A, and 212A, or consent of instructor. Elicitation of theoretical principles underlying effective media content and media utilization. Consideration of particular differences among print, computer, and audiovisual media, in and out of school. Role of research in development of such media.

Mr. Bier, Mr. Don

238. Cross-National Analysis of Higher Education. Comparative study of national systems of higher education: their division of work, basic values, structures of authority, modes of national integration, and types of change.

Ms. Mock

239. The Organization and Governance of Educational Systems. Academic organizations, precollege and postsecondary, are most appropriately studied as complex, professionalized organizations. Emphasis on characteristics of educational institutions and systems as organizations: environmental relations, governance structures, processes, and patterns of decision making and policy-making.

Ms. Mock

240A. Organizational and Administrative Perspectives on School Management. Introductory course in administrative and organizational theory, with emphasis on the management of public and private schools and school systems. Perspectives on dominant educational reform strategies in the context of schools as complex organizations.

Mr. Williams

241. Research Methodology in School Administration. Prerequisite: consent of instructor. Examination of research problems and strategies in school administration.

Ms. Erickson, Mr. Williams, and the Staff

242. Economic Analysis for Educational Policy and Planning. Prerequisite: graduate standing. An introductory course focusing on concepts and quantitative methods from economics, statistics, and operations research applied to educational policy and planning issues. Instruction in programming microcomputers for instruction (BASIC) and management information systems (DBASE).

Mr. Bruce

243. Economics of Education. An introductory course in microeconomic and macroeconomic techniques applied to education. Methodologies such as marginal analysis, linear programming, Leontief-I/O models, and input-output analysis. Participation in the development of alternative policies and their application to school finance, underdeveloped countries, equality of educational opportunity, and credentialing.

Mr. Bruce, Mr. Solomon

245. Seminar: Cost-Benefit Analysis in Education. Concepts and techniques for understanding the implications of cost-benefit analysis, critical analysis of current cost-benefit studies, and procedures for the conduct of cost-benefit studies.

Mr. Alkin, Mr. Solomon

246A. Seminar: Mathematical Modeling in Education. This course covers 242 or consent of instructor. Stochastic and deterministic modeling techniques as applied to educational policy and planning. Review and critique of models used in the construction of the MPS (Mathematical Programming System) and development of software for Monte Carlo computer simulation studies in education.

Mr. Bruce
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 policy and planning. Design of computer-based management information systems in education using DBASE. Mr. Bruno

247. Seminar: Personnel Training for the Corporate Setting. Lecture, two hours; discussion, two hours. Survey of major topics on personnel training methods used by organizations to facilitate the learning of job-related behavior on the part of their employees. Topics include needs assessment, maximizing trainers' learning, training methods, and evaluating training programs. Mr. Silverman

248. Seminar: Perspectives on Lifelong Learning. From an interdisciplinary perspective, lifelong learning is studied theoretically and as an area of educational research, policy, and practice. Conceptual distinctions among the major proponents of lifelong learning and implications for schooling.

249A. Seminar: National Evaluations of Postsecondary Education. Critical review of national evaluation studies of higher education, including programs of general education and professional and graduate school preparation. Analysis of current methodology, and interpretation of large-scale evaluation studies. Mr. Astin

249B. Seminar: Institutional Research and Program Evaluation. Critical review of research, methods, and evaluation studies, with consideration of the scope of information needed for various purposes and the problems of interrelating this information to appraise overall institutional functioning and effectiveness. Mr. Trent

251A. Seminar: Philosophy of Education, Epistemology. Prerequisite: consent of instructor. Mr. Ericson

251C. Seminar: Philosophy of Education, Behavioral Science Problems — Methodological Perspectives. Prerequisite: course 206C or consent of instructor. Mr. Ellett, Mr. Ericson

251D. Seminar: Philosophy of Education, Problems in Ethics and Values. Prerequisite: course 206D or consent of instructor. Mr. Ellett, Mr. Ericson


252A. Seminar: Educational Organizations. Prerequisite: course 208A or consent of instructor. Mr. O'Shea, Ms. Wrigley

252B. Seminar: Education and Social Change. Prerequisite: course 208A or consent of instructor. Mr. O'Shea

253A. Seminar: Current Problems in Comparative Education.

253B. Seminar: African Education.

253C. Seminar: Asian Education. Mr. Hawkins

253D. Seminar: Latin American Education.

253E. Seminar: European Education. Mr. Rust

253F. Seminar: Education in Revolutionary Societies. A multidisciplinary and comparative study of socialist educational theory examined through the writings of Marx, Lenin, Mao, and other theorists. Emphasis on the implications of this theory in specific case studies, along with comparative assessments of nonsocialist nations. Mr. Hawkins, Rust

253G. Seminar: The Asian American and Educational Basic issues and topics related to Asian American and Latin American students in the field of education. Examples of the issues and topics include Asian American and the community, socio-economic status, the education-work transition, the language and culture question. Mr. Nakashiki

253H. Seminar: The Chicano/Hispanic and Education. Basic issues and topics related to the Chicano and other Hispanic groups in education. Review of literature on specific educational levels and Chicano/Hispanic student progress (e.g., early childhood, elementary, higher education; specific topics: assessment, access, tracking, segregation; implications for schooling). Ms. Crabtree, Ms. Kourilsky, Mr. McNeil

255. Seminar: Special Topics in Measurement and Research Design. Prerequisites: courses 210C and 211C, or consent of instructor.

256A. Seminar: Special Topics in School Learning. Prerequisite: consent of instructor. Ms. Graham, Mr. Wittrock

256B. Seminar: Special Topics in Development. Prerequisite: consent of instructor.

257. Seminar: Pupil Personnel Services. Prerequisite: consent of instructor. Mr. Berry, Mr. Healy, Ms. Tidwell

258A. Seminar: Problems in Instructional Research. Mr. Wittrock

258B. Seminar: Problems in Instructional Development. Mr. Baker, Ms. Dorr, Mr. Levine

259A. Seminar: Research on Characteristics of Students. Mr. Trent

259B. Seminar: Research on Characteristics of Educational Environments.

260. Seminar: Principles of Curriculum and Instruction. Mr. McNeil, Ms. Tyler

261A. Seminar: Early Childhood Education. Prerequisite: course 428A.

261C. Seminar: Secondary Education. Mr. McNeil, Mr. Silverman

261D. Seminar: The Community College. Mr. A. Cohen

261E. Seminar: Education and Work. Mr. Silverman and the Staff

261F. Seminar: Higher Education. Mr. Trent

262A. Seminar: The Social Studies. Ms. Crabtree

262B. Seminar: Reading. Mr. McNeil

262F. Seminar: Research Topics in Bilingual/Multicultural Education. Prerequisite: consent of instructor. Mr. McNeil

262J. Seminar: Contemporary Issues in Education and Work. Mr. Wills

262J. Seminar: Economic Education.

264. Seminar: Teacher Education. Prerequisite: consent of instructor. Research, issues, and practices in preservice and in-service teacher preparation, evaluation, and certification. Social, philosophical, and methodological issues and current trends in America and abroad. Opportunities to observe, participate in, and discuss teacher education programs. Mr. Silberman


275. Seminar: School Desegregation. Prerequisite: consent of instructor. Analysis of the social/political responses to desegregation programs in Northern and Southern school districts; review of court decisions and development of legal policy on school desegregation. Consideration of effects of integration on school achievement and interracial attitudes. Mr. Lara

280A. Seminar: Selected Topics in Special Education (2 units). Prerequisite: consent of instructor.

280B. Seminar: Exceptional Individuals. Prerequisite: doctoral standing.

M281A-M281B-M281C. Seminar: Selected Topics in Human Ethology. (Same as Anthropology M229A-M229B-M229C and Psychiatry M279A-M279B-M279C.) Ethologists now use successful animal behavior methodology to study human behavior. What is the appropriate, how can it contribute? Each quarter covers one level of analysis: describing and recording behavior; causation; development, especially longitudinal studies; adaptation; evolutionary origins. Mr. Burton Jones

299A-299B-299C. Research Practicum in Education (4 to 8 units each). May be repeated for credit.

312. Basic Principles of Curriculum and Instruction. Prerequisite: consent of instructor. Analysis and practice of basic principles and concepts for planning, conducting, and evaluating units of curriculum and instruction. Emphasis on the study and utilization of a variety of instructional strategies and their application in elementary and secondary schools. Ms. Crabtree, Ms. Kourilsky, Mr. McNeil

313A-313B. Principles and Methods for Teaching Elementary Mathematics (6 to 12 units each). Limited to credentialled teachers. Course 313A is prerequisite to 313B. Problem-solving strategies and geometry for elementary teachers. Use of concrete materials, computers, calculators, cooperative learning, and content for elementary teachers. S/U grading. Mr. Lara

313C-313D. Principles and Methods for Teaching Secondary Mathematics (6 to 12 units each). Limited to credentialled teachers. Course 313C is prerequisite to 313D. Problem-solving, curriculum development, implementation of the California Mathematics Framework, strategies for encouraging women and minorities into mathematics, and leadership development. S/U grading. Mr. Lara

315A-315B. Principles and Methods for Teaching Reading for Multiple Subject Instruction (2 units each). Prerequisite: consent of instructor. Course 315A is prerequisite to 315B. Reading instruction in the elementary school and middle school; reading programs; study of relationships between language/culture/cognition and reading. Examination and development of instructional programs; analysis and practice of alternative instructional methods. Observation and participation in schools. Ms. Kourilsky

316A-316B. Principles and Methods for Teaching Reading for Single Subject Instruction (2 units each). Prerequisite: consent of instructor. Course 316A is prerequisite to 316B. Reading instruction in the secondary school. Analysis of reading problems and programs; study of relationships between language/culture/cognition and reading. Examination and development of instructional programs; analysis and practice of alternative instructional methods. Observation and participation in schools. Ms. Kourilsky


317C. Principles and Methods for Teaching Elementary Science — 5-6 (6 to 12 units). Limited to credentialled teachers. Conceptual teaching of science and incorporation of science process skills for grades 5-6. Demonstrations, hands-on experiences, and development of teaching materials. S/U grading. Mr. Lara

318A-318B. Principles and Methods for Multiple Subject Instruction (2 units each). Prerequisite: consent of instructor. Course 318A is prerequisite to 318B. Examination and development of instructional programs; analysis and practice of alternative instructional methods. Focus on subjects commonly taught in elementary schools. Observation and participation in schools. S/U grading. Ms. Kourilsky

321A. Principles and Methods for Teaching Physics — 7-12 (6 to 12 units.) Limited to credentialed teachers. Conceptual teaching of science process skills for grades 7-12. Demonstrations, hands-on experiences, and development of teaching materials. S/U grading. Mr. Lara

321B. Principles and Methods for Teaching Chemistry — 7-12 (6 to 12 units.) Limited to credentialed teachers. 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. Mr. Lara

321C. Principles and Methods for Teaching Earth and Space Sciences — 7-12 (6 to 12 units.) Limited to credentialed teachers. Conceptual teaching of earth and space sciences and incorporation of science process skills for grades 7-12. Demonstrations, hands-on experiences, and development of teaching materials. S/U grading. Mr. Lara


322B. Principles and Methods for Peer Leaders in Science Classrooms — K-12 (6 to 10 units.) Prerequisites: courses 317A, 317B, and 317C, or 321A, 321B, 321C, and 321D. Limited to credentialed teachers. Develops qualities in teachers necessary for leadership positions in science education at all grade levels. Exploration of leadership roles; leadership behavior practice. S/U grading. Mr. Lara

324A. Observation and Participation: Multiple Subject Instruction (2 to 6 units). Prerequisite: consent of instructor. Six hours per week of observation and participation in classrooms in which multiple subjects are taught, normally in elementary schools. Preparation for supervised teaching. S/U grading.

324B. Supervised Teaching: Multiple Subject Instruction (2 to 10 units). Prerequisites: course 324A, consent of instructor. Practice teaching under the daily supervision of a teacher in a classroom in which multiple subjects are taught, normally in an elementary school. S/U grading. Ms. Kourilsky

324C. Supervised Teaching: Multiple Subject Instruction (2 to 10 units). Prerequisites: course 324B, consent of instructor. Advanced practice teaching under the daily supervision of a teacher in a classroom in which multiple subjects are taught, normally in an elementary school. S/U grading. Ms. Kourilsky

324D. Supervised Teaching: Multiple Subject Instruction (2 to 10 units). Prerequisites: course 324C, consent of instructor. Advanced practice teaching under the daily supervision of a teacher in a classroom in which multiple subjects are taught, normally in an elementary school. S/U grading.

325A. Laboratory in the Education of Exceptional Individuals. Prerequisite: course 125A or consent of instructor. Experience under the daily supervision of teachers in the UCLA Neuropsychiatric Institute and Hospital School, other campus facilities, or public school special education programs.

325B. Laboratory in the Education of Exceptional Individuals. Prerequisite: course 325A. Six to eight hours per week of fieldwork in the UCLA Neuropsychiatric Institute and Hospital School, other campus facilities, or public school special education programs.

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 supervised teaching. S/U grading.

330B. Supervised Teaching: Single Subject Instruction (2 to 10 units). Prerequisites: course 330A, consent of instructor. Practice teaching under the daily supervision of a teacher in a classroom in which a single subject is taught, normally in a secondary school. S/U grading. Ms. Kourilsky

330C. Supervised Teaching: Single Subject Instruction (2 to 10 units). Prerequisites: course 330B, consent of instructor. Advanced practice teaching under the daily supervision of a teacher in a classroom in which a single subject is taught, normally in a secondary school. S/U grading. Ms. Kourilsky

330D. Supervised Teaching: Single Subject Instruction (2 to 10 units). Prerequisites: course 330C, consent of instructor. Advanced practice teaching under the daily supervision of a teacher in a classroom in which a single subject is taught, normally in a secondary school. S/U grading.

334. Supervised Teaching: Higher Education. Mr. A. Cohen

360. Teaching Clinical Practicum. Discussion, two hours; fieldwork, two hours. Prerequisite: consent of instructor and director of Teacher Education Laboratory and director of experience. Examination of clinical practice and analysis and application of different methods of subject matter instruction. Ms. Kourilsky

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, intern, or fellow. A teaching apprenticeship under the active guidance and supervision of a regular faculty member responsible for curriculum and instruction in the University. May be repeated for credit. S/U grading.

411A. Introduction to Educational Evaluation. An introduction to systematic evaluation as it applies to appraising educational programs. Consideration of program evaluation as a means of improving the quality of educationally relevant decisions. Mr. Alkin, Mr. Popham

411B. Procedural Problems in Evaluation. Formerly numbered 411A.) Assessment methodologies applied in evaluating educational programs. Determination of evaluation proposals, developing program monitoring procedures, selecting appropriate evaluation design strategies, coping with ethical considerations in evaluation, and decision making and applying evaluation results. Mr. Alkin, Mr. Burstein

413A-413B-413C. Internship in School Psychology. Lecture, two hours; field experience, 16 hours. Prerequisite: consent of instructor. Must be completed in three consecutive quarters; limited to students enrolled in the counseling specialization. Work experience in public schools or comparable setting performing duties of a school psychologist — child diagnosis, integrating case material, staffing cases, developing educational plans, working with teachers and parents, and establishing evaluative criteria.

415A. The Appraisal of Intelligence. Prerequisites: courses 210A, 211A. Concepts and theories leading to development of individual cognitive assessment instruments; issues and implications relating to the application and current practice of appropriate such tests in a multiculturall society. Laboratory experience includes administration and interpretation of standardized instruments; case studies. Mr. Healy, Ms. Tidwell

415B. Human Appraisal in School Counseling and School Psychology. Prerequisites: course 415A, consent of instructor. Survey and demonstration of the major techniques of cognitive, affective, and achievement appraisal and their application to problems found in the school setting. Research and theoretical issues concerned with appraisal. Ms. Tidwell

418. Instructional Analysis. Prerequisite: consent of instructor. Analysis of instructional variables as they relate to the development of instructional materials. Students acquire skill in techniques of conducting instructional research. Ms. Baker

419A. Experimentation on Media Communication and Instruction. Prerequisites: course 210A. Analysis of basic methods and results of research in experiments on the development of knowledge, skills, and attitudes through audiovisual communication media and other instructional programs. Mr. A. Cohen, Ms. Dorr

419B. Experimental Analysis of Instructional Program Variables. Lecture, two hours; laboratory, four hours. Prerequisites: courses 210A, 212A, 419A. Recommended: courses 210B, and 212B or 212C. Advanced problems of methodology and rationale in the planning and conduct of experiments on the effects of psychologically defined variables in instructional programs; theory and techniques of laboratory and field experiments on instructional media. Mr. Baker, Ms. Dorr

420A. Principles of Curriculum. Critical examination of the basic concepts underlying the determinants of objects, theory, organization and reconstruction of precollegiate education. Mr. McNeil, Ms. Tyler

420D. Curriculum: Principles and Practice. An examination of the basic curriculum as the result of organizational and reconstructive activities in schools and school systems. Mr. McNeil, Ms. Tyler

421A. Programs, Models, and Research in Early Childhood Education. Prerequisites: one course from the development series, one quarter of field placement. Examination of programs and research in early childhood, including observation of programs and review of the relation of research in developmental psychology and education to goals of early childhood education.

421C. Research and Evaluation of Early Childhood Programs. Prerequisite: course 421A or equivalent of consent of instructor. Critical review of evaluation models (e.g., summative, formative, implementation) and their utility for improving and evaluating the quality of child-related programs.

421D. Parents and Community Agents in Childhood Development. Prerequisites: two courses from the development series, one course from early childhood education, or equivalent. A critical review of the theoretical basis and effectiveness of training programs for parents of young and elementary school-aged children, the school agent roles, parent involvement in programs in family development and the role of the programs in the community. Ms. Fesbach

421F. Problems and Methods of Analysis in Child Development, Education, and Social Policy. Lecture, two hours; discussion, two hours. Relationship among public policymakers and social scientists in the development, implementation, and evaluation of policies affecting children and their families. Students learn to design and conduct interviews, analyze legislative documents, and present analyses to policymakers.

421G. Issues in the Application of Child Development, Education, and Social Policy Research. Lecture, two hours; discussion, two hours. The relevancy and adequacy of child development research to specific educational and public policies affecting children. Specific topics include issues such as children’s rights, day care, children’s television programming, and violence toward children. Ms. Fesbach, Ms. Howes

422. Inquiring into Schooling: Basic Issues. Critical examination of basic questions and underlying assumptions about the organization and reconstruction of precollege schooling. Consideration of historical development and changing functions of schooling in American society; schooling as alternative to traditional schooling; problems in the management of educational change. Mr. McNeil, Ms. Tyler
423. The Humanistic Curriculum. A consideration of the philosophical and cultural foundations of humanistic curricular strategies. Review of techniques and procedures of affective education with a view to their place in an overall theory of teaching and learning. Mr. Weinberg

424A. The 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 studies. Mr. Erickson and the Staff

424B. Reading in the Curriculum. Prerequisite: course 210A. Study of reading curricula and instructional procedures, with emphasis on the rationale and research underlying their development and the research comparing their effectiveness. Mr. McNiel

424C. Language in the Curriculum. Advanced study in the school language curriculum; application to the improvement of the curriculum in the field. Ms. Hunter

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 learning in the context of the bilingual setting; knowledge of listener and language assessment; development of instructional component; program evaluation. Ms. Valadez

425. Appraisal of Exceptional Individuals. Prerequisites: courses 415A, or equivalent. Individual appraisal of exceptional individuals; analysis of tests and diagnostic procedures, case studies.

430. Higher Education and the Labor Market. The benefits of education from an economic perspective; the labor market for college graduates; college as preparation for work; manpower forecasting and Ph.D. demand and supply; policies toward the doctoral labor market and adults in postsecondary education. Mr. Catterall

431A. Administration in Higher Education. Overview of college and university administration and introduction to policy research and analysis in postsecondary institutions. Case studies of administrative problems, policies, and practices. Management information systems, resource allocation, and issues related to responsibility, authority, and participation in administrative decisions. Ms. Mock

431B. Curriculum and Instruction in Higher Education. Principles of curriculum and instruction in postsecondary programs. Theory and practices in goal setting, testing, media selection, and related instructional responsibilities. Preparation for college-level student. Mr. A. Cohen

431C. Innovative Forms and Practices in Higher and Continuing Education. New institutional forms (e.g., external degree programs and other nontraditional 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

432. Seminar: Professional Topics in Higher Education. Ms. Astin

433A. Instructional Product Development. Prerequisite: consent of instructor. An examination of the procedures employed in the systematic development of instructional products. Students acquire competencies associated with those procedures. Ms. Baker, Ms. Dorr

433B. Technology Development in Educational Media. 1 lecture, 2 hours laboratory and 2 hours discussion. Prerequisite: course 433A. Recommended: courses 210A, 212A. Theory, current problems, and anticipated trends in instrumentation and systems development for instructional applications in education including computer-assisted instruction, communication satellites, and other advanced systems; theory and laboratory practice with instrumentation in educational research. Ms. Baker; Ms. Dorr

437A. Principles of Curriculum in Economic Education. Theories, principles, and concepts relating to an understanding of the business and economic systems and their application to teaching in secondary schools. Ms. Kourisky

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.

440C. Administration of the Instructional Program. Examination of current educational problems in society and the strategies of their solution through curriculum policy and practice; instructional design and operation; in-service training of teaching staffs. Mr. Erickson and the Staff

441A. Instructional Supervision A. Analysis of teaching in light of research substantiated elements of instruction: task analysis, appropriate objectives, principles that increase motivation, rate and degree of learning, retention and transfer, monitoring and adjusting instruction to meet the needs and capacities of learners. Ms. Hunter

441B. Instructional Supervision B. Prerequisite: course 441A or equivalent. Basic techniques of supervising instruction; improving the effective use of conferences through analysis of script-tapes, conducting and analyzing growth-evoking teacher conferences. Conducting mini-lessons to demonstrate elements of good instruction. Ms. Hunter

441C. Instructional Supervision C. Prerequisites: courses 441A, 441B, or equivalent. Development of individual and group staff development activities, including presentations, demonstrations, peer coaching, adjusting instruction, and teacher conferences; observation and analysis of conferences; and in-service training techniques: teaching principles of learning and effective teaching to other professionals. Ms. Hunter

442B. Legal Aspects of Educational Management and Practice. Examination of the structures and kinds of law governing educational systems in the United States; constitutional dimensions of church/state relations; employees' civil rights and legal aspects of hiring, firing, and negotiating procedures; student attendance, control, and civil rights.

443. Introduction to Policy Analysis in Education. Prerequisite: consent of instructor. An overview of the political, economic, and legal context of educational policy formation. Included in this examination are issues that impact on minorities (e.g., bilingual education, desegregation, affirmative action, and the role of subdarrant in the policy-making process). Mr. Catterall

444A. Legal Aspects of Access to a Public Education. Prerequisite: course 442B or consent of instructor. A study of access to public education focused on the issues of affirmative action, testing, tracking, bilingual/bicultural education, special education, correctional education, and malpractice suits.

444B. Equality of Educational Opportunity through Desegregation and Finance Case Law. Prerequisite: course 442B or consent of instructor. A concentrated review of the definition of equality of educational opportunity as it is being developed by the courts in cases concerning desegregation and educational finance.

447. Seminar: Educational Policy and Planning. Special Studies (1 to 4 units). Prerequisite: consent of instructor.

448A. Urban School Leadership. Prerequisite: consent of instructor. Analysis of the problems of urban school leadership. Emphasis on the changing nature of the urban principalship, with considerable attention to the role of other community agencies that interact with the urban school leader. Mr. Williams

448B. Urban School Laboratory. Prerequisite: consent of instructor. Analysis of and opportunity to practice human and technical skills requisite for success as an urban school leader. Topics include negotiations, conflict resolution, applied computer technology, and effective communication. Activities include gaming, simulation, computer programming, and group dynamics.

460. Seminar: Special Issues in Evaluation. Topics and instructors vary each quarter. Recent emphasis included evaluation utilization and cost-effectiveness evaluation. Mr. Papkin, Mr. popcorn, Mr. Popham

561A. Seminar: Adult Education

561B. Seminar: Adult Education in Other Countries

561C. Seminar: Community Service and Development Programs in Postsecondary Education

560A. Seminar: Large Systems and Individual Schools. Prerequisite: consent of instructor

560B. Seminar: Educational Government. Prerequisite: consent of instructor.

481. Knowledge and Inquiry in the Classroom. Prerequisite: consent of instructor. The logical features of instruction and their application to inquiry techniques in teaching and learning. Various conceptions of truth, belief, and fact and opinion, and their application to classroom learning situations. Ms. Ellett, Mr. Weinberg

489. Instructional Strategies in Education. Prerequisite: consent of instructor. Methods for academic instruction, including research and active participation in the adversary approach, forms of debate, role playing, oral presentation, analysis, and feedback instruments. Practical emphasis on social sciences and humanities instruction. K-12. Ms. Kourisky

590A. Instructional Decision Making. Prerequisite: consent of instructor. Analysis of instructional models relevant to public school education. Assumptions, procedures, and constraints of each strategy considered in terms of learner and task variables. Laboratory experiences in classroom settings permit students to systematically apply and evaluate alternative instructional strategies.

591A. Curricular Decision Making. Prerequisite: consent of instructor. Examination of alternative solutions for the practical problems that classroom teachers face in making curricular decisions. Analysis of the influence of psychological, societal, and institutional factors in curricular decisions.

592. Evaluation of Teaching and Learning. Prerequisites: consent of instructor. Case studies of teaching and learning; the use of modern appraisal techniques in classroom settings.

598A-598C. Directed Field Experience (4 to 8 units each). May be repeated for credit.

599A-599C. Advanced Directed Field Experience (4 to 8 units each). May be repeated for credit.

591. Cooperative Program in Special Education (2 to 8 units). Prerequisite: consent of UCLA academic adviser and graduate dean, and host campus instructor, department chair, and graduate dean. Limited to UCLA doctoral students in special education. Course is used to record enrollment in practicum courses taken under cooperative arrangements with California State University, Los Angeles. S/U grading.

596. Directed Independent Study (6 to 12 units). Individual study or research for graduate students. May be repeated for credit.

597. Preparation for Master's Comprehensive Examinations or Doctoral Qualifying Examinations (6 to 12 units). May be repeated for Ph.D. or Ed.D. qualifying examinations. May be repeated for credit. S/U grading.


School of Law

Susan Westerberg Prager, Dean

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.
School of Law

General Information: 1242 Law, (213) 825-4841

Admissions: 50 Dodd Hall, (213) 825-2080

Professors
Benjamin Aaron, LL.B.
Richard L. Abel, LL.B., Ph.D.
Norman Abrams, J.D.
William P. Alford, M.A., LL.B., J.D., Acting
Reginald H. Alleyne, Jr., LL.B., LL.M.
Alison Grey Anderson, J.D.
Michael R. Assmow, LL.B.
Paul B. Bergman, J.D.
David A. Bender, LL.B.
Grace G. Blumberg, J.D., LL.M.
David Dolinico, J.D., Ph.D., Acting
Jesse J. Dukeminier, J.D.
Julian N. Eule, J.D., LL.M.
William E. Forbath, J.D., Acting
Carole E. Goldberg-Ambrose, J.D., Associate Dean
Robert D. Goldstein, M.Ed., J.D., Acting
Kenneth W. Graham, Jr., J.D.
Joel F. Handler, J.D.
Harold W. Horowitz, LL.B., LL.M., S.J.D.
Edgar A. Jones, Jr., J.D.
Robert L. Jordan, LL.B.
Kenneth L. Karst, LL.B.
William A. Klein, LL.B.
Leon Lethin, LL.B., LL.M.
Wesley J. Liebeler, J.D.
Christine Littleton, J.D., Acting
Daniel H. Lowenstein, LL.B.
Henry W. McGee, Jr., J.D., LL.M.
William M. McGovern, Jr., LL.B.
Carrie J. Menkel-Meadow, J.D.
Herbert Morris, LL.B., D.Phil.
Stephen R. Munzer, B.Phil., J.D.
Frances E. Olsen, J.D., S.J.D., Acting
Patrick O. Patterson, J.D., Acting
Susan Westerberg Prager, M.A., J.D., Dean
Arthur I. Rosett, LL.B.
Gary T. Schwartz, J.D.
Murray L. Schwartz, LL.B., LL.D.
Steven H. Shiffrin, M.A., J.D.
James D. Sumner, Jr., LL.B., LL.M., J.S.D.
Phillip R. Trimble, M.A., LL.B.
Jonathan D. Varat, J.D.
William D. Warren, J.D., J.S.D.
John S. Wiley, J.D., Acting
Stephen C. Yazell, M.A., J.D.
Erc M. Zott, M.B.A., J.D., Acting
Richard C. Maxwell, LL.B. (Emeritus Connell Professor of Law)
David Mellinkoff, LL.B., Emeritus
Rollin M. Perkins, J.D., S.J.D. (Emeritus Connell Professor of Law)
Harold E. Verrall, M.A., LL.B., S.J.D., Emeritus
Kenneth H. York, LL.B., Emeritus

Lecturers
Susan Cordell Gillig, J.D., Assistant Dean, Clinical Programs
Kenneth N. Klee, J.D.
Kristine S. Knaplund, J.D.
Roderick D. Margo, LL.B., D.C.L.

Michael Rappaport, J.D., Assistant Dean, Admissions
David W. Reimann, J.D.
Antonio Rossmann, J.D.
Gary Stiftelman, M.F.A., J.D.

Adjunct and Visiting Professors
Abdullahi Ahmad An-Na’im, LL.B., Ph.D., Visiting
Jose A. Bracamonte, J.D., LL.M., Visiting
Charles M. Firestone, J.D., Adjunct
Albert J. Moore, J.D., Visiting

The School of Law, the only academic unit at UCLA which operates 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 of the United States.

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 in 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 handicap 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, 50 Dodd Hall, UCLA, Los Angeles, CA 90024.

For information on the proficiency in English requirements for international graduate students, refer to “Graduate Admission” in Chapter 3.

Residence and Unit Requirements
The candidate for the degree of Juris Doctor must have pursued resident law school study for six semesters and successfully completed 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 Anglo-American 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.

Master of Laws Degree

The school offers a graduate law program leading to the Master of Laws (L.L.M.) degree to outstanding American and foreign 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 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, New York, and Hawaii.

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). The law governing private agreements. Analysis of the criteria for determining whether or not a particular promise or voluntary agreement is legally enforceable and a survey of the major legal issues affecting enforceable agreements. Problems of interpreting contract language, the role of contract in a market society, the conflict between the commercial need for certainty and the demands of individual fairness, and the relationship between contract law and other areas of law.

110. Legal Research and Writing (5 units). The basic purposes which our tort law system achieves or fails to achieve. Emphasis on the development of writing which is clear, informative, and persuasive.

120. Criminal Law I (3 units). Selected topics in substantive criminal law. Consideration of principles underlying the definition of crime; an examination of various attempts to eliminate the requirement of mens rea and a consideration of such general doctrines as ignorance of fact and ignorance of law, causation, attempt, complicity and conspiracy; inquiry into principles of justification and excuse, with particular attention to the doctrines of necessity, intoxication, insanity, diminished capacity, and automatism.

Second- and Third-Year Courses

All of the courses in the second- and third-year curriculum are elective with the exception of Law 312. Students must complete the professional responsibility requirement to graduate, either by preparing a paper in consultation with a faculty member or by completing one of the sections of course 312. The different sections vary in emphasis.

*The School of Law maintains its own course numbering system; course numbers as shown here do not correspond to Graduate Division course numbering definitions.

312. The Legal Profession (Section 1). The sociology of the legal profession, including such topics as the history of the legal profession, the distribution of legal services, the social structure of the profession (public/private, civil/criminal, etc.), and exposure to the world of practice through role-plays, problem sets, and the reading of ethnographies and biographies about lawyers. The rules of lawyering, including such topics as the Code of Professional Responsibility, the Model Rules of Professional Conduct, and other applicable rules governing the practice of law (conflicts of interest, zealous representation, ineffective assistance of counsel, representation activity both in the courtroom and in the law office, and the frequently conflicting demands and requirements of the rules). The personal, professional, and moral identity of lawyers, including such topics as what it means to become a "professional," the role of lawyers in society, the legal, political, social, and moral consequences of lawyering activity, and the meaning of both individual and professional responsibility.

SCHOOL OF LAW / 403
Elective Courses

200. Constitutional Law I. Ways in which the United States Constitution (1) distributes power among the various units of government in the American political system and (2) limits the exercise of those powers. Structural limitations on government: the division of powers between the nation and the states in the federal system, and the separation of powers among the three branches of government. Limits and conditions of the national government. Civil War Amendments (13th, 14th, and 15th) as limits on the states and as sources of congressional power. The proper role of the judiciary in limiting the actions of other branches of government.

Mr. Eule, Mr. Karst, Mr. Shiffrin, Mr. Varat


Mr. Karst, Mr. Shiffrin, Mr. Varat

205. Wills and Trusts. The law of wills, trusts, and future interests. The wealth transmission process.

Ms. Blumberg, Ms. Prager

206. Real Property/Secured Transactions. The use of land as security for debts, with the California cases and statutes presented as an example of an operating system. The real estate security device from its common law origins to the modern deed of trust as it exists in California.

Mr. Jordan, Mr. Warren

211. Evidence. The law of evidence is concerned with the process by which parties may prove facts which are essential to the existence of rights and liabilities in civil and criminal litigation. Rules for determining the relevance of evidence, the qualifications which must be met by witnesses, the regulation of the form and manner of interrogating witnesses, privileges granted to particular persons and institutions to refuse to disclose information, the admissibility of expert evidence, the admissibility of prior statements of proving technical facts, and rules governing documentary proof. The rule excluding hearsay evidence and the exceptions to that rule.

Mr. Abrams, Mr. Bergman, Mr. Graham, Mr. Letwin

212. Federal Courts. Selected problems in the jurisdiction and lawmaking powers of the federal courts, including the appellate jurisdiction of the Supreme Court, federal habeas corpus; the federal-question jurisdiction of the federal district courts; interventions by federal courts in state court proceedings; and choice of law in the federal courts.

Ms. Goldberg-Ambrose, Mr. Karst, Mr. Varat

214. Civil Rights. In-depth study of 42 U.S.C. § 1983. This provision, creating a cause of action for the deprivation of constitutionally protected rights by state actors (i.e., state and local officials and municipalities), is now one of the most litigated actions in the federal courts. A historical review of the origins of § 1983, an analysis of constitutional civil rights legislation and the 14th Amendment. The elements of action, defenses to action, and remedies for constitutional violations. Close attention to competing policies of controlling government abuse and of allowing interference by the individual under certain conditions in the judicial interpretation of § 1983 that arise from the use of federal power, especially the federal courts, to monitor state officials and governments. Students intending to take this course in addition to courses 200 and/or 212 should take this course concurrently with or after the other course(s).

Mr. Goldstein, Mr. Varat

215. The Law and the Poor. Major income-maintenance programs in the United States: Aid to Families with Dependent Children; Supplementary Security Income; Food Stamps; General Relief; Disability; and Social Security (OASDI). Basic societal attitudes toward the poor and underrepresented minorities, and policies, with emphasis on AFDC. Topics include the structure of programs, eligibility, constitutional boundaries, work requirements, standard of need, emergency assistance and special needs, child support, remarriage, and rights of movements, public interest law, and welfare reform.

Mr. Handler

216. Administrative Law. Much of modern government is administered by agencies of government other than legislatures or courts. The substantive sources of (and limits on) administrative authority. The procedural norms with which agencies must comply in the course of adjudication or rule-making. Judicial review as a technique for correcting administrative actions. Specialized dispute-resolution procedures due process in the individual’s interactions with public agencies.

Mr. Asimow, Mr. Schwartz

217. Topics in Legal Philosophy. (Same as Philosophy 256). Prerequisite: consent of instructor. An examination of topics such as the concept of law, the nature of justice, problems of punishments, legal reasoning, and the obligation to obey the law. May be repeated for credit with consent of instructor.

Mr. Munzer

220. Federal Taxation I. Fundamentals of federal income taxation, particularly as they apply to individuals. Gross income, the taxpayer to whom the income will be attributed, deductions and credits available in computing tax liability, the year in which income is properly reported and deductions properly taken, and computing tax liability, the year in which income is properly reported and deductions properly taken, and computation of tax liability, income taxes and estate taxes.

Mr. Asimow, Mr. Klein, Mr. Zoll

221. Federal Taxation II. Prerequisite: course 220. Course 230 may be taken concurrently. An examination of the income tax consequences of the formation of partnerships and corporations, distributions to partners and shareholders, and liquidations and sales of partnership or shareholder interests.

Mr. Zoll

222. Federal Taxation III. Federal taxation of gifts and decedents’ estates; federal income taxation of trusts and estates. Emphasis on tax planning techniques. Of considerable importance to anyone who expects to practice in the areas of tax planning, estate planning, and related areas.

Mr. Zoll


Mr. Margo

227. Federal Taxation of Partners and Partnerships. Prerequisite: course 220. Tax attributes of partnership operations, partnership operations (including financial and nonfinancial distributions), and termination. Business reasons for the choice of alternative forms of operation, particularly S corporations. Use of partnerships as tax shelters, etc.

Mr. Klein


234. Law and Accounting. Prerequisite: consent of instructor (for students with more than two undergraduates), and accounting courses. Recommended: accounting courses. Mr. Shulman. 235. Law and Accounting. Prerequisite: accounting courses. Mr. Shulman.

237. Judicial Process. Prerequisite: course 216. An advanced problem-oriented course that examines problems of (1) the judicial interpretation of 1983 that arise from the use of federal power, especially the federal courts, to monitor state officials and governments. Students intending to take this course in addition to courses 200 and/or 212 should take this course concurrently with or after the other course(s).

Mr. Goldstein, Mr. Varat

244. Business Organizations. Prerequisites: courses 220, 230. Constitutional Law I and II. An advanced problem-oriented course that examines the organization, structuring, operation, and distribution of partnerships. Detailed substantive study of the statutory and common law of partnerships, partnership taxation, and financial and economic considerations relating to partnership structure and operations. Discussion of problems involving real estate, oil and gas, motion picture, and other contemporary partnership structures.

238. Business Organizations. Prerequisites: courses 220, 230. Constitutional Law I and II. An advanced problem-oriented course that examines the organization, structuring, operation, and distribution of partnerships. Detailed substantive study of the statutory and common law of partnerships, partnership taxation, and financial and economic considerations relating to partnership structure and operations. Discussion of problems involving real estate, oil and gas, motion picture, and other contemporary partnership structures.

Ms. Goldstein, Ms. Prager

240. Antitrust I. Basic understanding of the federal antitrust law: the Sherman, Clayton, and Robinson-Patman Acts. Monopolies, cartels (price fixing, market division, boycotts), vertical restrictions (resale price maintenance, territory and customer allocation), mergers, price discrimination, joint ventures, tie-in arrangements, reciprocity, requirements contracts, etc.

The economic perspective used by modern antitrust analysis.

Mr. Liebler, Mr. Margo

241. Insurance. Basic introduction to the general principles of insurance and consideration of the role of persons and interests protected, formation of the contract of insurance, insurance interest, concealment, misrepresentation, warranties and conditions, limitations and exclusions, insurance policies, the measure of recovery, indemnity and subrogation.

Obligations of the insurer and insured during the currency of the insurance contract; the occurrence of the risk insured against. Issues of current significance in insurance litigation, including the insurer’s duty to settle, the insurer's duty to defend, the insurance of progressive diseases (asbestosis), the insurability of punitive damages, and problems arising out of the tripartite relationship between insurer, broker, and insured.

Mr. Margo
245. Antitrust II. Prerequisite: course 240. The historical and economic foundations of antitrust law. Focus on developments in recent antitrust cases, particularly those involving the abuse of market power. Current antitrust efforts aimed at monopoly and "monopoly-like" conduct. Mr. Liebler

247. Law and Economics. An economics background is required. The basic theory of voluntary exchange and the conditions necessary for a voluntary exchange system to maximize community welfare, applied to various types of legal problems in an attempt to gauge the extent to which legal rules contribute to (or hinder) the maximization of such welfare. Mr. Liebler

248. Bankruptcy. An examination of the Bankruptcy Code and related statutes from the viewpoint of what the commercial lawyer should know about the field in order to advise clients in planning and carrying out business transactions. Emphasis on liquidation of debtors' estates, reorganization of debtors' businesses, and the avoiding powers of the trustee in bankruptcy. Treatment of the consumer debtor in bankruptcy. Mr. Jordan, Mr. Warren

250. Commercial Law: Chattel Security and Commercial Paper. A detailed examination of the Uniform Commercial Code. A study of Article 9 of the Code, the law governing security interests in personal property. Business collateral such as equipment, inventories, accounts receivable, and chattel paper, as well as the financing of purchases by nonbusiness consumers. Some aspects of bankruptcy law, primarily the law of preferences, applicable to secured creditors. Mr. Jordan, Mr. Warren

251. Commercial Law: Sales. The law governing the sale of goods. Acceptance and rejection, contract cancellation, installment contracts, warranty, risk of loss, documentary sales, remedies for breach of contract, the seller's remedies on insolvency of the buyer. Emphasis on Article 2 of the Uniform Commercial Code, the use of bills of lading and warehouse receipts in sales transactions (Article 7), and aspects of sales law (Article 2) that bear on secured transactions and commercial paper. Mr. Jordan, Mr. Warren

252. Unfair Competition. Survey of four fields of intellectual property and competitive regulation, covering a range of doctrines that are useful to a general practitioner, business adviser, or litigator. The strands of moral and economic policy that unite these apparently diverse fields. Mr. Wiley

253. Regulated Industries. The theoretical justifications for, and fundamental criticisms of, leading types of economic regulation. Survey of the regulatory structures and issues in the transportation, communication, and energy utility sectors, using statutes, cases, and secondary material to introduce students to the legal issues that traditionally have dominated these fields. The intellectual foundations and empirical results of the recent deregulation movement in these three sectors. Mr. Wiley

255. Tort Law and Economics. Prerequisites: a reasonable interest in economics and at least a minimal understanding of basic college microeconomics. Examination of the literature analyzing tort law from an economic perspective: to assess and profit from its strengths and to consider its limitations. Mr. G. Schwartz

259. Labor Arbitration. The practice, procedures, and substantive law of labor arbitration, with emphasis on what labor arbitrators actually do in their interpretation of collective bargaining agreements. The procedural content of labor arbitration: Who are the arbitrators? How are they mutually selected? How are unions and employers? How might the fact that the arbitrator is mutually selected and mutually paid by the union and the employer bear on the arbitrator's decision-making process? The utility of using the labor arbitration model as a dispute resolution mechanism outside the labor environment: domestic disputes, landlord-tenant disputes, etc. Mr. Alleyne

260. Labor Law I. Basic information concerning the laws and decisions which provide the framework for national labor policy in the private sector. The National Labor Relations Act, the Labor Management Relations Act, the Railway Labor act, and the Norris-La Guardia Anti-Injunction Act. Areas include collective bargaining; selection of bargaining representatives and determination of bargaining units; unfair labor practices; emergency disputes; federal-state jurisdiction; application of anti-trust laws; and grievance and arbitration procedures. Mr. Almy, Mr. Mahaney

261. Labor Law II. Prerequisite: course 260 or consent of instructor. Collective bargaining in the public sector (government employment at the federal, state, and local levels). Differences and similarities in the private and public sectors, and the responses of federal state legislatures and of the courts to the special problems of collective bargaining in the public sector. Mr. Alleyne

262. Law of the Collective Agreement. Prerequisite: course 260. Limited to 10 students. Enhancement of understanding of labor arbitration. A comparative study of the decision of issues brought to labor arbitration which have also been presented to the NLRB and federal courts. Use of transcripts and exhibits of actual arbitration cases. Each student works with three case files, functioning as a union advocate in one, an employer advocate in a second, and an arbitrator in the third. Each student prepares two briefs, one arbitration opinion and award, and a research paper. Mr. Jones

263. Employment Discrimination. Title VII of the 1964 Civil Rights Act and similar statutes prohibiting discrimination based on race, sex, national origin, religious affiliation, age, and handicapped status. Substantive and procedural law that has developed under these statutes; consideration of the social policy goals and assumptions underlying that development. Specific topics include 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 seniority systems), affirmative action and reverse discrimination, obligations of government contractors, class actions, and administrative and judicial remedies. Mr. Aaron

264. Workers' Injuries. Study of the ways in which the law responds to the phenomenon of workers' injuries and occupational disease. The labor market and unionization, workers' compensation, the federal OSHA job-safety regulation program, and a limited but significant number of tort issues that workers' injuries present. Workers' compensation continues both as a compensation program and as a tort-like rule of strict liability. Mr. Bracamonte, Mr. G. Schwartz

267. Indian Law. The special legal status of American Indians and Indian tribes and the tensions between moral/legal claims and political forces. The sources and scope of federal, state, and tribal power on Indian reservations; property law concepts unique to Indians; tribes and Indian; rights to American Indians in relation to federal, state, and tribal governments and the federal trust relationship to Indians. Ms. Goldberg-Ambrose

268. Labor Law Ill. The rights and obligations of individual employees in collective bargaining units, especially of those who choose not to belong to a union, under present legislation, as well as some employment rights of employees of unorganized firms. The law of the Labor-Management Reporting and Disclosure Act of 1959, insofar as it relates to the regulations of internal union affairs. Mr. Aaron

269. Foreign Policy, and National Security. Various legal considerations and restraints, both national and international, affecting the formulation of foreign policy and protection of national security. The decision-making process, including the constitutional balance between executive and legislative branches, the foreign relations power of the President, the War Powers Resolution and the Treaty Power. The role of bureaucratic politics. The congressional regulation of foreign policy and its attempts to subject intelligence activities to the rule of law. The problem of protecting national security information in a free society and other Bill of Rights issues. The role of international law affecting national security, including the UN Charter, and multilateral and bilateral arms control obligations. Mr. Trimble

270. International Law. The role of international institutions in international relations and in government foreign affairs decision making, particularly on the part of the United States. Nature and source of international law and how it is applied in the relations of foreign nations with the economic interests of the United States. Legal making within the international system and how conflicts in the assertion of jurisdiction are resolved. Major limitations on the exercise of authority by states. The use of force by intergovernmental groups, and international organizations. Mr. Trimble

271. International Business Transactions. The fundamental legal issues that arise in international trade, licensing, and investment. The legal and financial institutional framework within which international business is conducted; national and international limitations affecting the movement of goods, the transfer of technology; and the flow of capital; the organization, financing, and protection of international business undertakings; the use of agents, distributors, and licensees; problems of contract negotiation and dispute resolution in an international setting; foreign investment. Mr. Alford, Mr. Rosett

272. Comparative Law: Chinese Economy and Organization. Public international law affecting national economic activity, particularly in the areas of trade, investment, and monetary affairs; the roles of the GATT, IMF, World Bank, UNCTAD, and the UN Center on Trans-National Corporations; and the U.S. law governing the negotiation and implementation of international agreements. Mr. Trimble

278. Comparative Law: Chinese Law. 20th-century transformations in Chinese law in the context of their jurisprudential and historical background. A general introduction to the nature and function of law in China; comparative legal analysis. Equips future practitioners to address legal problems arising from commercial interaction with China. Mr. Alford

279. Admiralty Law. A study of the special jurisdictional, procedural, and substantive rules applicable to water-based activities, especially the carriage of passengers and goods by water. The allocation of disputes involving such activities between state and federal courts, the development of problems of responsibility for maritime torts, liability in marine casualties, the special procedures for limiting shippers' liability, and the sources and nature of laws governing maritime torts, contracts, and property in modern maritime doctrines to be modern phenomena such as offshore drilling, containerization, and oil spills. Ms. Goldberg-Ambrose
280. Aviation Law. The regulation of aviation and air transport under both international and domestic law. The nature and sources of aviation law, the legal regime of the airspace and the aircraft, and the regulation of users of the airspace, including jurisdiction over hijackings and other offenses committed aboard aircraft. The role of the Civil Aeronautics Board in the regulation of domestic air transport. The regime of liability for international air carriers established by the Warsaw Convention and subsequent instruments, and the liens. Style of aircraft manufacturers' maintenance, repair, and service facilities, and air traffic control and advisory services. Mr. Margo

M285. Governance: State, Regional, and Local (2 to 3 units). (Same as Architecture and Urban Planning M231.) Comprehensive consideration of the legal and administrative aspects of the regulation of land use and development, and the problems and techniques of urban planning: dwelling legislation, building codes, zoning, subdivision controls, public acquisition of land, transportation, and urban development. Mr. McGee

M287. Urban Housing and Community Development (2 to 3 units). (Same as Architecture and Urban Planning M231.) Comprehensive consideration of the legal and administrative aspects of the regulation of land use and development, and the problems and techniques of urban planning: dwelling legislation, building codes, zoning, subdivision controls, public acquisition of land, transportation, and urban development. Mr. McGee

M289. Environmental Law and Policy (2 to 3 units). (Same as Architecture and Urban Planning M289.) Examination, from perspectives meaningful to legal institutions, of the nature of environmental problems. The means by which law has responded, and can and should respond, to problems of environmental quality. Both common law and legislative and administrative measures considered. The air pollution problem is the primary vehicle for study.

292. Water Law. The basic concepts of United States water law; the Roman system of allocating water; the water use in the Western United States; the appropriation system of allocating water used in the Western United States, and the federal overlay of reserved rights, navigation power, and reclamation. Water use efficiency and conservation, protection of instream water uses, groundwater management, public rights to water-based recreation, and water pollution.

295. Criminal Procedure. The process by which courts decide the guilt or innocence of those accused of crime and the selection of an appropriate penalty. The right to bail and other devices by which accused persons can be released following arrest and pending trial. The process by which the prosecutor decides what charges to file and the limits on charging power, including the grand jury and the preliminary hearing. Criminal pleading, including the process of plea bargaining. The trial process, including the right to trial by jury and sentencing procedures.

299. Federal Criminal Law Enforcement. Federal criminal topics such as RICO (including both its criminal and civil aspects), Bank Secrecy Act, the Hobbs Act, the Travel Act, criminal tax enforcement, and drug offenses. The special features of complex criminal statutes, how federal enforcement priorities are determined, the Petitjean policy, and the nature of the federal criminal role. Federal approaches to the prosecution of white collar crime, organized crime, and political corruption. In recent years there have been a significant number of federal investigations and executive decisions of businesspersons. Increasingly, it is becoming useful for corporate counsel, whose practice is largely noncriminal, to be familiar with the federal criminal law. Gives students a lawyer's understanding of the most important criminal statutes in the federal arsenal, the ways in which the federal criminal law and its enforcement differ from its state counterparts, and how the federal and state criminal systems relate to each other.

300. Remedies. The kinds and nature of relief afforded by courts to litigants in civil litigation. The theory and general principles governing the award of compensatory damages, equitable remedies, and restitution. The nature of the mutability of law. Mr. Bauman

302. Copyright. A basic introduction to the law of copyright. The large and recently revised federal statute that governs the field. Mr. Wiley

306. Patent Law. Designed for the future general or business practitioner, an introduction to the basics of patent law, from the filing of a patent application to the issuance of a patent. The role of the patent examiner, the nature of the patent application process, and the nature of the patent system. Mr. Bauman


317. Family Law. The de jure and de facto husband-wife relationship. Legal principles and social policies governing the creation, maintenance, and dissolution of the de jure family. The legal relation of the family to other legal issues, divorce-related child custody, and the legal status of extramarital children. Ms. Blumberg, Ms. Olsen

319. Law and the Political Process. Recommended prerequisite or corequisite: course 201. Ways in which the laws governing the political process affect and reflect political power relationships. Statutory reforms enacted in the past 10 to 15 years at the federal and state levels. Right to vote, reapportionment, political parties, bribery, campaign finance, incumbency advantage, and either topics in criminal law (rape, prostitution) or topics in family law (marriage obligation and grounds for divorce). Mr. Handler

326. Health Law and Administration. The major programs in health care financing (Medicare, Medicaid, private insurance, medically indigent) and health care organization (private practice, HMOs, preferred providers, etc.). The effects of cost containment and the administration's pro-competitive strategy. Selected topics include the professions, hospitals, quality assurance, managed care (including malpractice), antitrust, alternative approaches to health care, medical experimentation, special health problems of the poor, the elderly, women, minorities, and the defective newborn. Mr. Handler

327. Communications Law. Legal issues associated with the regulation of electronic mass media. First Amendment issues between print and broadcasting, broadcast licensing and the constitutionality of regulations and policies of the Federal Communications Commission. Industry structures, networking, access to the media, public broadcasting, political broadcasting, fairness doctrine, and entertainment format changes. Regulation of cable TV and the merging of the media with new technologies, including telecommunications carriers, satellites, and fiber optics. Options for rewriting the Communications Act. Mr. Blumenthal

332. Children and the Law. The legal rights of children and the influence of law on the lives of children. Focus will be on the legal status of children, the family, and society. Mr. Bracamonte

335. Religious Law. The legal status of religious organizations in the United States and the international legal system. The role of religious law in the formation of civil law systems and the interaction of this law with the legal systems of other countries. Mr. Rossetti

336. English Legal History. The growth of the Common Law and Trial by Jury in the period from 1187 to 1765. Mr. McGovern

337. American Legal History. 1776-1984. The historical, social, and constitutional context of American legal history. The role of law, politics, and social institutions in the formation of American legal institutions and processes. Mr. Forbath
400. Pretrial Lawyering Process (Clinical). Training and practical experience in the full range of skills used by lawyers during the pretrial phases of the civil litigation process. The development of interviewing, counseling, fact-gathering, counseling, pleading, formal discovery, and related litigation skills. Fieldwork offers an opportunity to employ lawyering skills in a law office setting under the supervision of experienced legal services attorneys.

401. Appellate Advocacy (Clinical). The concepts of logic and the principles of argument and persuasion in the context of appellate advocacy. Students gain practical experience by working in public prosecution and public defense offices at the state and local level under the direct supervision of experienced appellate practitioners.

Mr. Patterson

402. Fact Investigation and Discovery in Complex Litigation (Clinical). The process of developing and proving facts, the relationship between the discovery of facts and proof at trial, and the range of formal and informal discovery devices available for use in complex litigation. Through fieldwork in public law offices and private law firms, students learn the substantive law, and practical aspects of discovery in major pieces of litigation under the supervision of an experienced litigator.

Mr. Binder, Ms. Gillig, Mr. Patterson

403. Interviewing, Counseling, and Negotiation (Clinical). Basic interviewing, counseling, and negotiation concepts in the areas of dispute resolution and business planning. The extent to which these principles require modification in the area of business planning. Classroom discussion enhanced by analysis of videotapes of "client" interviews and conducting and analyzing expert interviews.

Mr. Bergman

405. Trial Advocacy (Clinical). Designed to provide training in the full range of skills needed by a trial advocate. A year-long series of classes emphasizing the development of courtroom advocacy and other lawyering skills: case planning, direct and cross-examination of witnesses, opening statement and closing argument, client and witness interviewing, case investigation, negotiation, and examination of expert witnesses. In Fall Semester role-play exercises are legal or nonlegal in nature, capped off with a mock trial. During Spring Semester students actually appear in court and represent indigent clients under the direct supervision of an experienced practitioner.

Mr. Bergman, Mr. Moore, Mr. Patterson

407. Mediation and Alternative Dispute Resolution (Clinical). Issues, principles, and skills implicated in the use of nonadversarial methods of dispute resolution. The theories and various approaches to conflict resolution, including comparisons among and between adjudicators, private mediators, court-annexed mediators, mini-trials, and community dispute centers. Some of the difficulties with alternative dispute resolution, including the role of law, inequality among the parties, consent, motivation, enforcement, and effects of alternative dispute resolution. Comparative study of dispute institutions in other political and legal systems. Through skills training and role-play exercises students learn and practice the skills necessary to conduct mediation and arbitration.

Ms. Menkel-Meadow

408. Legal Negotiation (Clinical). The theoretical and practical aspects of the process of negotiating transactions and disputes in our legal system. Negotiation theory, using both legal and behavioral science methods, differs between litigation and transactional negotiations; the context in which particular negotiation strategies and tactics are successfully employed; ethical and normative implications of negotiating; the role negotiation plays in our legal system, both in dispute resolution and in legal planning; development of proficiency in negotiation and mediation, both from planning and behavioral perspectives.

Ms. Menkel-Meadow

409. Negotiation and Mediation (Clinical). The theoretical and practical aspects of negotiating and mediating transactions and disputes in our legal system. Negotiation and mediation theory, using both legal and behavioral science materials; the differences between litigation and transactional matters; development of an understanding of the context in which particular negotiation and mediation strategies and tactics are successfully employed; the ethical and normative implications of negotiations and mediations; consideration generally and structurally of the role negotiation and mediation play in our legal system, both in dispute resolution and in legal planning; development of proficiency in negotiation and mediation, both from planning and behavioral perspectives.

Ms. Menkel-Meadow

455. Planning and Drafting Small Estates (Clinical). The substantive law of estates, wills, trusts, and tax as those laws relate to testamentary disposition of small estates. Interviewing, drafting, and counseling techniques. In fieldwork, students are assigned clients and interview them to determine their estate planning needs. Students discuss with a supervising probate attorney the kind of estate plan needed and then draft an appropriate plan and review it with the attorney.

Mr. Bergman, Mr. Binder, Ms. Gillig

500. Seminar in Constitutional Law. Selected topics in constitutional law.

Mr. Karati, Mr. Shiffrin, Mr. Varat

501. Seminar in Taxation: Timing Issues. Comparison of an income tax and a consumption tax, proceeding to various theoretical issues such as the pro per deduction for depreciation, the relationship between the treatment of the payor and the payee, and the role of losses and the interest deduction. Application of tax principles to the treatment of such issues as reserved rents, the sale of a life estate, and various rules added to the Code by the 1984 act (e.g., economic performance).

Mr. Klein

502. Seminar in Copyright. Each student is assigned a specific topic relating to some aspect of copyright law, which is the subject of an in-depth study. The student first makes an oral presentation of the topic to the seminar and thereafter submits a fully researched paper dealing with the topic.

503. Seminar in Criminal Law (Death Penalty). Limited to 15 students. Is the death penalty morally impermissible? Is it immoral even if it has a deterrent effect? Or are there situations in which it is morally impermissible not to apply the death penalty (even if it has no extra deterrent effect)? Exploration of these questions, with emphasis on topics such as the allegedly arbitrary and discriminatory manner in which death sentences are carried out, the risk of executing the innocent, and whether retention of the death penalty better comports with respect for the sanctity of human life.

Mr. Dolinko

503. Seminar in Criminal Law (Rape). The legal definition of rape, the procedural rules applied in the administration of justice, defenses available, such as the consent defense, and some of the evidentiary and constitutional issues provided for rape offenses. In order to determine and critically evaluate the empirical and moral responsibilities of prosecutors and defense attorneys, rape cases are also examined, as are civil altercations with the objective of preventing rape prosecutions.

Ms. Goldberg-Ambrose

504. Seminar in Theory of Property. A philosophical examination of the foundations of a theory of property. Topics include the concept of property; property rights in the body (including reference to abortion and suicidality); and the problems of barter and of human nature. Readings from classic and contemporary writers, including Locke and Marx, and from instructor's work in progress.

Mr. Munzer

506. Seminar in Comparative Company Law. Pre-requisite: course 505. The role of corporate law in the company laws of the United States, the principal nations of the Common Market and, if feasible, several eastern nations. An examination of the divergent trends of developing company law in the nations of the world, in the context of the differences between United States law and the harmonization directives of the Common Market. Topics include capital structure and finance, disclosure, regulation of securities transactions, and management and control structure.

507. Seminar in Labor Law. Pre-requisite: course 260 or equivalent.

Mr. Alleyn

512. Seminar on Selected Problems in Social Welfare and Health. Pre-requisite: consent of instructor. In this seminar students explore a 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.

Mr. Handler

516. Seminar in International Law: The Changing International Legal Order — A Chinese Perspective. Doctrines and practices of the People's Republic of China (PRC) regarding the role of law in various international contexts. Issues both of international law and the law of international trade and investment. The nature and sources of international law of the United Nations and other international organizations; national sovereignty; territoriality; the regulation of natural resources lying within and beyond territorial limits; international human rights standards; the new international economic order; the regulation of foreign trade and investment; the resolution of disputes. Topics considered in light of China's history and her present legal, political, and economic circumstances and as a means of tracing the changing nature of the international legal order. Comparisons to the doctrines and practices of Taiwan, Japan, the U.S., the U.S.S.R., and selected developing nations.

Mr. Alford

524. Seminar: Philosophy of Law. (Same as Philosophy 5397.) Prerequisite: consent of instructor. Selected topics in the philosophy of law. May be repeated for credit with consent of instructor.

525. Seminar in Communications Law. Pre-requisite: course 327. Students select specific topics in communications law to study, with emphasis on the effect of new technologies on the legal issues associated with a particular problem, and prepare one or more papers designed to address legislative or litigation solutions to the problem. Students work may be used as ongoing litigation or in current legislative deliberations.

Mr. Firestone

526. Seminar: Urban Affairs. (Same as Architecture and Urban Planning M5232.) Exploration in a concrete case of the application of legal tools to the solution of planning and land-use problems. Real situations are selected in which significant planning problems exist that appear to be amenable to solution by careful analysis and application of legal tools. A number of case studies are selected so that students may choose one issue which directly interests them. For each case, a specific client works with the class in presenting the problem that client is facing and remains available through the course of the project for consultation; the end product for each case is the presentation of a formal report. Clients include the City Planning Commission, the Environmental Quality Board, the Housing Authority, and others.

Mr. Mcgee
532. Seminar in Bankruptcy. In-depth examination of the business reorganization provisions of Chapter 11 of the United States Bankruptcy Code. Conducted in a practical format requiring students to become intimately familiar with the substance and procedure of Chapter 11 business reorganization law in a problem-solving format. Students are expected to research and brief complex issues of reorganization law and to advocate their positions during class.

Mr. Forbath

536. Seminar in Appellate Advocacy. Appellate practice and skills necessary for effective appellate advocacy. Generalized principles of brief writing and oral argument. Cases from the current U.S. Supreme Court docket are selected by the class from a list supplied by the instructor. Students are then paired off, two to a case (one for petitioner, one for respondent). Students are required to write an appellate brief of approximately 30 to 50 pages in length and participate in an oral argument before a panel consisting of faculty members and other students in the seminar.

Mr. Eule

555. Seminar in Legal Theory/Toward Feminist Jurisprudence. During the past five years, sex discrimination scholarship has moved beyond its initial focus on legal doctrine and constitutional arguments to develop a criticism of the legal system itself. The impact that feminist theory is having on legal philosophy. Reading of the major feminist legal theory and discussion on the practical effects these theoretical formulations have on a variety of legal issues of importance to men and women.

Ms. Olsen

560. Seminar in Law and Management (Agency Law). Prerequisite: course 230. Recommended familiarity with economics or the law and economics literature. A brief review of agency law and various aspects of the agency relationship drawing on both legal and nonlegal material. Emphasis on a theoretical consideration of the major aspects of the agency relationship: creation of the relationship, vicarious liability, authority and fiduciary obligation.

Ms. Anderson

564. Seminar in Evidence. Prerequisite: course 211. Selected topics include the plain error doctrine, problems raised by the testimony of young children, the relationship between scientific conclusions of experts and character evidence, problems in relation to 'other crimes' evidence, and expert testimony under the federal rules.

Mr. Letwin

565. Seminar in Legal History: Group Litigation. The history of the class action suit. The nature of representation, the phenomenon of class conflicts, the tendency of group litigation to escape normal legal norms, the effect of group structure on litigation power.

Mr. Yeazeil

566. Seminar in Legal History: Black Slavery and Freedom, 1600-1960. The contested meanings and boundaries of "slavery" and "freedom" in the legal and political cultures of the North and South at critical moments in their histories. How race and class figured in the legal oppression of blacks, and how blacks and others have sought to use law to expand their freedom. Introduction to a variety of ways of doing legal history and of exploring the interplay of law, politics, and society. Topics include genesis of the slave codes, history of the law of slavery, abolitionist jurisprudence and legal activism, the Constitution as a terrain of sectional conflict, emancipation and Reconstruction: ex-masters and ex-slaves confronting each other's claims to "freedom," and the role of peers and experts in these struggles.

Mr. Forbath

565. Seminar in American Legal History, 1776-1894. Recommended prerequisite: course 337. Designed for students interested in doing original historical research. Reading of a handful of historians whose work illuminates important interpretive or methodological problems. Progress reports and presentations.

Mr. Forbath

566. Seminar in Administration of Criminal Justice. Recent American developments in criminal procedure concerning the rights of persons suspected or accused of criminal offenses, contrasted with the administration of justice in civil law legal systems, particularly those of Mexico and Spain. Comparison of the reaction by the American judiciary to the crisis of violent crime with that of Spanish law enforcement officials; reaction of students to the faculty's new constitution while simultaneously attempting to suppress politically motivated violence. The gap between theory and practice, particularly in Mexico and Latin America.

Mr. McGee

567. Seminar in Antitrust Law. Mr. Liebler, Mr. Wiley

568. Seminar in Political Theory and the Law. The theory of public choice. Since World War II, much democratic theory has tended to center around two questions: (1) On what basis should it be decided whether a type of decision should be made collectively by the government or individually through the market? (2) In what sense are government institutions "representative"? While some earlier writers such as Edmund Burke and James Madison may be considered, focus on contemporary writers, including David Truman, Anthony Downs, Richard Musgrave, Buchanan and Tullock, Moncur Olson, and "Raban" Barry.

Mr. Lowenstein

572. Seminar in American Legal Education. Prerequisite: consent of instructor. Law schools as institutions in the legal establishment. Historical development of legal education, teaching methods: law schools as suppliers of students; faculty: research and publications; class stratification in legal education; testing and evaluation of students and faculty; advanced legal education; comparative legal education; and the curriculum.

Mr. Bergman, Mr. Graham

572. Seminar: Teaching Assistants. Limited to teaching assistants. Ways to make teaching assistants work more effectively and interesting. The teaching of legal writing: criteria for evaluating legal writing; ways of editing others' work. Consideration of what approaches to first-year student writing are likely to be most effective. The teaching assistants' role in other parts of the first-year curriculum (torts, civil procedure, property, etc.). Consideration of how teaching assistants might help first-year students with their work, develop exercises for small discussion sections, then conduct and evaluate those discussions.

Ms. Anderson, Mr. Yeazell

573. Seminar in International Regulation of Military Power. The role of international law in the regulation of the use of force and the containment of military solutions to world problems. The original United Nations' plan, its invocation in resisting aggression, and its role in various peacekeeping ventures. Bilateral and bilateral arms control negotiations (such as the Comprehensive Nuclear Test Ban negotiations and SALT), the role of law in restraining military buildups and in achieving other national security objectives.

Mr. Trimble

574. Seminar in European Economic Community. The structures and institutions of the European communities, their lawmaking processes, and administration. The interaction and conflict between community law and national law and the growing role of the European court in mediating between the nations and the communities. The processes of the court and the parallel between American constitutional development and that in Europe.

Mr. Rosett

575. Seminar in Business Planning. Prerequisites or corequisites: courses 220, 221, 230. The tax and corporate law aspects of important problems in the life of an enterprise, such as formation of a corporation, compensation of employees, recapitalization, stock redemption, acquisitions, and control of corporations.

Mr. Asimow

576. Seminar in Arms Control and Legal Process. The role of sanctions and dispute-settlement techniques in arms control agreements. The original plan of the United Nations against the role it has actually played in international peacekeeping. The recent arms control efforts such as the Nuclear Test-Ban Treaty, the Nonproliferation Treaty, and SALT, with a view to assessing the potential for enhancing compliance with these through international institutions. Comparison with the experience of the GATT and the IMF, as well as some of the more theoretical literature on the reasons why nations comply with international law.

Mr. Trimble

577. Seminar in Law and the Political Process. The ways in which the laws governing the political process affect and reflect political power relationships. Statutory reforms enacted in the past 10 to 15 years at the federal and state levels. Right to vote, reapportionment, political parties, bribery, campaign finance, incumbency, ballot propositions, lobbying and conflict of interest.

Mr. Lowenstein

579. Seminar in Immigration Law (Aliens' Rights). Prerequisite: course 331. Emphasis on three substantive areas of immigration-related law that are legally and politically salient: citizenship and naturalization, refugee and asylum law, and the employment rights of aliens. Introduction to the fundamental law in the topics covered, while simultaneously developing a critical perspective on extant law. The basic statutory framework and traditional judicial gloss placed on various legal requirements and procedures for the attainment of certain status or equality of treatment at the workplace. Development of an understanding of the theories of migration, drawing crucial distinctions between labor and political migration, foreign policy and the rule of law, and the function of citizenship within our legal and political structures. Demonstration that our history of race relations, foreign policy, and economic structures have a predominant effect on our legal structures and have played a fundamental role in the evolution of our law dealing with the rights of aliens.

Mr. Bracamontes
Our society has become a world of information. Over half of the nation’s workforce is now directly engaged in producing, processing, and distributing information in one form or another. Education, scientific and technical development, banking and financial management, government and corporate management — all depend increasingly on accurate, relevant, and readily available information. New technologies have produced a wealth of forms in which we may distribute and transfer information. Printed media have been supplemented by photographic, audiovisual, and computer processible forms. As a result, libraries and information systems of all kinds have become crucial agencies for the management of the resulting flood of information.

The field of library and information science is concerned with the processes involved in these information agencies and, more generally, in the use of information in our society. How are records with essential information, whatever their form may be, to be acquired, preserved, organized, retrieved, and made available? How is information best used in making decisions and in meeting the goals of society as a whole, as well as those of specific organizations?

Education in the field must provide competence with both old and new methods for the processing of information and old and new approaches to the management of libraries, information centers, and information systems in organizations of all kinds. It is this goal to which UCLA’s Graduate School of Library and Information Science is dedicated.

Graduate School of Library and Information Science

120 Powell Library Building, (213) 825-4351

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Harold Boroko, Ph.D.
Robert M. Hayes, Ph.D., Chair and Dean
Russell Shank, D.L.S.
Elaine Svenonius, Ph.D.
Page Ackerman, B.A., B.S.L.S., Emeritus
Seymour Lubetzky, M.A., LL.D., Emeritus
Lawrence Clark Powell, Ph.D., Litt.D., L.H.D., H.D., Emeritus
Robert Vosper, M.A., LL.D., Emeritus
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John V. Richardson, Ph.D.
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Christine L. Borgman, Ph.D.
Donald O. Case, Ph.D.
William H. Fisher, Ph.D.
Stephen Starr, Ph.D.

Senior Lecturers
Elizabeth R. Eisenbach, M.L.S.
Elizabeth R. Baughman, M.L.S., M.A., Emeritus
Betty Rosenberg, M.A., Emeritus

Visiting Professors
Nicolas Barker, M.A.
Edward G. Holley, Ph.D.
Arnold Wajnberg, M.A.

Visiting Associate Professor
Jorge R. Schement, Ph.D.

Adjunct and Visiting Assistant Professors
Joseph J. Lauer, Ph.D., Adjunct
Cheryl Melooy-Duran, Ph.D., Visiting

Adjunct and Visiting Lecturers
John Bidwell, M.L.S., Adjunct
Hinda Breibbard, M.L.S., Adjunct
Alison Bunting, M.L.S., Adjunct
Richard Chabran, M.L.S., Adjunct
Patricia Chittenden, M.L.S., Visiting
Susan C. Cuzon, Ph.D., Visiting
Barbara Duke, M.L.S., Adjunct
Esther S. Grasian, M.L.S., Adjunct
Mary Greco, Ph.D., Adjunct
Jon Greene, M.L.S., Adjunct
J. Denny Haythorn, J.D., M.L.S., Visiting
Dorothy lngelbrechten, M.L.S., Adjunct
Teresa L. Jacobsen, M.L.S., Visiting
Joan Kaplowitz, M.L.S., Adjunct
Linda Katsoulous, M.L.S., Visiting
Julie Kwan, M.L.S., Adjunct
Kay MacDonald, M.L.S., Adjunct
Holly Milard, M.L.S., Visiting
Shirley Nordhaus, M.L.S., Adjunct
Constance W. Nyhan, M.L.S., Adjunct
Christine Olsen, M.L.S., Visiting
Teresa Portilla, M.L.S., Adjunct
Mary I. Purucker, M.L.S., Visiting
Myra Saunders, M.L.S., Adjunct
Oscar Sims, M.L.S., Adjunct
Frank H. Spearman III, M.B.A., Visiting
Thomas Dan Tonkery, M.S., Visiting
Joyce S. Toscanc, M.L.S., Adjunct
Marie Waters, M.L.S., Adjunct
Karín Wittenberg, M.L.S., Adjunct
Nancy J. Young, J.D., Adjunct
David Zeidberg, M.L.S., Adjunct
Diane Zwemer, M.L.S., Adjunct

Applicants may write to the Graduate School of Library and Information Science, 120 Powell Library Building, UCLA, Los Angeles, CA 90024, for the school's announcement and application materials.

Degrees Offered
Master of Library Science (M.L.S.)
Post-M.L.S. Certificate of Specialization
Ph.D. in Library and Information Science

Master of Library Science

Admission
Students are admitted in Fall Quarter only. In addition to Graduate Division requirements and application procedures (see Chapter 3), the school requires:

(1) A statement of purpose.

(2) The application for admission provided in the school’s announcement.

(3) A report of an interview by the dean of the school or by a person designated by the dean as qualified to conduct the interview.

(4) An official report of a score on the Graduate Record Examination (GRE) taken within the past five years. Applicants must have passed the General Aptitude Test of the examination with a minimum combined score (verbal and quantitative) of 900.

(5) Three letters of recommendation.

(6) Satisfactory of the following entrance requirements: (a) a statistics requirement, satisfied by completing a college-level course with a minimum grade of C; (b) a computer programming requirement, met either by completing a college-level course with a minimum grade of C or by passing a proficiency examination administered by the school (most standard languages such as PL/1, FORTRAN, COBOL, PASCAL, and BASIC or data base packages such as dBASE3, KNOWLEDGE-MAN, and CONDOR are acceptable); (c) reading knowledge of a foreign language, which may be met by completing three quarters or two semesters of college-level study in the language with minimum grades of C or by passing the Graduate School Foreign Language Test (GSFLT) with a minimum score of 500. The school will accept the passing of a foreign language test administered by another UCLA department that meets that department's graduate degree requirements or, for languages not covered by the GSFLT, the passing of a reading test supervised by the appropriate UCLA foreign language department.

The dean may permit postponement of one or more of these requirements for full-time students, but completion of these courses at a later time may represent a serious work overload for the new student. In any case, all requirements must be completed before beginning your fourth quarter in residence. Part-time students may not enroll in the program until they have completed the entrance requirements.

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.

For information on the proficiency in English requirements for international graduate students, refer to “Graduate Admission” in Chapter 3.

Course Requirements
You are normally required to enroll in three courses per quarter in order to complete the program in six quarters. Part-time enrollment may be permitted if you are working in a library or information center.

Eighteen courses (72 quarter units) are required for graduation from the M.L.S. program. Coursework 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 nine core courses: Library and Information Science 400, 402, 410, 411, 420, 421, 430, 440, and at least one graduate-level research methodology course such as 205, 240, 241, or 290. In certain cases, prior coursework or work experience may justify replacing a course by a validation examination administered by the school, 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 librarianship, bibliography, or information science. 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 nine additional courses, which may include internships. Relevant coursework in other departments or schools is encouraged.

During the second year, you may apply for an internship of one to three quarters 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; rather, it 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, and complete all nine core courses.

The specialization component of the comprehensive examination requires the completion of a paper or project in the area of your specialization, which demonstrates a considerable amount of work and thought and is of publishable quality. The paper or project is required even if you have an advanced academic degree in which a thesis or dissertation was a requirement and must be approved by your faculty adviser.

Cooperative Degree Programs
To participate in a cooperative program, you must make application to and be admitted by both this school and the other UCLA school or department. Fulfilling the combined set of program requirements normally takes three years.

M.A.-History/M.L.S.
This concurrent degree program of the Graduate School 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.S. and the M.A. in History. The best sequence of coursework should be discussed with the advisers from this school and the History Department.

M.A.-Latin American Studies/ M.L.S.
This specialization is an articulated degree program of the Graduate School of Library and Information Science and the Latin American Studies Program. You can obtain two degrees — the M.L.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.S.
A concurrent degree program jointly sponsored by the Graduate School of Library and Information Science and the 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 all application materials from the M.B.A. Admissions Office, Graduate School of Management.

Post-M.L.S. Certificate of Specialization
The Post-M.L.S. Certificate of Specialization Program meets the need for specialized training in various areas of librarianship, information science, and bibliography, as well as research competence.

Admission requirements vary slightly for each field of specialization, but the basic requirements are a bachelor's (or higher) degree in letters and science, an M.L.S. degree from an American Library Association-accredited school, and unconditional admission to graduate standing by the UCLA Graduate Division.

Your course program may begin in any quarter of the academic year. If you are admitted for a preliminary quarter to complete prerequisite courses, that quarter will not be counted toward the minimum residence requirements.

Part-time enrollment is encouraged to provide flexibility for the working librarian. Opportunities for relevant coursework outside the department and internships, both on and off campus, are made available.

Three general areas of specialization have been authorized: librarianship, bibliography, and information science. Further specialization within these fields is possible. A minimum of nine courses (100-, 200-, 400-, and 500-series) must be completed in the Graduate School of Library and Information Science and other departments of the University.

In addition to taking coursework in your area of specialization, you must complete a paper or project in that area, which demonstrates a considerable amount of work and thought and is of publishable quality. The specialization paper or project is required even if you have an advanced academic degree in which a thesis or dissertation was a requirement and must be approved by your faculty adviser.

Ph.D. Degree
Admission
In addition to Graduate Division requirements and application procedures, the school requires:

1. A master's degree or the equivalent from an institution of recognized standing, representing academic preparation equivalent to that required for a comparable degree from the University of California.

2. Evidence of basic professional competence. This would be satisfied by an M.L.S. degree from a program accredited by the American Library Association or by completing Library and Information Science 400, 402, 410, 411, 420, 421, 430, 441, and at least one graduate-level research methodology course such as 205, 240, 241, or 290.

3. Satisfaction of the same entrance requirements as listed in item 6 under the M.L.S. degree.

4. A statement of purpose which identifies your proposed area of specialization, accompanied by appropriate evidence of qualifica-

5. A total score of 1,200 or better on the Graduate Record Examination (GRE) Aptitude Test, with at least 500 in each of the two parts (verbal and quantitative). The examination must have been completed within five years prior to application for admission.

6. Three letters of recommendation.

7. Interviews with two faculty members of the school.

8. The application for admission provided in the school's announcement.

While work experience in a library is not a requirement for admission, consideration is given to such experience in evaluation of candi-

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[Address and Contact Information]
Major Fields or Subdisciplines
You are expected to specialize in a subfield in one of three major fields:
(1) Information storage, organization, and retrieval.
(2) Communication and information transfer.
(3) Libraries and other information organizations.
The school strictly limits the specific subfields which, at any time, are accepted for doctoral work.

Course Requirements
No courses are required for the Ph.D. other than those for admission. However, you normally take Library and Information Science 272 several times, as well as a variety of other courses, both inside and outside the school, 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 the historical as well as technical aspects. These are scheduled during one week in a quarter. If you fail one of the sections of the three-part examination, it may be repeated. Should you fail two or three 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 at the same time or soon after the completion of the written examinations, but it must be completed and accepted within two years after passing the written examinations.
The oral examination covers the methodology and feasibility of your research, as well as the depth of your knowledge in the specific field of your proposed dissertation research.

Your doctoral committee decides, after the oral examination, whether the proposal is accepted as written, is accepted with modification, or is not accepted. The committee also decides whether the oral examination has been passed. If the proposal is not accepted, the examination may not be passed.

Dissertation Research and Final Oral Examination
The third formal requirement of the program is that you research, write, and defend a dissertation. The required final oral examination is administered by members of the doctoral committee, who also evaluate the dissertation.

Upper Division Courses
Upper division courses may not be applied toward the M.L.S. degree.

110. Information Resources and Libraries. Prerequisite: sophomore standing or consent of instructor. Not open for credit to M.L.S. students. An introduction to bibliographic and information resources and their role in the delivery of information, covering both general and specialized materials. Designed to facilitate knowledgeable use of libraries and efficient retrieval of information. Some sections focus on specific subject areas (such as science and technology).

111A-111E. Ethnic Groups and Their Bibliographies. Introduction to bibliographical and research tools and methods for students with interests in ethnic groups. 111A, American Indian History and Culture; 111B, Afro-American History and Culture; 111C, Latino History and Culture; 111D, Asian American History and Culture; 111E, Jewish History and Culture. (Same as Jewish Studies M111E.) Sections on other ethnic groups may be added. Offered in collaboration with the several centers for ethnic studies. May not be repeated for credit.

124. Information Access Systems. Exploration of new and established channels for providing information to the general public, including video, electronic publishing, data bases, information utilities, computer mail and bulletin boards, and conventional library operations. Each information technology studied on the basis of its history, economics, technical characteristics, relation to other media, and potential for social change.

140. Computer Programming for Library Operations and Services. Lecture, one hour; laboratory, three hours. Prior knowledge of computers, programming, or MARC is not required. Introduction to programming languages suitable for librarians, students of language and literature, and similar disciplines. Concepts of text manipulation, file handling, and storage management. Programs and examples emphasize processing of textual materials and bibliographic records (including Library of Congress MARC records). Practical experience with computers in processing such records.

Graduate Courses
Upper division undergraduate students must obtain consent of the instructor to enroll in 200-series courses and consent of the dean of the school to enroll in 400-series courses. Graduate students from other schools or departments who wish to take courses in the Graduate School of Library and Information Science must also obtain consent of the instructor prior to enrolling.

M202. Folklore Archiving. (Formerly numbered M202A-M202B.) (Same as Folklore M202.) Lecture, two hours; laboratory, two hours. Exploration and analysis of all types of folklore and folklife, oral history, and retrieval systems and procedures for folklore archival collections, supplemented by firsthand experience in creating and managing data bases, utilizing both manual and computerized techniques.

205. Bibliography of Science, Engineering, and Technology. Prerequisite: consent of instructor. Historical background and current situation, particularly in science and technology. Possibilities and present limitations of automation. Role in coordination of information services. Problems of standardization to achieve international coordination. Influence of changing needs.

221. Bibliography of Science, Engineering, and Technology. Prerequisites: courses 420, 421. Scientific and technical literature, with emphasis on special types of publications, research material, reference and bibliographical aids to the physical sciences. Importance, purpose, and nature of technical literature searches. Flow of information among scientists.

222. Bibliography of the Health and Life Sciences. Prerequisites: courses 420, 421. Literature of the medical and life sciences; sources and bibliographical aids; bibliographical and reference apparatus; bibliographic and nonbibliographic data bases, etc. Trends in scholarly and popular writing. Interdisciplinary nature of the literature.

224. Literature of the Humanities and Fine Arts. Prerequisites: courses 420, 421. Seminar on the literature of the humanities and fine arts, including a review of the classics in the various fields, comparisons of editions, bibliographies, catalogs, indexes, abstractions, bibliographic and nonbibliographic data bases, etc. Trends in scholarly and popular writing.

225. Latin American Research Resources. (Same as History M265 and Latin American Studies M265.) Seminar, three hours. General and specialized materials in fields concerned with Latin American studies. Library research techniques provide the experience and competency required for future bibliographic and research sophisticated as the basis for enhanced research results.

228. Legal Bibliography. An introduction to the source materials of the law, with emphasis on primary authority, but covering as well secondary authority and sources and finding aids which the lawyer and professional librarian can use to gain access to legal information.

253. Reading Interests of Children. Reading interest and a study of factors involved in reference to the growth and development of children. Emphasis on the role of the librarian in responding to the needs and abilities of children through individualized reading guidance.

260. Historical Bibliography. Early records and the manuscript period; history of the printed book and of periodical publications and newspapers, including materials, methods, and production. Parallel history of scholarship, the book trade, and book collecting in ancient, medieval, and modern Western civilization.

261. Analytical Bibliography. Recommended (but not prerequisite): course 260 or equivalent in background or experience. History and methods of analytical bibliography, with emphasis on recent scholarship. A seminar or independent study.

262. Seminar on Historical Bibliography. Prerequisite: course 260 or consent of instructor. Special studies in the history of books and publishing. Topics vary from quarter to quarter to allow emphasis on a particular historical period, technical issue, or specific aspect, such as a form of publication, genre, or material of production (e.g., paper or type). May be repeated for credit with consent of instructor.

271. Seminar on Intellectual Freedom (2 or 4 units). Prerequisite: consent of instructor. Investigative study of current issues and problems in intellectual freedom, human rights, and censorship. May be repeated for credit. A seminar or independent study.

272. Research Seminar in 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.

280. Information Seeking Behavior. Study of the 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 (2 units). Prerequisites: courses 420 and 421, or consent of instructor. Introduction to information resources and information retrieval services, relevant to the information needs of the business world. Encyclopedia, directories, textbooks, indexes, leaflet services, government publications, data bases, and other sources of business literature.

282. Records Management (2 units). Principles of records control from creation to disposition. Designed as an overview of records and information management to make students aware of the information processing problems of business and how a coordinated records and information management program can improve information access and utilization.

290. Research Methodology (2 or 4 units). Prerequisite: consent of instructor. Role of research in bibliography, librarianship, and information science. Identification and design of research problems. Historical, statistical, analytical, and descriptive techniques.

375. Teaching Apprenticeship Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the 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. The Information Professions. A historical and sociological study of the information professions and the functions of libraries and information centers in society. The unity of librarianship and information science, highlighted through discussions of computer applications to information storage and retrieval systems, natural language processing, and the automation of various library processes.

403. Fundamentals of Bibliography. The development and fundamentals of the several branches of bibliography: historical, physical (analytical or critical, descriptive, and evaluative), the use of the printed book in the organization, control, and elements of bibliographical apparatus. New techniques and tools, theory, methods, and trends in bibliographical research in relationship to librarianship.

405. Automation of Library Processes. Overview of major components of library automation: on-line catalogs, serials, acquisitions, and circulation systems, integrated systems, data conversion, library networks, and developments in new technologies such as local-area networks and optical disks. Emphasis on practical skills and field experience in library automation; liberal use of guest speakers currently involved in automation projects.


412. Cataloging and Classification of Nonbook Materials. Prerequisites: courses 410, 411. Problems in cataloging and classification of nonbook materials (e.g., films, maps, pictorial works, sound recordings) as separate collections and integrated collections.


414. Principles of Indexing and Abstracting (2 units). Basic professional techniques, concepts, and methods of indexing monographs, serials, and specialized materials, of preparing informative and indicative abstracts, and of analyzing secondary abstracting and indexing services as library reference tools.

420. Information Resources and Services. History, methods, and materials of information services. Types of information services and sources in different types of libraries and information centers. Evaluation of sources and services; standards for reference services; economic aspects of service. Sources include dictionaries, encyclopedias, bibliographical works, fact books, and atlases.

421. Information Resources and Services II. History, methods, and materials of information services. Types of information services and sources in different types of libraries and information centers. Evaluation of sources and services; standards for reference services; economic aspects of service. Sources include dictionaries, encyclopedias, bibliographical works, fact books, and atlases.


431. Special Problems in the Selection of Materials and Evaluation of Collections. Prerequisite: course 430. Subject and area collecting; special collections and rare books; building new collections. Evaluating and weeding collections. Cooperative collecting — regional, national, and international. Storage centers; subject specialization. Special format materials: films, maps, sound recordings, etc. Copying methods; facsimile reprinting; changing character of research collections.


433. Serials (2 units). Prerequisites: courses 410, 420. Examination of this form of publication, including problems of searching, receiving, cataloging, analysis, and corporate entry. Language barriers, automation, and standardization.

441. Management Issues in Libraries and Other Information Agencies. Prerequisite: consent of instructor. Principles of management, emphasizing management techniques applicable to libraries of various types and to library systems. Special attention to the management of human resources as well as to technical resources.

442. Library Personnel Administration. The basic principles of personnel management. Survey of current personnel practices in libraries; how the basic principles apply or need to be modified to fit the library setting.

443. Information Networks. Problems in the formulation, funding, and operation of information networks. A survey of some of the major networks, including institutional and computer systems.

448. Library Services and Literature for Youth. An overview of the literature and programs which are of interest to young people (grades 6 through 12 or above). Discussion of special problems in working with young people and the psychology of the teenager.

447. Library Space Planning (2 units). Introduction to space planning and programming techniques and how they apply to libraries. Emphasis on use of existing space, but planning new buildings included. Reading blueprints, use of scales, contracts, use of consultants.

446. Storytelling to Children and Adults, Oral Interpretation of Literature. Practical storytelling to children and adults in various situations, with emphasis on the folktales, and oral interpretation with emphasis on modern imaginative literature. Readings and discussion of the function of folklore and fantasy in literature, society, child development, and library programming. Students are required to choose, learn, and tell stories in class and in a library or community setting and to read stories aloud.

447. Seminar on Current Topics in Library Administration, Information Services, and Special Libraries. Prerequisite: course 446. Special studies in public librarianship, with strong emphasis on techniques and problems of public library administration. Topics, which vary to allow in-depth examination of current issues and individual selected concerns, emphasize those aspects of management which are distinctive of public libraries. Particular attention to funding and budgetary matters, the impact of new technologies, and the marketing of public library services.


471. Health and Life Sciences Libraries. Organization, administration, services, and problems of health and life sciences libraries; relationships with institutions of which they are a part and with the community. Several field trips.

472. Law Librarianship. An introduction to the profession of law librarianship; the organization of the professional associations and their activities; the characteristics and distribution of law libraries, throughout the United States; the distinctive characteristics of law library problems and their solutions.

473. Government Information. Introduction to the nature and scope of government information promulgated by the federal government, as well as by state, municipal, international, and foreign governments. Problem-oriented approach.


475. Issues and Problems in Preservation of Library Materials (2 units). Formerly numbered 487A. Provides information for administration of conservation programs and decision making in the preservation of library materials. Topics include history of paper production and book structure in relation to the present endangerment of library materials; past and current practices in library storage, retrieval, and use; environmental controls, housekeeping; binding, repair, and mending; paper, bookbinding, and hand binding; rare book curatorship; microfilming; cooperative conservation programs; conservation ethics; disaster preparedness and recovery.

476. Special Studies in Library and Information Science (2 to 4 units). Examination of special problems in library education, library science, and special library practice. Reading of specialized literature. Content of individual courses varies. May be repeated twice. S/U grading.

487C. Advanced Legal Bibliography. Examination of legal materials and research techniques not covered in course 226, including current and historical English legal materials, foreign and international law sources, administrative law materials, and special subject areas such as taxation, labor, securities, antitrust. Special emphasis on legislative history sources and research techniques and computer-assisted legal research. New legal research techniques and tools.

487D. Seminar on Current Issues in Librarianship. Prerequisite: consent of instructor. Identification, analysis, and discussion of critical issues currently facing the profession. May be repeated once.

487F. Special Studies in Children's Literature. A historical perspective that compares and contrasts aspects of children's literature in Britain and the United States.

489. Library Service to Special Population Groups. Prerequisite: consent of instructor. Special problems encountered by school, public, academic, special, and research libraries in meeting the needs of various groups in urban and rural settings. Library service to the aging, the physically handicapped, and the institutionalized population.

490. Professional Communication (2 units). Designed to increase librarians' sensitivity to language usage in an approved library or information organization. Diagnostic and syntactic options open to students for presenting proposals, reports, and research results and covering all aspects of professional communications: written, oral, and visual, including computer-generated. S/U grading.

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 organizational behavior, the organizational environment and on effective communication styles in decision making, managing conflict, and implementing change.

495. Training and Supervision of Teaching Assistants (2 units). Hours to be arranged (20 hours per quarter). Prerequisite: appointment as a teaching assistant or Extension Division instructor. Orientation, preparation, and supervision of graduate student workers, knowledge to be gained in the teaching of an undergraduate or Extension course. Syllabus revision and materials preparation. Classroom observation. S/U grading.

497. Fieldwork in Libraries or Information Organizations (4 or 8 units). Supervised field experience in an 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. UCLA Internship. Prerequisite: consent of instructor. Supervised professional training in one or more departments or units of the UCLA Library System or other University information centers. Minimum of 120 hours per quarter, including weekly critiques, bibliographical, administrative, and service problems. Emphasis on relationships with librarians and other staff and with users. Not more than 2 units. S/U grading.

499. Off-Campus Internship. Prerequisite: consent of instructor. Supervised professional training in a library or information center approved by the faculty of the school. Minimum of 120 hours per quarter, including weekly critiques and bibliographical, administrative, and service problems. May be repeated twice. S/U grading.

506. Directed Individual Study or Research (2 to 8 units). Prerequisite: consent of instructor. Directed study of the fields of bibliography, librarianship, and information science. Variable conference time depending on nature of study or complexity of research. S/U grading.


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 the UCLA Graduate School of Management (GSM), consistently ranked among the best in the nation, people prepare to become first-rate managers with 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 in the private, public, and not-for-profit sectors.

GSM's specific objectives, then, are to train professionals who have these qualities, to offer the business community a wide range of continuing education programs providing state-of-the-art information in a variety of fields, and to advance the art and science of management by engaging in, and educating scholars capable of conducting, basic research designed to study fundamental issues and implement a new knowledge.

Students come to GSM from a variety of professional and educational backgrounds; their career goals are as diverse as the business and nonprofit communities themselves. Whether they choose to pursue the professional M.B.A., the academic M.S., or a Ph.D. in Management, they will 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.
Graduate School of Management

3250 Graduate School of Management, (213) 825-7935

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Sushil Bikhchandani, M.B.A., Acting (Business Economics)
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Renae F. Broderick, Ph.D. (Human Resource Management and Industrial Relations)
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Kent Nakamoto, Ph.D. (Marketing)
I. P. L. Png, Ph.D. (Business Economics)
Eric B. Rasmussen, Ph.D. (Business Economics)
Yoon S. Suh, Ph.D., C.P.A. (Accounting-Information Systems)
Siu (Christopher) Tang, Ph.D. (Management Science)
Sheridan D. Titman, Ph.D. (Finance)
Brett M. Trueman, Ph.D. (Accounting-Information Systems; Finance)

Lecturer
Warren H. Schmidt, Ph.D., Emeritus Senior

Adjunct Professor
John B. Farrell, M.B.A., C.P.A.

Adjunct Associate Professors
Ichak Adizes, Ph.D.
Marvin M. May, Ph.D.

Adjunct Assistant Professors
Jason L. Frand, Ph.D.
Ernest J. Scalberg, Ph.D., Assistant Dean

Adjunct and Visiting Lecturers
Janis S. Forman, Ph.D., Adjunct, Management Communications Program Director
Gordon Klein, J.D., Visiting
Linda F. Newton, M.B.A., Adjunct, Management Field Studies Program Director
David Ravitch, M.A., Visiting
Edward V. Sedge, Ph.D., Visiting
Dennis Sinclair, Ph.D., Visiting
Victor C. Tabbous, Ph.D., Adjunct, Associate Dean

The UCLA Graduate School of Management 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. A Ph.D. in Management is also offered, as are a certificate Executive Program and research conferences and seminars for experienced managers. For information about these programs, call 825-7935.
The school does not offer an undergraduate major in management; however, several undergraduate courses in management are offered. Enrollment in Management 120, 122, 124, 130, 133, and 140 is open only to students in the Economics/Business program (see Chapter 5 for details on this program). Enrollment in other courses, although open to all University students who have completed the prerequisites, is limited, and non-GSM students are advised not to count on gaining admission to them in order to meet the requirements of other departments or programs.

**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. A part-time version of the program is available for a limited number of fully employed students, who must be able to attend classes scheduled between the hours of 4 and 10 p.m. at least two days a week. 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 elementary algebra and differential calculus before entering the M.B.A. program. You are required to take the Graduate Management Admission Test (GMAT). Any questions about the GMAT should be addressed to the Educational Testing Service, Box 966, Princeton, NJ 08541, (609) 883-8519 (the local phone number in Los Angeles is 254-5236).

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, which includes the application for admission to graduate standing. Admission is for the Fall Quarter only; completed applications, with full documentation, must be filed with GSM by March 14. Applicants for the arts management program must specify their wish to be considered for admission in that field.

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 degrees. 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 from July through mid-March on an appointment basis. Call 825-8874 to arrange attendance.

Applications and information about the M.B.A. program are available in the M.B.A. Program Office, 3371 Graduate School of Management, UCLA, Los Angeles, CA 90024.

**Areas of Study**

Accounting/information systems; behavioral and organizational science; business economics; computers and information systems; finance; human resource management and industrial relations; management science; marketing; organization and strategic studies; production and operations management; urban land economics. Interdisciplinary programs are offered in arts management, international and comparative management, and public/not-for-profit management. Programs in entrepreneurship and entertainment management are also available.

**Course Requirements**

The four required elements of the M.B.A. program are the nucleus, the management core, the area electives, and free electives, totaling at least 24 courses (96 units). The nucleus develops professional problem-solving and decision-making skills through experiences ranging from laboratory simulations to consulting projects in ongoing organizations. Management core subjects cover the fundamentals of disciplines which underlie the practice of management. The area of study (area electives) provides specialized knowledge and skills for a particular field of management work. Free electives permit students to pursue additional subjects of personal interest.

**Nucleus:** The nucleus consists of five required courses that develops those interpersonal and decision-making skills essential to the practice of management. The first-year nucleus course (Management 440) utilizes experiential teaching methods to guide students in defining problem-solving skills from a personal perspective.

The second-year portion of the nucleus consists of a two-quarter management field study project in which teams of four or five students serve as management consultants to business firms or other organizations. Conclusions are summarized in a report which serves in lieu of a thesis or comprehensive final examination for the members of the team. The field study is judged by standards applicable to professional management consulting.

**Management Core:** The management core consists of 10 courses on subjects basic to the practice of management. It is divided into three parts: five courses in management, including Management 402, 403, plus three courses from 404, 405, 406, 407; three courses in functional fields selected from 408, 409, 410, 411; and two courses in management processes (Management 412, 420).

**Area Electives:** These focus on one or more fields of specialization within the broad realm of management. Students design programs of study to meet their specific academic needs and professional goals. Eight area electives are required, and you are encouraged to emphasize two or more areas of study.

**Free Electives:** You must select at least three 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 may be applied toward the 96-unit requirement.

**Extracurricular Activities**

A variety of student organizations promote 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 GSM, and all students are encouraged to participate.

**Concurrent Degree Programs**

**J.D./M.B.A.**

The 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.S.-Computer Science/M.B.A.
The Graduate School of Management and the Department of Computer Science in the School of Engineering and Applied Science offer a concurrent degree program which enables students to complete requirements for the M.S. in Computer Science and the M.B.A. in three academic years. Students should request all application materials from the M.B.A. Admissions Office, Graduate School of Management.

M.L.S./M.B.A.
A concurrent degree program jointly sponsored by the Graduate School of Management and the Graduate School of Library and Information Science, 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 all application materials from the M.B.A. Admissions Office, Graduate School of Management.

M.P.H./M.B.A.
The Graduate School of Management and the School of Public Health, Division of Health Services, offer a three-year concurrent degree program designed for students who desire a management career in health care and related fields and who wish in-depth professional preparation for such a career. The program reflects the combined interest of employers, faculty, and students who have recognized the increasing challenges facing managers in the health care industry and the need for individuals who are skilled in dealing with these challenges. Students should request all application materials from the M.B.A. Admissions Office, Graduate School of Management.

M.A.-Latin American Studies/ M.B.A.
The 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.

The Graduate School of Management and the Graduate School of Architecture and Urban Planning 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 should request all application materials from the M.B.A. Admissions Office, Graduate School of Management.

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 is limited to 50 participants with superior academic records and a minimum of eight years of combined work and managerial experience.

The intensive 22-month 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 GSM on alternating Fridays and Saturdays, with three- to five-day residential sessions held at conference sites at the beginning, middle, and end of the program. Further information and application materials may be obtained by writing to the Assistant Dean, Executive M.B.A. Program, 4383 Graduate School of Management, UCLA, Los Angeles, CA 90024.

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 Doctoral Office, 3379 Graduate School of Management, UCLA, Los Angeles, CA 90024.

Applications are accepted for Fall Quarter admission only; the deadline for submission of applications and complete documentation is January 31.

Program information and application materials may be obtained from the Doctoral Office.

All applicants to the M.S. or Ph.D. program are strongly urged to arrange an interview with at least one faculty member of their proposed area of concentration or major field area. The interview should take place before February 1.

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 Fields or Specializations
Business economics, management science, and specialized skills in the two professional fields. Students should request all application materials from the M.B.A. Admissions Office, Graduate School of Management.

Course Requirements
Business Economics: A maximum of 16 courses may be required. It is possible to waive the seven prerequisite courses on the basis of prior coursework. Nine graduate courses (the required and elective major field courses plus four units of Management 598) are required and cannot be waived.


Management Science: A maximum of 16 courses may be required. The four prerequisite courses and three managerial 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, 152A-152B, and two quarters of computer programming.

2. Managerial Core (three courses): Management 403, 405, 408.
(3) Methodological Core (five courses; deviations may be approved by the chair of the management science academic unit): Management M203A, 210A, 210B, 210C, 216A.

(4) Depth Field: Three courses which support your thesis research.

(5) Master’s Thesis (one course): Four units of Management 598.

Four units of course 596 may be applied toward the minimum graduate course requirement.

**Thesis Plan**

A thesis is required for the Master of Science degree. Students generally establish a thesis committee during their fifth quarter. Plans for the thesis should be presented to the committee for approval at the beginning of the sixth quarter.

**Ph.D. Degree**

The doctoral program is a research-oriented degree program which leads to the Ph.D. in Management. The program includes intensive training in research methods applicable to problems of organizations in the public and private sectors. It prepares students for careers in university teaching and research or as staff specialists in business firms and other organizations. The program offers students substantial opportunities to discover their own, unique scholarly focus and competence.

**Major Fields**

Accounting/information systems; behavioral and organizational science; business economics; computers and information systems; finance; human resources management and industrial relations; international and comparative management; management science; marketing; organization and strategic studies; production and operations management; urban land economics.

**Course Requirements**

The research preparation requirement consists of two parts: (1) a course requirement and (2) a research paper. You are required to take five research courses which are not part of the major field area. These courses must be completed before taking the oral qualifying examination and may not be waived by prior graduate work. The research paper must be submitted to and accepted by the research paper committee no later than the Spring Quarter of your third year of study.

The breadth requirement consists of eight courses which are clearly outside your major field area. You should use these courses to become more knowledgeable about the basic elements of several other management disciplines and functional areas or to define a minor field or research and teaching proficiency. Three of these courses may be waived by prior coursework. They must be completed before taking the oral qualifying examination. There is no formal major field course requirement. Students, in consultation with a major field adviser, design a course of study which prepares them to pass the major field examination.

**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 the 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.

**Final Oral Examination**

The school requires that students take a final oral examination; this requirement may be waived only under exceptional circumstances.

**Lower Division Courses**

1A-1B. Elementary Accounting. Prerequisite: sophomore standing; Course 1A is prerequisite to 1B. An introduction to accounting theory and practice. The recording, analyzing, and summarizing procedures used in preparing balance sheets and income statements in the first quarter. Payroll and tax accounting, partnership and corporation accounts, manufacturing and cost accounting, and supplementary statements in the second quarter.


120. Intermediate Accounting. Prerequisites: courses 1A-1B or consent of instructor. The preparation of the principal accounting statements. Recording, valuation, and presentation of cash, temporary investments, receivables, inventories, investments, plant and equipment, intangibles, current obligations, long-term debt, paid-in capital, and retained earnings. Statement analysis. Statement of application of funds.

122. Cost Accounting. Prerequisites: course 1B, Economics 40, or equivalent. The nature, objectives, and procedures of cost accounting and control; job costing and process costing; accounting for manufacturing overhead; cost budgeting; cost reports; joint-product costing; factory overhead; standard costs; differential cost analysis; profit-volume relationships and break-even analysis.

124. Advanced Accounting. Prerequisite: course 122. Partnerships and joint ventures; installment sales and consignment sales; home office and branch relationships; corporate group analysis and policy; the preparation of consolidated statements; foreign branches and subsidiaries; receiverships; estates and trusts; governmental units; actuarial science.

130. Business Finance. Lecture, three hours; discussion, one hour. Prerequisites: course 120, Economics 40, or equivalent. A study of the forms and sources of financing business firms large and small, corporate and noncorporate. Emphasis on financial planning and development including decisions on financial problems. Financial problems considered in their social, legal, and economic effects.

133. Investment Principles and Policies. Prerequisites: course 120, Economics 40, or equivalent. An introduction to the theory of investment and policy; salient characteristics of governmental and corporate securities; policies of investment companies and investing institutions; relation of investment policy to money markets and business fluctuations; security price-making forces; construction of personal investment programs.

140. Elements of Production and Operations Research. Prerequisites: Mathematics 3A, 3B, 3C, 3E, Economics 40, or equivalent. Principles and decision analysis related to the effective utilization of the factors of production in manufacturing and nonmanufacturing activities. Analytical models and methods for allocation, transportation, inventories, replacement, scheduling, and facilities design.

150. Elements of Industrial Relations. Principles and methods of effectively utilizing human resources in organizations. The relationship between social, economic, and other environmental factors and current problems in industrial relations.

175. Elements of Real Estate and Urban Land Economics. An examination of the modern decision making as related to logical forces shaping cities and influencing real estate market functions and land uses. Emphasis on decision 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 process, including group leadership. Lectures and "sensitivity training" laboratory.

190. Management Theory and Policy. Prerequisite: course 130. A study of the basic concepts and theory of management. Emphasis on an operational analysis of the manager’s role in all types of organizations. Management issues in the areas of planning, organizing, staffing, directing, and controlling.

197. Special Topics In Management. Topics of special interest to undergraduate students. Specific subjects may vary each quarter 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.
200A. Techniques of Business Economics Analysis: Marginalist Models. Seminar, three hours. Prerequisite: consent of instructor. Contem- porary business economic principles of resource allocation and the price system. Classical optimization and comparative static techniques, applied to the models of consumer choice and firm and general production–exchange equilibrium models. Mr. Osborne

200B. Techniques of Business Economic Analysis: Econometrics. Prerequisite: consent of instructor. Standard topics in applied econometric modeling. The foundations of understanding the classical linear regression model, special problems in application, and interpretation of results. Practical applications extensively developed in student projects. Mr. Kimbell


201B. Industry Forecasting. Prerequisite: course 201A. Evaluation of various methodologies found useful in preparing industry forecasts; differences between short- and long-range forecasting techniques, etc.

201C. Regional Economic Forecasting. Prerequisite: course 201A. Forecasting of economic activity in a region, emphasizing special problems such as population and industry migration; the effects of external forces on the regional economy.

201D. Economic Policy and Business Environment. Prerequisite: consent of instructor. Analysis of economic policies shaping the business policy: stabilizing policy instruments; structural policies for efficiency and progress; policy needs for the future. Policy formation and administration, as well as design.

202A. Economic Theories of Business Behavior: Marginal, Managerial, and Behavioral. Prerequisite: course 200A. The economic behavior of the firm and firm groups. Theories extending from those which retain marginal analysis to treat alternative corporate objectives to those viewing the firm as an adaptive-satisficing organism and cognitive and information processing capabilities.

202B. Principles of Industrial Organization. Discussion, three hours. Prerequisite: course 405. Application of the principles of microeconomics to actual firms; sources and uses of federal, state, and local incentives; structural strategies for success. Topics include horizontal and vertical integration, mergers, the role of advertising, and price discrimination.

203A. Economics of Decision. (Same as Economics M203A.) Prerequisites: courses 405 or consent of instructor. Conventional economic theory, calculus, probability, and statistics. Norms and facts of decision making in the household, business, and government. Consistent behavior in terms of personal utilities and probabilities. Multiatribute value theory. Departures from consistency: descriptive theories of behavior and resulting models. Mr. Erlenkotter, Mr. Sarin

203B. Economics of Information. (Same as Economics M203B.) Discussion, three hours. Prerequisites: courses 405 or consent of instructor. Optimal decision and information rules. Risk aversion, stochastic dominance, and their impact on economic decisions in a stochastic environment. Mr. Lippman

203C. Economics of Organization. (Same as Economics M203C.) Prerequisites: courses M203A, M203B. Rational models of teams. Relation to the theory of games.

205A. International Business Economics. Prerequisites: courses 405 and 406, or consent of instructor. The international business environment, international economic institutions, national and regional trade policies and developments, trends in foreign markets, international monetary problems studied for their influence on the organization and operation of the international corporation. Mr. Mason, Mr. Mitchell

205B. Comparative Market Structure and Competition. Prerequisite: course 205A or consent of instructor. Basic issues of competition and the role of competition in the market structure, market competition, and competitiveness in key industries in selected countries.

205C. Business Forecasting for Foreign Economies. Prerequisite: course 201A or consent of instructor. Business forecasting for foreign economies, countries, industry structure, productivity, Gross National Product and its components for selected countries.


207A. Resource Administration of Nonmarket Activities. Seminar, three hours. Prerequisite: course 405 or consent of instructor. Examination of the behavior of managers in the profit vs. not-for-profit sector to determine the critical variables that explain the observed differences in behavior. Use of the methodology of microeconomics, particularly utility maximization. Mr. Granfield

207B. Public Services and Private Functions. Prerequisites: courses 405 and 406, or consent of instructor. Analysis of the role of public and private resource allocation. Estimation of the proper roles of government and the private sector in the financing and provision of public goods and services.

208. 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. Prerequisite: linear algebra. A comprehensive development of the theory and computational methods of linear programming, with applications to business and related disciplinary areas. Mr. Gravens

210B. Applied Stochastic Processes. Discussion, three hours. Prerequisite: Mathematics 150A or Electrical Engineering 131A. Fundamentals of stochastic processes, including Poisson processes, renewal theory, and Markov chains. Sequential stochastic (usually Markovian) decision processes in discrete and continuous time. Emphasis on problem formulation and the characterization and computations of optimal policies, often via dynamic programming and applications to inventory, queuing, maintenance, reliability, and replacement problems. Mr. Lippman, Mr. Mamer

210C. Network Flows and Integer Programming. Prerequisite: course 210A. Theory and techniques of discrete and network-related mathematical programs in management science. Application to problems such as product allocation, coordination, operating, and planning problems. Emphasis on fundamental optimization methods, and the keys to successful practical applications. Mr. Geofrion, Mr. Graves

211A. Nonlinear Mathematical Programming. Prerequisites: course 210A, Mathematics 22A, or equivalent. Theory, methods, and application of the optimization of nonlinear systems. Review of classical optimization methods; optimality and duality theory; 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 convex, dynamic, multidimensional, and stochastic aspects to obtain practical solution procedures in spite of large numbers of variables and constraints. Mr. Geofrion, Mr. Graves

212A. Management Science Models I. Prerequisites: courses 210A, Mathematics 22A. A broad survey of nonlinear, time-staged, and probabilistic models for managerial decision making. Application areas include finance, marketing, project management, production, facilities design, and energy systems.

212B. Management Science Models II. Prerequisites: courses 212A, Mathematics 32A, or equivalent. A broad survey of nonlinear, time-staged, and probabilistic models for managerial decision making. Application areas include finance, marketing, project management, 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. An introduction to probability theory and hypothesis testing as applied to management science. Emphasis on the SAS programming language. Mr. Mamer

213B. Statistical Methods in Management. Prerequisite: course 213A or consent of instructor. An introduction to parameter and interval estimation, simple and multiple linear regression and correlation, analysis of variance, random, and mixed effects analysis of variance models, and nonparametric statistics, all as they apply to management studies. Mr. Cooper, Mr. Hendersen

213C. Introduction to Multivariate Analysis. Prerequisite: course 213B or consent of instructor. An introduction to the use of multivariate models in management research to organize and represent information; interpretation of coefficients from multivariate exploratory models (e.g., principal axes and factor analysis models); a survey of multivariate statistical procedures (e.g., multiple discriminant analysis, multivariate analysis of variance, canonical correlation, and confirmatory factor analysis). Mr. Cooper, Mr. Hendersen

214B. Behavioral Science Models. Prerequisite: consent of instructor. Formulation, analysis, and interpretation of mathematical models in the 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.

Mr. MacQueen
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. Numerical computer applications of modeling and forecasting. 

Mr. Hanssens

215E. Statistical Design of Surveys. Prerequisite: course 213B or equivalent. Mathematical theory and practices of statistical survey design and analysis.

216A. Simulation of Operational Systems. Discussion, through laboratory. Prerequisite: background in FORTRAN, PL/I, PL/C, or other batch computer 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 marketing situations. 

Mr. Nelson

216B. Advanced Computer Simulation. Prerequisite: course 215A. Advanced use of computer simulation techniques. Major term projects undertaken, either singly or in groups, with the object of developing in students the ability to accomplish all phases of the design and execution of computer simulation projects.

Mr. Nelson

217A. Statistical Decision Theory. Prerequisite: course 213A or equivalent. Relationships among statistical decision theory, game theory, and classical statistical inference. Concepts of randomization, conditional analysis and dynamic decision processes; axiomatic foundations, Bayes' and minimax solutions, applications.

Mr. MacQueen

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 decision and group decision making.

Mr. MacQueen

218A. Selected Topics in Management Science (1 to 4 units). Prerequisite: consent of instructor. Newly developing topics and viewpoints. Topics have included financial forecasting methods, linear programming, and Markovian decision processes under uncertainty. May be repeated for credit.

218C. Selected Topics in Business Statistics (1 to 4 units). Prerequisite: consent of instructor. Special topics in statistical methods. Current developments in statistical theory and practice. Analysis of recent literature. Topics and instructors announced in advance. May be repeated for credit.

218D. Current Problems in Management Science (1 to 4 units). Current research on a variety of topics in the general area of management science, presented by invited University and outside speakers. May be repeated for credit.

218X-218Y-218Z. Current Issues in Management Science (1 to 4 units each). Current issues and research on a variety of topics in the general area of management science. May be repeated for credit.

220A. Intermediate Financial Accounting I. Prerequisite: course 204 or consent of instructor. The first of a two-course sequence that deals with the concepts and principles of financial accounting, with emphasis on the pronouncements of the Financial Accounting Standards Board, the Securities and Exchange Commission, and other authorities.

Ms. Hughes, Mr. Miller

220B. Intermediate Financial Accounting II. Prerequisite: course 220A or consent of instructor. The second of a two-course sequence that deals with the concepts and principles of financial accounting, with emphasis on the pronouncements of the Financial Accounting Standards Board, the Securities and Exchange Commission, and other authorities.

Ms. Hughes, Mr. Miller

220C. Advanced Financial Accounting. Prerequisite: course 220B or consent of instructor. A repetition of course 220B, with emphasis on a range of topics, including accounting for partnerships, mergers, combinations, and parent-subsidiary relationships. Review of litigation procedures, including reorganizations, receiverships, and bankruptcies.

Mr. Miller

221. Current Issues in Accounting Information Systems. Prerequisite: consent of instructor. A forum for the discussion of contemporary issues in accounting and information systems. Assignments in current and technological practices of computing and the management use of EDP systems. Course may have a single theme or may deal with a number of topics. May be repeated for credit.

222. Cost Accounting. Prerequisite: course 403. The nature, objectives, and procedure of cost accounting and control; job costing and process costing; joint product costing, standard costs; theories of definition, evaluation, installation, and accounting of data for management decision making.

Ms. Matsumura, Mr. Miller


Mr. Miller

224A. Computer Systems. Discussion, three hours. Prerequisites: courses 225A and either 413A or 413B, or consent of instructor. The specification and configuration of computer-based systems for management applications. Methods for costing system hardware and software. Comparison of computer performance. Trade-off analysis of comparative computer configurations. Use of case materials and/or actual examples.

Mr. Frank, Mr. Lintz

224B. Management of Computer-Based Information Systems. Discussion, three hours. Prerequisites: courses 224A and 224C, or consent of instructor. In-depth coverage of the problems in managing computer-based information systems. Focus on the definition, evaluation, installation, and continuing management of EDP systems. Issues of planning and control, as well as the organizational impact of computer systems.

Mr. McLean

224C. Systems Analysis for Computer-Based Information Systems. Discussion, three hours. Prerequisite: course 224A or consent of instructor. The detailed design and specification of computer-based management information systems, including studies of existing systems; economic and organizational analyses of alternatives, and tools for determining user requirements. Use of case materials and/or actual examples.

Mr. Sprowis

224D. Generalized Data Base Management Systems. Discussion, three hours. Prerequisite or corequisite: course 224C or consent of instructor. The features and capabilities of generalized data base management systems, including system classification, comparison of software features, and evaluation of specific systems. Emphasis on management and use of such systems. A field study project may be required.

Mr. Sprowis

224E. Computer Simulation for Management. Discussion, three hours. Prerequisite: course 413A or consent of instructor. Introduction to computer simulation and to general purpose simulation languages (e.g., GPSS, SIMSCRIPT, DYNAMO). Emphasis on the managerial use of simulation and the development of computer-based models for problem solving and policy analysis. Programming assignments.

Mr. Sprowis


Mr. Lintz

224G. Special Topics in Computing. Prerequisite: consent of instructor. An examination in depth of problems or issues of current concern in information systems. May be repeated for credit.

Mr. Greenberger, Mr. McDonough


Mr. Swanson

225D. Special Topics in Information Systems. Prerequisite: courses 225A and either 413A or 413B, or consent of instructor. Advanced study of various problems in information systems, including topics such as data in a transaction processing environment, computer system selection, and management of EDP systems. Issues of examination and information systems, from the standpoint of mathematical, economic, behavioral, and organizational considerations.

Mr. Swanson

226. International Accounting. Prerequisite: graduate standing. Comparative analysis of accounting concepts and practices in other countries. Study of contrasts between various systems; problems of accounting for international corporations, including transfers of funds and income measurement; accounting influences on economic development.

Mr. Farrell

227A. Tax Accounting. Prerequisite: course 403. A study of the fundamentals of income taxation, with emphasis on problems in federal and state income, franchise, gift, and estate taxes; study of source materials and research methods for ascertaining current rulings and trends in laws and regulations.


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 decisions, bankruptcy prediction, and interpreting earnings.

Mr. Landsman
229A. Accounting Theory. Prerequisite: course 220B. A survey of accounting literature, with emphasis on the development of basic accounting concepts. Contemporary practice as it has evolved in accordance with basic theory and expanding demands for accounting information. Mr. Farrell

229B. Research Methodology in Accounting. Prerequisite: course 229A or consent of instructor. Design of empirical and theoretical research in accounting. Sources of research problems. Research conduct and methodology in accounting and other fields and their relation to accounting. Mr. Lerner

229C. Special Topics in Accounting. Prerequisite: doctoral standing or consent of instructor. An examination with emphasis on recent topics of interest to advanced Ph.D. candidates and academic staff or distinguished visiting faculty. May be repeated for credit. Mr. Trueman

232A-232Y. Accounting and Information Systems Workshop (sector: Financial Policy). Discussion, two hours. Prerequisite: doctoral standing. Designed to develop an ability to critically evaluate research in relevant fields to the study of accounting. Papers are presented in a colloquium format by leading accounting and related researchers. Application to fundamental issues in corporate financial management (such as capital budgeting, capital structure, and dividend policy). Mr. Copeland, Mr. Grinblatt, Mr. Timman

230. Theory of Finance. Prerequisite: course 408. Decision making under uncertainty, the theory of asset prices, and the efficiency of capital markets. Development of the most recent theoretical constructs and their relevance to accounting. Mr. Grinblatt

231A. Profit Sector Financial Policy. Prerequisite: course 230. Identification and solving financial problems through use of the cases. Application of financial theory and financial techniques to business problems, using written reports and classroom discussion. Mr. May, Mr. Timman, Mr. Weston

231B. Nonprofit Sector Financial Policy. Discussion, three hours. Prerequisite: course 408. Identifying and solving financial problems for all types of nonprofit organizations, with attention to funds accounting, budgeting and control, investment decision making (including capital budgeting) and dividend policy. Mr. Copeland, Mr. Grinblatt, Mr. Timman

231C. Working Capital Management. Lecture, three hours. Prerequisite: course 230. More detailed advanced coverage of the short-range problems of working capital management. Mr. Eiteman

233A. Money and Capital Markets. Prerequisite: course 230. Application of interest theory and flow fund analysis to the price determination process in the markets for bonds, mortgages, stocks, and other financial instruments. Study of funds flow from credit markets. Analysis of costs of capital in individual industries and applications of capital markets to financial problems of individual firms. Mr. Hall

233B. Financial Institutions. Prerequisites: courses 230, 233A. Study of the financial policies and practices of commercial banks, savings and loan associations, pension funds, insurance companies, and other financial institutions. Review of current major problems facing senior managers of these financial institutions. Mr. Andersen, Mr. Masulis, Mr. Roll

233C. Speculative Markets. Prerequisite: course 230. Study of the theory and evidence of capital market efficiency, including the stock market, the bond market, commodity future markets, the options market, money markets, and foreign exchange markets. Mr. Copeland, Mr. Hbrahim

234A. Multinational Business Finance. Lecture, three hours. Prerequisites: course 408 and either 205A or 230. Financial problems in the management of multinational businesses. The international nature and financial techniques for the daily operation of a multinational firm. Theory of multinational corporate risk, decision making when market valuation cannot be used as a criterion, and sources of funds for nonprofit organizations. Mr. Copeland, Mr. Magder

234B. Advanced Studies in International Finance. Prerequisites: courses 230, 234A. Study of current and important issues of international financial management. Major focus on the interrelation of advanced financial market concepts and their implications for the business firm in its international financial management decisions.

235A. Problems in Insurance Management. Discussion, three hours. Prerequisite: consent of instructor. Advanced consideration of the problems of insurance management. The actuarial, underwriting, investment, marketing, and regulatory problems related to insurance activities. Mr. Hofflander

235B. Risk and Risk Bearing. Lecture, three hours. Prerequisite: consent of instructor. Advanced consideration of the theory of risk and risk bearing. The analysis of alternative ways of meeting risk and uncertainty, the scope and limits of insurance, and the economics of insurance. Mr. Sarin

238. Special Topics in Finance. Prerequisites: course 230, consent of instructor. Intended for master's students. Selected topics in finance theory, empirical studies, and financial policy. May be repeated for credit with instructor change.

239A. Theory of Investment under Uncertainty. Prerequisites: course 230, consent of instructor. Foundations of the theory of exchange developed as an introduction to theoretical literature on the pricing of capital assets. Primarily intended for Ph.D. students, but well-prepared master's students may find the 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 decisions, with special attention to questions of exchange and allocative efficiency. Primarily intended for Ph.D. students, but well-prepared master's students may find the course useful in their career preparation.

239C. Empirical Research in Finance. Prerequisites: course 230, training in econometrics, consent of instructor. In-depth study of empirical research in the field of finance with emphasis on statistical techniques, capital asset pricing, and option pricing. Primarily intended for Ph.D. students, but well-prepared master's students may find the course useful in their career preparation. Mr. Roll

239D. Seminar in Finance. Prerequisite: course 230, courses in the 239 series. Intended for Ph.D. students. Advanced topics in finance theory and empirical research. May be repeated for credit with instructor change.


240A. Aggregate Planning and Work Force Scheduling. Prerequisite: course 239. Managerial methods for short-term capacity planning and scheduling in aggregate terms. Theoretical models and management practices in manufacturing and service operations. Model formulation that allocates use of resources and plans for the short-run, with emphasis on system variables, backordering shortages, and outside capacity. Mr. Sarin

240B. Scheduling and Control of Operations. Prerequisites: courses 407 and 410, or consent of instructor. Scheduling and control of operations: Theory, methods, models for short-term and long-term scheduling and control of productive (production or service) operations. Identification of objectives and performance criteria for evaluating scheduling and control procedures. Classification of production and service systems. Management methods for short-term capacity planning and scheduling in aggregate terms. Theoretical models and management practices in manufacturing and service operations. Model formulation that allocates use of resources and plans for the short-run, with emphasis on system variables, backordering shortages, and outside capacity. Mr. Sarin

241. Technological Bases of Jobs and Organizations. Prerequisite: consent of instructor. Technological determinants of operating systems and jobs; productive system design models; behavioral models underlying operating system design, technology, and social system design; operating systems variability, control, and measurement.

242A. Planning for Facilities Systems. Prerequisite: course 212A or equivalent. Planning of location, expansion, and replacement for interdependent systems (e.g., facilities, plant layout and design, control systems, and economic considerations). Applications in selected industries and public systems. Mr. Erlenkotter

243A. Project Management. Prerequisite: course 407 or equivalent. Management of development projects. Analysis and design of project management systems, network analysis, scheduling, and control of development projects. Sequential and aggregate development decisions.

243B. Inventory Theory. Prerequisite: course 210B or consent of instructor. General discussion of inventory and related systems, with emphasis on the form of optimal policies and efficient computational methods. Consideration of deterministic, stochastic, discrete-time, constrained-based models.

243C. Scheduling Models for Interim Systems. Prerequisite: course 407. Scheduling models and results for single machine, flow shop, job shop, and resource-constrained project networks. Approaches include classical models, recent heuristic approaches, current research in coordinated integration of computer models, and man-machine interaction.

244. Operations Strategy and Policy. Discussion, three hours. Prerequisite: second-year graduate standing. Definition and scope of operations strategies, short-range and long-range and its relation to corporate strategy, importance of productivity and its amplification in global competition, positioning the system to match market requirements, capacity decisions, product and process technology, the work force and job design, strategic implications of coordination and service, suppliers and vertical integration. Case analyses involving strategic issues in manufacturing and nonmanufacturing situations.

245A. Special Topics in Operations Management. Studies of advanced subjects of current interest in operational management. Emphasis on recent developments and the application of specialized knowledge to operational problems. Topics vary each quarter. May be repeated for credit with approval of the instructor.

245B-245C. Survey of Operations Management. Prerequisite: graduate standing. Survey of the research literature in operations management. Seminar reports dealing with special topics.

245X-245Y. Production and Operations Management. Emphasis on recent developments. Topics vary each quarter. May be repeated for credit with topic change.

246A. Strategy/Policy Analysis and Formulation in the Public and Private Nonprofit Sectors. Prerequisite: completion of the management analysis requirement for the M.B.A. program. Application of several techniques for strategy/policy analysis and formulation. Specific topics include forecasting/scenario writing, multiple objective decision making, cost analysis, benefit analysis, value chain analysis, and limitations of methodologies examined and concepts illustrated through current applications and case studies. Mr. Zumeta

246B. Budgeting and Resource Allocations in the Public and Private Nonprofit Sectors. Prerequisite: courses 403 and 408, or consent of instructor. Resource allocation objectives/techniques used in federal, state, and local government. Budget analyzed as a planning device, vehicle for allocating demands, limiting/controlling mechanism, crucial for political choice. Provides some insight into staff functions performed by those responsible for resource allocation.

246C. Strategy/Policy Implementation in the Public and Private Nonprofit Sectors. Prerequisites: courses 246A and 246B, or consent of instructor. Problems, tactics, techniques for implementing strategies/policies within the organizational context. Relation of public interest needs for accountability and responsibility to the organizational/managerial needs for security and advancement. Consideration of entrepreneurship, personnel management, consulting.

247A. Interorganizational Strategies in the Public/Not-for-Profit Sector. Prerequisite: consent of instructor. Studies of advanced subjects of current interest in public/not-for-profit management. Emphasis on recent developments and the application of specialized knowledge to public/not-for-profit problems. Topics vary each quarter. May be repeated for credit with topic change.

250A. Labor Relations: Process and Law. (Formerly numbered 251.) Lecture, three hours. Prerequisite: graduate standing. Consideration, at an advanced level, of the collective bargaining process, labor-management agreement, the administration of the contract, the law of labor-management relations, union structure and goals, and the influence of external labor markets on labor relations. Mr. Fogel, Mr. Jacoby, Mr. Mitchell

250B. Human Resource Management: Process and Law. (Formerly numbered 252.) Lecture, three hours. Prerequisite: course 250A. A systematic exposure to the theoretical literature concerning the administrative and legal aspects of human resource management. Topics include the processes of managing human resources and the impact of governmental policies on employer-employee relations.

250C. Behavioral Foundations of Human Resource Management. (Formerly numbered 250B.) Lecture, three hours. Prerequisite: course 250B or consent of instructor. Topics include development and training; human resources accounting; behavioral foundations of participating management; motivation, productivity, and satisfaction; designing reward systems; and evaluation of organization effectiveness. Emphasis on understanding, predicting, and influencing human behavior in organizations.

Mr. Flamholtz, Mr. Massarak

251. Managing Human Resources. (Formerly numbered 250A.) Lecture, three hours. The management of people in organizations, intended for managers as well as personnel specialists. Organized at three levels but distinct levels of analysis: (1) the day-to-day utilization of people as organizational resources to achieve optimal productivity, satisfaction, retention, and development; (2) the personnel management function or system that performs specific human resources functions; and (3) the issues facing top management which involve the management of human resources, including strategic planning for human resources, union-management relations, and design of corporate culture.

Mr. Flamholtz

252. Systems of Employee-Management Participation. (Formerly numbered 250C.) Lecture, three hours. Prerequisite: consent of instructor. Designed to provide understanding of systems of employee-management participation that work outside traditional collective bargaining systems. Specific concepts such as worker participation in decision making, industrial democracy, joint consultation, worker councils, and profit sharing. Mr. Kieger

253. Conflict Resolution in Labor-Management Relations. (Formerly numbered 253B.) Lecture. Three hours. Prerequisite: graduate standing. Analysis of conflict in the employment relationship; theoretical and empirical findings. Principles and philosophies that underlie resolution of labor-management impasses, with emphasis on grievance procedures, arbitration, mediation, and fact-finding.

Mr. Fogel

254. Analysis of Labor Markets. Prerequisite: consent of instructor. Problems of verifying hypotheses concerning labor market behavior and the application of data to managerial problems. Problems of operationally defining labor market concepts. Critical evaluation of available labor market data. Case studies applying these data to managerial problems.

Mr. Jacoby, Mr. Mitchell

255. Comparative Industrial Relations. Prerequisite: course 409 or elementary knowledge of labor economics. At national and international levels, historical and current analysis of individual, local, and national labor-management systems, and the nature and role of the labor-management systems in their political, social, and economic environments. The institutions, philosophies, and ideologies of labor, management, and government, and the interaction of their power relationships; the substance and manner of determination of "false labor relations" and the obligations of the parties; and the resolution of conflicts.

Mr. Hutchinson

256. Seminar in Human Resource Management and Industrial Relations. Discussion, three hours. Prerequisites: courses 250A, 250B, 250C. Capstone seminar for students interested in human resource management and industrial relations. Visiting lecturers emphasize recent developments in the field; students prepare seminar papers.

Ms. Broderick

257. Labor-Management Relations in Public and Nonprofit Sectors. Prerequisite: graduate standing. Analysis of labor-management relations in government, including public education, and in nonprofit institutions (i.e., artistic, cultural, recreational, and health care). Emphasis on negotiations and group relationships rather than on public administration.

Mr. Klein gartner

258. Selected Topics in Industrial Relations (1 to 4 units). Prerequisite: doctoral standing or consent of instructor. An examination in depth of problems or issues of current concern in industrial relations. Emphasis on recent contributions to theory, research, and applied analysis. Topics selected by Ph.D. candidates, academic staff, or distinguished visiting faculty. May be repeated for credit.

259A. Employment Planning and Evaluation. Lecture, three hours. Prerequisite: course 254. Development of programs and practices to meet the human resource needs of organizations, including roles of training, management development, career progression, and evaluation.

Mr. Fogel

259B. Equal Employment Opportunity Management. Lecture, three hours. Prerequisite: course 254. The development and administration of programs to provide equal employment opportunities in employing organizations. Current statutory and case law and administrative agency requirements.

Ms. Broderick

260A. Advanced Marketing Management. Prerequisite: course 411 or consent of instructor. A decision-oriented course concerned with the solution of product, price, promotion, and distribution channel problems. Extensive use of case studies.

Ms. Meyers-Levy, Mr. Nakamoto, Ms. Scott

260B. Marketing Strategy and Planning. Prerequisite: course 260A or consent of instructor. Development of a framework for strategic marketing planning. The formulation of yet powerful, conceptual frameworks which have wide applicability. Within the framework of the strategic marketing plan, development of key elements in the annual marketing planning process.

Ms. Kahn

261A. Management in the Distribution Channel. Prerequisite: course 260A or consent of instructor. An examination of decisions in the distribution channel. Issues of power in the distribution channel and the trade-offs between alternative channel systems.

261B. International Marketing Management. Prerequisite: course 260A or consent of instructor. Opportunities, distinctive characteristics, and emerging trends in foreign markets, including an exploration of alternative methods and strategies, organizational planning and control; impact of social, cultural, economic, and political differences; and problems of adapting American marketing concepts and methods.

Mr. Hanssens

262. Price Policies. Prerequisite: course 260A or consent of instructor. Concepts of such concepts as product classification, demand, competition, and costs, as they apply to price making. The theory of price leadership, geographical pricing, price discrimination, price wars, and related concepts. Pricing studied in relation to the price-making process. In addition, attention to the price policies of individual firms in which these concepts are applicable.

Mr. Png

263A. Consumer Behavior. Prerequisite: course 411 or consent of instructor. A study of the nature and determinants of consumer behavior. Emphasis on the influence of sociopsychological factors such as personality, small groups, demographic variables, social class, and culture on the formation of consumers' attitudes and purchasing behavior.

Mr. Kassarjian, Ms. Meyers-Levy, Mr. Nakamoto

263B. Theory of Marketing Stimulation. Prerequisite: course 263A. Analysis of factors influencing consumer demand. Techniques for stimulating demand and evaluation of such methods. Special interest in marketing strategies: Material from economics, psychology, sociology, anthropology, and marketing research.

264A. Marketing Research: Design and Evaluation. Prerequisite: course 411 or consent of instructor. Methods of measuring and predicting the forces affecting marketing, including quantitative aspects of demand, consumer reaction to product characteristics, effectiveness of advertising and other promotional devices, influence of rewards and organizational systems on sales efficiency, and effectiveness of competitors' strategies.

Ms. Cooper, Mr. Currim, Mr. Meyer
force management. The role of selling in the market-
thought. Specific subjects vary each quarter depend-
cally. Review of both quantitative and behavioral ap-
cisions, and sales force management examined criti-
cation, pricing strategies, channel policy, promotion de-

264B. Mathematical Models in Marketing. Prereq-
usure: course 260A or consent of instructor. A study of the development and application of mathematical models to the solution of marketing problems. Discussion on models concerned with such problems as brand switch-
ing, media selection, pricing, competitive strategy, scheduling, and warehousing. Mr. Gupta, Mr. Hanssens, Mr. Meyer
264C. Quantitative Research in Marketing. Pre-
usure: consent of instructor. Intended for Ph.D. students. Development and use of economic and management principles and methods to analyze and project urban land uses and land values; study of demand for and supply of industrial, commercial, re-

265A. Marketing and the Law. Prerequisite: course
260A or consent of instructor. A detailed study of the legisla-
tive enactments (federal, state, or local) which influence the operation of institutions engaged in marketing activities, together with an analysis of the judicial decisions which have interpreted these laws. Mr. Kassarjian
265B. Social Issues in Marketing. Prerequisite: course
260A or consent of instructor. Environmental impact of marketing in society: study of theories, methods, and relationships for evaluating transaction behavior in a scientific and humanistic context: macroanalytic perspectives in marketing.
265A. Product Management. Prerequisite: course 260A or 263A, or consent of instructor. A study of the formulation of advertising policies, involving an analysis of cases dealing with the role of advertising in marketing, the definition of advertising objectives, strategy, appropriation policy, media selection, evaluating advertising results, and the organization of the advertising function. Mr. Nakamoto
266A. Sales Force Management. Prerequisite: course 260A or 263A, or consent of instructor. Development of a logical framework for the solution of problems in sales force management. The role of selling in the market-
ing mix, the selling interaction, and key problems in planning, organizing, evaluating, and controlling the sales force.
275. Macromethodological Issues in Research on People. Prerequisite: consent of instructor. A system-
atic approach to the special issues concerning research on people: development and evaluation of macromet-
odsologies; development of scientific concepts, mod-
els, theories, and law; the problem of private report, and the question of data language.
280. Selected Topics in Marketing (1 to 6 units). Prerequisite: course 260A or consent of instructor. A study of selected areas of marketing knowledge and thought. Specific subjects vary each quarter depend-
ing on the particular interests of the instructor and students. Individual projects and reports. May be repeated for credit.
289A. Theory in Marketing. Prerequisite: consent of
instructor. Serves as a mechanism to introduce stu-
dents to the development of marketing thought. Is-
sues pertaining to the general topic of theory devel-
oping and testing. Prepares students for conducting the-
ing theoretically grounded research in marketing. Mr. Nakamoto
289B. Research in Marketing Management. Pre-
usure: consent of instructor. Intended for Ph.D. students. Study of research issues associated with marketing management decisions. Recent research in the areas of strategic marketing, marketing segment-
ment, new product development and introduc-
tion, new product development and forecasting, new product development and product decision, and sales force management examined criti-
cally. Review of both quantitative and behavioral ap-
proaches to studying these issues. Mr. Hanssens, Ms. Scott
290C. Quantitative Research in Marketing. Pre-
usure: consent of instructor. Intended for Ph.D. students. Development and use of economic and manage-
ment principles and methods to analyze and project urban land uses and land values; study of demand for and supply of industrial, commercial, re-
tail, and residential space in the context of urban growth, structure, and change. Mr. Mittelbach
279A. Special Studies in Urban Land Economics. Limited to masters of Ph.D. candidates working on thesis or dissertation-related research. May be repeated for credit. Mr. Case.

279B. Selected Topics in Urban Land Economics. Discussion, laboratory, and fieldwork. Prerequisite: standing 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 an individual or cooperative basis. All work is computer-based; however, students are provided an introduction to the 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. Survey of seminal studies of human systems. Summarization and critique of literature focal to the evolution and analysis of human systems. Perspective on such topics as motivation, group, and intergroup behavior, systems theory, and organizational design and development. Mr. Massank.

280A. Important Studies in Human Systems. Prerequisite: doctoral standing or consent of instructor. Survey of seminal studies of human systems. Summarization and critique of literature focal to the evolution and analysis of human systems. Perspective on such topics as motivation, group, and intergroup behavior, systems theory, and organizational design and development. Mr. Massank.

280B. Survey of Research Philosophies and Methodologies. Prerequisite: doctoral standing or consent of instructor. A broad introduction to objectivist and subjectivist philosophies of science, and the psychology and sociology of science. Critique of laboratory and field experiments; field studies, analytical and descriptive methods; interview, participant observation, questionnaire, and unobtrusive methods of data collection.

280C. Personal and Professional Development. Prerequisite: doctoral standing or consent of instructor. Provides a setting and methodology for students to improve their own professional values in the process of testing and learning the values and standards important in the human systems Ph.D. program and held by the broader community of system researchers and intervenors. Mr. Culbert.

280D. Research Design for Human Systems Studies. Prerequisite: course 280A or 280C or consent of instructor. Temporal and logical sequences in the process of designing systems for research. Emphasis on optimizing the fit of research topic, observation, and data collection methods and data analysis techniques. Actively involves students in the preparation of research proposals.

280E. Technology in Human Systems Research. Prerequisite: course 280D or consent of instructor. Provides an opportunity for students to offer and receive constructive comment on the design, data analysis, and writing of their Ph.D. research papers.

280F. Human Systems Research Seminar. Prerequisite: course 280D or consent of instructor. Exploration of various research methods and problems encountered in applying them. Students are actively involved in seminar reports and in class critique of others. Includes dissertation research design. May be repeated for credit. Mr. Boje.

281A. Sociotechnical Systems. Prerequisite: graduate standing. Introduction to systems concepts and view of work organizations as interacting social and technical systems open to forces from the surrounding environment. Focus on developing the sociotechnical systems analytic approach and understanding the advantages of this approach for designing and managing organizations. Mr. Davis.

281B. People in Organizations. Prerequisite: graduate standing. Introduction to different philosophical perspectives for understanding human behavior. Theories and concepts important for understanding behavior in human organizations, as well as managerial implications of individual, group, and social behavior. Special attention to knowledge about satisfaction motivation and productivity in organizations. Ms. Lasko.

281C. Situational Factors in Management. Prerequisite: graduate standing. Application of a situational contingencies or it all depends perspective to important managerial issues such as personality motivation, leadership, conflict management, and design of jobs and organizations. Development of a diagnostic approach that is functional in managing effectiveness in diverse organizational situations.

282. Task Group Processes. Prerequisite: course 281A or 281B or consent of instructor. The structures, processes, and interrelationships of work groups in sociotechnical systems. The role of the human systems manager in diagnosing the effecting of how group activities interact with the physical technical environment. Imparts a practical knowledge of task group functioning through class exercises and student presentations.

283A. Environmental Settings of Sociotechnical Systems. Prerequisite: course 281A or consent of instructor. The complexity and uncertainty of organizational environments. Analysis of environments emphasizing the fit of research topics. different methods for investigating their interrelationships, and their relations to technology. Organizational responses to various environments. Mr. Davis.

284A. Organization Design. Prerequisite: course 281A or 281B or consent of instructor. Survey of behavioral design theories and methods, including bureaucratic, participative, and cognitive models. Development of specific methods ranging from the micro-design of jobs to the macro-design of total organizations. Exploration of the effects of organizational design on the action-research methods of organizing development practitioners. Theory merged with practice through seminar discussions of field observations and data analysis. Mr. Davis.

284B. Organization Development. Prerequisite: course 281B or consent of instructor. Effects of managerial practices on individual self-fulfillment and organizational effectiveness. Theoretical models of organizational change and the action-research methods of organization development practitioners. Theory merged with practice through seminar discussions of field observations and data analysis. Mr. Davis.

285A. Leadership, Motivation, and Power. Prerequisite: course 281B or consent of instructor. Theoretical and practical approaches to influencing and motivating people. The relative effectiveness of various leadership styles, different motivational theories: power tactics from a managerial point of view. Use of experience-based learning methods to aid diagnosis and understanding of one's own influence styles. Mr. Culbert.

285B. Managerial Interpersonal Communication. Prerequisite: course 281B or consent of instructor. Organizational, interpersonal, and personality factors affecting managerial communications. Styles and modes of communication in one-to-one, group, and indirect communication settings. Opportunities offered to deepen understanding of one's own communicative styles and skills. Mr. McDonough.

287. Sensitivity Training Groups and Their Facilitation. Prerequisite: consent of instructor through prior application to the department. Development of cognitive and experiential understanding of the dynamics of sensitivity training groups and their facilitation. Relevant theory, research findings, and case studies: translation of these into practice.

288A. Special Studies in Managing Organization Behavior. Prerequisite: M.B.A. standing or consent of instructor. An examination in depth of problems or issues of current concern in managing organizational behavior. Emphasis on recent theories, research findings, and professional applications of special interest to M.B.A. students and faculty. May be repeated for credit. Mr. Davis.

288B. Selected Topics in Behavioral Science. Prerequisite: doctoral standing or consent of instructor. Philosophies and theories of human behavior functional to the study of individual, group, organization, and cultural behavior. Exploration in depth of selected theoretical positions, extending and consolidating behavioral science knowledge and practice. May be repeated for credit. Mr. Tannenbaum.
292D. Comprehensive Planning in the Public Sector. Prerequisite: consent of instructor. Evolving environmental problems. Methods studied for managing total enterprises. Students are involved in managing business issues and organizational relationships. Prerequisite: consent of instructor. Mr. Andrews

292E. Management in the Public and Private Nonprofit Sector. Prerequisite: graduate standing. Examination of the roles and management systems of the three sectors of U.S. society: unique aspects and managerial issues of public and private nonprofit organizations and of their political, social, and technical environments. Financial, marketing, and operational considerations and evaluation, control, and ethical issues of service delivery systems. Mr. Andrews

293. Business and Society. Prerequisite: consent of instructor. A study of the business enterprise as a social institution, with emphasis on the changing purposes of social action. Adjustments of the firm to changes in the social environment. Ethical problems in management. Social responsibilities of the business manager.

294A. Strategy Formulation and Implementation. Prerequisite: consent of instructor. Case course dealing with strategy decisions and their implementation, executive action, and administrative behavior involved in managing total enterprises. Students are confronted with complex company situations to develop ideas essential to overall managerial direction.

294B. Environmental Impacts on Management. Prerequisite: consent of instructor. Examination of ways in which business, government, labor, and consumer organizational managers might respond to external environmental problems. Methods studied for developing and evaluating alternative managerial solutions which permit organizations to assist in improving current and future environmental quality.

295A. Entrepreneurship and Venture Initiation. Prerequisite: consent of instructor. An exploration in entrepreneurship particularly concerned with the formation and operation of new business ventures. Significant and crucial aspects of exploring new business opportunities and starting a business. Mr. Schöllhammer

295B. Small Business Management. Prerequisite: consent of instructor. Exploration of crucial aspects in managing small business enterprises. Emphasis on the identification and analysis of characteristic operating problems of small firms and the application of appropriate methods or techniques for their solution. Mr. Schöllhammer

296A. International Business Management. Discussion, three hours. Prerequisite: course 205A or consent of instructor. Identification, analysis, and resolution of managerial issues of policy and action within the context of a multinational corporation, with emphasis on problems of adaptation to different social, cultural, legal, political, and economic environmental characteristics on planning, the structuring of organizational relationships, coordination and control in multinational firms. Mr. Schöllhammer

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. Imparts knowledge on the design and the conduct of international/comparative management research. Mr. Mason

297A. Comparative and International Management. Prerequisite: course 412 or consent of instructor. A comparative study of the practice of management in selected foreign countries, as affected by their social environments and the development of management theory.

297B. International Business Policy. Prerequisite: 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 operations.

297C. International Business Law. Prerequisite: 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-based firms on a wide range of issues, such as establishment dissolution of joint ventures, extent of foreign ownership/management control, terms/conditions for technology transfer, investment incentives.

298A. Special Topics in Management Theory. Prerequisite: doctoral standing or consent of instructor. An examination in depth of problems or issues of current concern in management theory. 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.
298B. Special Topics in International and Comparative Management. Prerequisite: doctoral standing or consent of instructor. An examination in depth of problems or issues of current concern in international and comparative management. 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.

298C. Special Topics in Sociotechnical Systems. Prerequisite: doctoral standing or consent of instructor. An 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). Prerequisite: doctoral standing or consent of instructor. An examination in depth of problems or issues of current concern in management. 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.

298X-298Y-298Z. Management Strategy and Policy Workshop (1 unit, 1 unit, 2 units). Discussion, three hours. Prerequisite: doctoral standing. Designed to develop an ability to critically evaluate research and policy regarding management strategy and policy. Papers are presented in a colloquium format by leading scholars in management strategy and policy. Active participation and intellectual interchange encouraged through discussion of the papers in sessions prior to the workshop, as well as during the colloquium. May be repeated for credit. S/U grading. Mr. Goodman


299R. Research Methods in Management. Prerequisite: doctoral standing. Provides feedback and evaluation of papers prepared for the research requirement. Quarterly meetings to discuss expectations of the research committee and the Doctoral Office. Students must enroll the quarter in which they are submitting their research paper. May be repeated for credit. S/U grading.

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the 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.

The following courses are acceptable toward the M.B.A., M.S., and Ph.D. degrees within the limitations and conditions prescribed by the curricula of the Graduate School of Management.

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. Managerial Economics. Prerequisite: graduate standing. Introduction to the measurement and determination of economic activity in the aggregate and to the role of prices in the decision making of the organization. National income accounting, basic economic policy, markets and prices, competition and monopoly, applications.

402. Data Analysis, Statistics, and Decision Making. Prerequisite: graduate standing. An introduction to statistics for graduate students who have had no previous course with emphasis on application to business problems.

403. Managerial Accounting. Prerequisite: graduate standing. An introduction to fundamental systems and procedures in financial and managerial accounting, with emphasis on income measurement, margin, analysis, standard and direct costing. Provides a firm understanding of how to read and interpret published financial statements.


405. Managerial Economics: The Organization. Analysis of decision making in the firm, competitive policies and market structure, revenue and cost behavior. Mr. Granfield, Mr. Nichols, Mr. Osborne

406. Managerial Economics: Forecasting. Prerequisite: graduate standing. Sales, costs, and profit forecasting. General business forecasting and special mechanical techniques. Mr. Kimbell, Mr. Norton

407. Managerial Model Building. Prerequisite: course 400 or 402 or equivalent. A survey of the uses of formal modeling approaches in managerial decision making. Emphasis on models and formulation techniques, especially those from the application of computerized and other routines. Application areas include finance, marketing, production, and public services.

408. Managerial Finance. 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 will lead to effective allocation and use of the organization’s resources. Mr. Copeland, Mr. Hofflander, Mr. Weston


410. Production and Operations Management. Prerequisite: course 407 or equivalent. Principles and decision analysis related to the effective utilization of the factors of production in manufacturing and non-manufacturing activities for both intermittent and continuous systems. Production organizations, analytical models and methods, facilities design, and the design of control systems for production operations.


412. Management of Organizations. Prerequisite: graduate standing. Integrative approach to theory and practice of management. Emphasis on organizations, emphasizing managerial roles in designing organizational structures, creating/maintaining planning, control, information, incentive systems, different patterns of human interaction such structures and systems tend to produce.

413A. Business Computer Programming. Prerequisite: course 404 or Computer Science 10C or equivalent experience. Programming business and management applications in a general purpose programming language. Choice of language used (e.g., PL/1, COBOL) may vary from quarter to quarter. Programming structure; input, output, and editing considerations; data and file structures; and characteristics of commercial data processing. Extensive programming assignments.

Mr. Lientz, Mr. McLean, Mr. Sprowls, Mr. Swanson

413B. Interactive Computer Programming. Prerequisite: course 404 or Computer Science 10C or equivalent experience. Use of interactive computer programming (e.g., FORTRAN) to solve management problems. Emphasis on formulating algorithms for unstructured problems and ad hoc queries. Several computing environments (i.e., large central computers, minicomputers and microcomputers) featured. Extensive programming assignments.

Mr. Lientz, Mr. McLean, Mr. Sprowls, Mr. Swanson

420. Management Policy. Prerequisite: course 412. Evaluation and formulation of organization’s overall policies and strategies. Economic, heuristic, and social analyses of organization’s environment. Organizational, ethical, and environmental and organizational analyses, and organizational appraisal. Senior management’s role in managing the policy process. Mr. Barney, Mr. Mason, Mr. Runnett

423. Advanced Management Theory. Advanced study in fields relevant to the study of management. Preparation to enter the enterprise through significant readings; discussion of advanced approaches and techniques developed from applying theory; use of theory to integrate methods and techniques of quantitative and behavioral sciences; lectures on sophisticated application of management theory in practice.

Mr. Raia


440. Managerial Problem Solving: Individual. Prerequisite: graduate standing. Study and practice of individual decision making and problem solving, including the impacts of personality, motivation, interpersonal communication, and various decision-making techniques. The relationships among the individual, management, organizations, and policy formulation as they influence the managerial process.

441. Managerial Problem Solving: Complex Systems. Prerequisite: course 440. Study of organizational and interpersonal problem solving, including identification, formulation, decision making; forecasting, assumption testing, solution methods, implementation, evaluation, control, and dealing with conflict and ambiguity. Organization of projects in which problem solving is experienced at various levels of complexity.

444A-444B. Management Field Study. Must be taken in two consecutive quarters in the second year (or its equivalent) for part-time students. Supervised study of an organization, including establishment of client consultant relationship, identification of problem or strategic question, design of study, collection and analysis of data, development and reporting of implementable recommendations. In Progress grading.

450. Fieldwork in Behavioral Science Management Development (4 or 8 units). Prerequisite: course 257, consent of instructor. Supervised practical fieldwork in all phases of laboratory education for management development. Involves the development of such sensitivity training laboratories, creativity and personal growth laboratories, simulated managerial behavior laboratories, etc.

451. Fieldwork in Organizational Development (2 to 12 units). Prerequisite: course 268B or consent of instructor. Supervised practical fieldwork in organizational development consultation in interpersonal, group, intergroup, total organization, and interorganizational settings.
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 field experience in business consulting and other forms of technical assistance for business firms and management in ethnic communities; seminars and on-the-job earned learning experiences in transmitting business administration technology to the urban ghetto.

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 (pictorial, performing, or community), concentrating on its managerial problems and its relationship to the community and society in general.

454. Fieldwork in Organizations. Prerequisites: completion of first two quarters of the M.B.A. program, consent of the supervising faculty and the director of the M.B.A. program. Supervised, nonpaid practical experience or fieldwork in an organization as an intern or fellow. Execution of predetermined assignment pursuant to a defined program of study which may include formal classwork. May not be repeated for credit.

455. Preparation for Teaching Business and Management. Prerequisites: graduate standing, consent of instructor; first year of master's program or consent of instructor. Supervised teaching experience and practical work in teaching management. Seminars, workshops, and practice teaching. May not be applied toward the M.B.A., M.S., or Ph.D. degree requirements. S/U grading.

Mr. Frand

The following individual study or research courses (501 through 599) may be used within limitations and conditions prescribed by the school, to satisfy minor higher degree requirements.

501. Cooperative Program (2 to 8 units). Prerequisite: consent of UCLA GSM graduate adviser and department chair, and graduate dean. Course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

506A-596N. Research in Management (1 to 8 units each). Prerequisite: consent of director of master's program or director of Ph.D. program by special petition. Directed individual study or research. May be repeated.

597. Preparation for Qualifying Examinations (4 or 12 units). Prerequisite: consent of director of master's program or director of Ph.D. program by special petition. Preparation for master's comprehensive examination. S/U grading.

598. Thesis Research in Management (4 or 12 units). Prerequisite: consent of director of master's program by special petition. Research for and preparation of master's thesis. May be repeated. S/U grading.


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 the individual's diagnostic and decision-making skills. Use of readings, cases, decision simulations, and discussions to explore the areas of charting job and career progress, working with others, and shaping the work culture.

Mr. Ouchi


Mr. Granfield

463. Data Analysis and Management Decisions under Uncertainty. Survey of statistical model building, with emphasis on the manager's interpretation of the statistical summary of data. Concepts covered through multiple regression to support the courses in finance and marketing that follow. The fundamental approaches to decision making under uncertainty.

Mr. Harsens

464. Managerial Accounting. Familiarization with the functions of accounting by focusing on the use of external financial reports for evaluating corporate performance and the use of accounting information for internal planning and control.

Mr. Buckley

465. Quantitative Methods for Managers. A survey of modeling approaches to managerial planning and decisions. Emphasis on the 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.

Mr. Geoffron

466A-466B. Financial Policy for Managers (4 units, 2 units). Modern financial management deals with the current financial setting of the firm: investment, financial management, portfolio investment decisions, for financial institutions, and for international financial management. Focus on learning sound theoretical tools and applying them in a classroom.

Mr. Copeland, Mr. Cornell

467. Management Information Systems (2 units). Information systems for management decision making. Emphasis on support of strategic planning and management control functions; computer-based decision support systems; organizational arrangements for performance measurement and control; programming and budgeting systems.

Mr. Greenberger

468. Economic Forecasting (2 units). Macro-economic 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 the impacts of monetary and fiscal policy; macroeconomic techniques applicable to business decisions.

Mr. Kimbell

469. Management of Human Resources. An introduction to the major areas of human resource management—personnel management, labor economics, labor law, and labor relations—accompanied by examining some of the major concepts, theories, and research related to each of these topic areas, as well as some of the practical problems for managers posed by each.

Mr. Flamholtz

470A. Introduction to Action Research and Policy Analysis (2 units). Provides methods of organizational and strategic analysis to determine the relationship of the organization with its environment. Techniques for action research such as experimental design, survey design, and research methods.

470B-470E. Action Research and Policy Analysis Project (2 units, 1 unit, 1 unit, 2 units). Four quarters of supervised study of an organization in relation to complex environmental changes. Competitive and environmental analysis of the organization. Development of an action research project and managerial policy scenarios; examination of their organizational implications; and recommendations for managerial and organizational response to deal with environmental changes.

Mr. Goodman, Mr. Raia

472. Marketing Strategy and Policy. Strategic marketing decisions, including the development of marketing objectives and strategies and the implementation of these strategies through pricing, channel, promotion, and new product decisions.

Ms. Scott

473. Managerial and Organizational Processes. Development of an understanding of the workings of large, complex organizations, with emphasis on the macroanalytic, rather than on the microanalytic approach.

Mr. Raia

474. Production and Operations: Systems, Strategies, and Policies. Analysis of strategic and operating policies and decisions for systems that produce goods and services in enterprises. Examination of the role of broad-level planning, inventories, scheduling of resources, organization of resources, distribution systems, system location. Comprehensive operating problems.

Mr. Sain


Mr. Schittlmiller

476. Competitive Strategy and Business Policy. The study of the general management task of forging a corporate competitive strategy. Emphasis on the economics of business rivalry within a variety of industrial settings and the 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 many organizations. Examination of trends in key areas of government regulation, labor relations, international trade, the basic economic structure, and social responsibility.

Mr. Ouchi

478. Seminar on Management Strategy and Policy (2 units). Broad policy issues relevant to strategic planning and management. Group methods of problem solving, including a case study involving the top management team from a prominent corporation in an analysis of the corporation's competitive environment and strategic planning.

Mr. Schittlmiller
The profession of social work is one of the principal helping professions. Social workers are employed as policymakers, administrators, community organizers, managers, and practitioners in all of the human services, including physical and mental health, education, income security, housing and the social services, family and child welfare, manpower development and training, corrections, etc. Social work services are offered under public auspices, at all levels of government, under private-for-profit and not-for-profit auspices, and in the workplace. In each setting social work concerns focus on the restoration of impaired social functioning of individuals, groups, communities; the provision of resources, social and individual, which will enhance social functioning; and the control of factors which threaten effective and satisfying social functioning. Social work is also concerned with the causes, treatment, and prevention of personal and social ills and with the broader social and economic issues in society.

In its professional education and practice, social work collaborates with disciplines in the field of health, including physical, mental, and public health programs; law, including the areas of corrections, civil rights, and social legislation; education, with reference to social work in the schools, special needs of handicapped children, and programs developed for children in deprived areas. There is also close collaboration with the applied social sciences in the study of social institutions and social change.

UCLA's School of Social Welfare is considered among the top schools of its kind in the country based on the quality of its programs, its research grants, and its publications. The school's primary objective is to prepare graduate students not only for successful careers but also for imaginative leadership in the social welfare field.
School of Social Welfare

200 Dodd Hall, (213) 825-2892

Professors
Rosina Becerra, Ph.D., Associate Dean
Jerome Cohen, Ph.D.
Jeanne M. Giovannoni, Ph.D.
Doris S. Jacobson, Ph.D.
Harry H. L. Kitano, Ph.D.
Manuel R. Miranda, Ph.D.
Jack Rothman, Ph.D.
Leonard Schneiderman, Ph.D., Dean
Nathan E. Cohen, Ph.D., Emeritus
Maurice F. Connery, D.S.W., Emeritus
Alfred H. Katz, D.S.W., Emeritus
Elliot T. Studt, D.S.W., Emeritus

Visiting
Wanda Houck, M.S.S.W., Visiting
Julie Steckel, M.S.W., Visiting

Emeritus
Winifred E. Smith, M.S.W., Emeritus

Associate Professors
Diane de Anda, Ph.D.
Alex J. Norman, D.S.W.
Harry Wasserman, D.S.W.

Assistant Professors
James E. Lubben, D.S.W.
Judith Rosenthal, D.S.W.
Ruth Zambrana, Ph.D.

Adjunct and Visiting Lecturers
Lourdes Arguelles, Ph.D., Visiting
Margaret Bonreff, M.S.W., Visiting
Mary Ann Fraser, M.S.W., M.B.A., Visiting
Wanda Houck, M.S.S.W., Visiting
Maxine B. Jackson, M.S.W., J.D., R.N., Visiting
Mary Ann Jimenez, Ph.D., Visiting
Rosalie Kane, D.S.W., Visiting
Barnie Levy, M.S.W., Visiting
Rose M. Monteiro, M.S.W., Visiting
Idelle Natterson, Ph.D., Visiting
Susan Price, Ph.D., Adjunct
Wanda Retuerzo, M.S.W., Visiting
Philip Ringstrom, Ph.D., Visiting
Terrence J. Roberts, Ph.D., Adjunct, Assistant Dean of Student Services
Jean Saville, Ph.D., Visiting
David Shapiro, Ph.D., Visiting
Bernice Sokol, M.S.W., Adjunct
Julie Steckel, M.S.W., Visiting
Gloria Waldinger, D.S.W., Adjunct, Director of Postgraduate Education and Development

Fieldwork Consultants
Katherine M. Kolodziejski, Ph.D., Coordinator
Jane E. Kurohara, M.S.W.
Joseph Nunn, M.S.W.
Winifred E. Smith, M.S.W., Emeritus

Degrees Offered
Master of Social Welfare (M.S.W.)
Doctor of Social Welfare (D.S.W.)

The programs are designed to prepare candidates who wish to train for careers in teaching, research, administration, and practice positions. Courses are scheduled in the School of Social Welfare and in schools and departments of related disciplines and professions.

Master of Social Welfare

Admission
In addition to University minimum graduation requirements, the master’s program of the School of Social Welfare requires a minimum of five courses in social science or social welfare subjects as prerequisite undergraduate preparation for graduate study in the field of social work. Completion of courses in psychology and sociology is desirable, and a course in statistics 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 a 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 Aptitude 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 Aptitude score achieved will be evaluated 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 Admission” in Chapter 3 for further information. The school may request that you take specified 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.

Admission to the school requires simultaneous application to (1) the School of Social Welfare and (2) the Graduate Division. Both applications and the school brochure can be obtained by writing to the School of Social Welfare Admissions, 247 Dodd Hall, UCLA, Los Angeles, CA 90024, or by calling 825-7737.

Major Fields or Subdisciplines
Direct social work practice with individuals, families, and small groups, community organization, and social welfare administration are offered as social work methods. Concentrations 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, five courses in social welfare research, plus six quarters 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 the consent of the instructor and the 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 completion 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 the Spring Quarter of the second year of study. The examination may cover the entire range of the program.

Doctor of Social Welfare
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 occasionally be waived if an applicant possesses a postgraduate degree and professional experience in a related field. Such candidates, however, are 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, results of the Graduate Record Examination (GRE), and personal qualifications indicating suitability for advanced study and research.

The Aptitude 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.

Five letters of recommendation and a typewritten 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 the Graduate Division. Both applications and the school brochure are available by writing to the School of Social Welfare Doctoral Program, 200 Dodd Hall, UCLA, Los Angeles, CA 90024.

Major Fields or Subdisciplines
The core curriculum is the same for all students. Programs of specialized study relevant to the substantive area of the dissertation, which include courses in other schools and departments of the University as well as seminars and tutorials within the school, are developed in consultation with the adviser.

Course Requirements
Courses required for the degree normally cover a two-year span of study. All first-year course requirements must be completed before taking the qualifying examinations.

Required courses for the first year are Social Welfare 225A-225B, 245A-245B-245C, and 286A-286B-286C. In addition, a one-quarter course may be required in an area to be selected by the doctoral program committee, depending on the educational needs and interests of the first-year class.

Required courses for the second year are Social Welfare 210A-210B. A third course, which may be a seminar or individual or small group tutorial, is also required.

In addition to these requirements, you must take a minimum of three quarters in a graduate school or department outside the School of Social Welfare in an area related to your professional objectives, with consent of your adviser. In exceptional instances, you may obtain either a waiver of or substitution for a required course. Ordinarily, students in full-time study are expected to enroll in at least 12 units of study each quarter during the first two years and at least eight units per quarter thereafter.

A practicum may be required as a component of one or more courses, although it is not a general program requirement.

Qualifying Examinations
Before the formation of a doctoral committee, you must pass a written qualifying examination in each of the three core areas, as follows:

1. Social Welfare Policy, History, and Philosophy (2 units)
2. Social Work Practice Theory (2 units)
3. Research and Scientific Inquiry (2 units)
   - Prerequisites: doctoral standing and/or consent of instructor. Exploration of data, theories, and research from the biological and policy sciences regarding ecological relationships. Review of current sociocultural, demographic, and political changes as they affect human society, its institutions and, more particularly, social welfare needs and the study of them.

221A. Social Welfare Policy and Services I (2 units)
221B. Social Welfare Policy and Services II (2 units)
221C. Social Welfare Policy and Services III (2 units)
221D. Social Welfare Policy and Services IV (2 units)
221E. Social Welfare Policy and Services V (2 units)
221F. Social Welfare Policy and Services VI (2 units)
221G. Social Welfare Policy and Services VII (2 units)
221H. Social Welfare Policy and Services VIII (2 units)
221I. Social Welfare Policy and Services IX (2 units)
221J. Social Welfare Policy and Services X (2 units)
221K. Social Welfare Policy and Services XI (2 units)
221L. Social Welfare Policy and Services XII (2 units)
221M. Social Welfare Policy and Services XIII (2 units)
221N. Social Welfare Policy and Services XIV (2 units)
221O. Social Welfare Policy and Services XV (2 units)
221P. Social Welfare Policy and Services XVI (2 units)
221Q. Social Welfare Policy and Services XVII (2 units)
221R. Social Welfare Policy and Services XVIII (2 units)
221S. Social Welfare Policy and Services XIX (2 units)
221T. Social Welfare Policy and Services XX (2 units)
221U. Social Welfare Policy and Services XXI (2 units)
221V. Social Welfare Policy and Services XXII (2 units)
221W. Social Welfare Policy and Services XXIII (2 units)
221X. Social Welfare Policy and Services XXIV (2 units)
221Y. Social Welfare Policy and Services XXV (2 units)
221Z. Social Welfare Policy and Services XXVI (2 units)

Final Oral Examination
A final oral examination may be required at the option of the doctoral committee.

Graduate Courses

219B. Dynamics of Human Behavior I, II, III (2 units each)
220A. Integrative Theory and Research in Human and Social Behavior (2 units)
220B. Integrative Theory and Research in Human and Social Behavior II (2 units)
220C. Integrative Theory and Research in Human and Social Behavior III (2 units)
220D. Integrative Theory and Research in Human and Social Behavior IV (2 units)
220E. Integrative Theory and Research in Human and Social Behavior V (2 units)
220F. Integrative Theory and Research in Human and Social Behavior VI (2 units)
220G. Integrative Theory and Research in Human and Social Behavior VII (2 units)
220H. Integrative Theory and Research in Human and Social Behavior VIII (2 units)
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220R. Integrative Theory and Research in Human and Social Behavior XVIII (2 units)
220S. Integrative Theory and Research in Human and Social Behavior XIX (2 units)
220T. Integrative Theory and Research in Human and Social Behavior XX (2 units)
220U. Integrative Theory and Research in Human and Social Behavior XXI (2 units)
220V. Integrative Theory and Research in Human and Social Behavior XXII (2 units)
220W. Integrative Theory and Research in Human and Social Behavior XXIII (2 units)
220X. Integrative Theory and Research in Human and Social Behavior XXIV (2 units)
220Y. Integrative Theory and Research in Human and Social Behavior XXV (2 units)
220Z. Integrative Theory and Research in Human and Social Behavior XXVI (2 units)
222A-222B-222C. Social Welfare Administration I, II, III (2 units each). Prerequisites: graduate standing and/or consent of instructor. Study of methods by which welfare policies are formulated and translated into action; the nature of organizational and research processes involved in welfare administration; role of welfare agency personnel in policy formulation, implementation, and evaluation.

223. Seminar on the Social Work Profession (2 units). The nature 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 improvement of the profession.

224A-224B-224C. Advanced History and Philosophy of Social Welfare. Prerequisites: doctoral standing and/or consent of instructor. Analysis of theories of organizational behavior affecting social welfare systems (including supranational systems transcending national boundaries), their directions, goals, values, and social work. Application of organizational theory to planning, organizing, and administering welfare agencies.

227A-227B-227C. Comparative Social Welfare Theories and Programs. Prerequisites: doctoral standing and/or consent of instructor. Analysis of interrelationships between nations’ welfare services and the social, economic, religious, and broader cultural milieus within which they develop. Special attention to social theories, values systems, and other elements of culture which particularly affect welfare programs.

230A-230B-230C. Theory of Direct Social Work Practice I, II, III (2 units each). Corequisite: required social work practicum. An introduction to the theory of social work with individuals and groups to the principles of practice which are derivative of this and related theory.

231A-231B-231C. Advanced Theory of Direct Social Work Practice IV, V, VI (2 units each). (Formerly numbered 231A-231B.) Corequisite: required social work practicum. Advanced level, critical analysis of theories, concepts, and principles underlying social casework practice. Specific attention to deviation and stress as conditions affecting functioning of individuals and groups, and to diagnostic knowledge and competence required in rehabilitation and prevention.

240A-240B-240C. Theory of Social Work Practice in Community Organization I, II, III (2 units each). Corequisite: required social work practicum. Historical and theoretical developments in community organization; understanding the community as a social system; role of the practitioner in identification, analysis, and evaluation of needs, existing programs, policies, structures, and strategies of intervention.

241A-241B-241C. Advanced Theory of Social Work Method (Community Organization) IV, V, VI (2 units each). (Formerly numbered 241A-241B.) Corequisite: required social work practicum. Social work on various patterns of community action for attaining social welfare objectives; research and field experience directed toward study of social problems within the context of community planning; emerging patterns of physical, economic, and social planning within the framework of social change theory.

242. Counseling Families of Handicapped Children (2 units). (Same as Psychiatry M254.) Prerequisite: consent of instructor. Techniques and issues in counseling families through evaluation, feedback, and treatment. Social and psychological stresses on family, professional reactions, community resources, and issues of genetic counseling, placement, and developmental crises.

Ms. Gottlieb (W)

245A-245B-245C. Development of Social Work Practice Theory. Lecture, two hours. Prerequisites: doctoral standing and/or consent of instructor. Critical analysis of social work practice theories and selected social sciences theories in historical, social, and scientific contexts; with attention to how theory becomes modified over time.

258. Critical Problems in Social Welfare. Prerequisites: doctoral standing and/or consent of instructor. Current problems in the field of social welfare. Specific topics vary depending on the research and educational interests and needs of the class. May be repeated for credit.

275. Family Process: Psychological and Social Perspectives on the Family. (Same as Psychology M275.) Various theoretical perspectives applicable to the analysis of family structure and dynamics. Critical analysis of family issues in the application of family constructs to clinical problems.

Mr. Cohen, Mr. Goldstein

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 Research (2 units each). Individual or group research projects requiring intensive examination and analysis of a social problem area, directed toward the development of research knowledge and techniques for social work practice. In Progress grading.

285A-285B-285C. Research in Social Welfare. Prerequisites: doctoral standing and/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. Design studies include survey, panel, experimental observation, and theory development research.

286A-286B-286C. Survey of Research Methods. Prerequisites: doctoral standing and/or consent of instructor. Basic concepts underlying research methods. Content includes theoretical and conceptual approaches to research problem formulation; research design, including experimental, comparative, and survey; sampling; statistical methods; methods of observation and techniques of data analysis.

290A-290B-290C. Seminar in Social Work Practice (2 units each). A series of seminars dealing with trends in social 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 to 4 units). (Same as Public Health M241.) Lecture, three hours; discussion, one hour. Prerequisites: two upper division social science courses, two upper division biological science courses, or equivalent, consent of instructor. The social and economic context of older women’s aging, the major physical and psychological changes older women experience, the delivery of health services to this population, and the policies that respond to their health needs.

Mr. Jeske

401A-401B-401C. Practicum in Social Work. Laboratory, 20 hours. Emotionally oriented practicum conducted in selected health, welfare, and educational facilities. Provides opportunities for students to test their theoretical knowledge and to acquire a disciplined practice foundation in the profession. In Progress and S/U grading.

The UCLA School of Dentistry has developed a national and international reputation for its teaching and research activities. Challenging educational and training 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 dental care early 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 will do in a private or group practice.

Opportunity exists for dental students to undertake programs designed to meet their special needs; senior-year electives 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 Venice Dental Clinic and the Mobile Dental Clinic, the latter in conjunction with the University of Southern California. Postdoctoral study can be undertaken in one of several dental specialties, and an active continuing education program through University Extension provides a variety of short courses for members of the dental profession and their auxiliaries.
School of Dentistry

A3-042 Dentistry, (213) 825-6141

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 an Oral Biology M.S. degree program. Concurrent D.D.S. and M.S. or certificate programs are also available. This catalog provides detailed information only on the M.S. program 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 in Oral Biology

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 two required summer quarters between the sophomore/junior and junior/senior 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 science courses, didactic dental courses, and clinical experience. The first two years of the curriculum are chiefly devoted to didactic coursework in the basic health and dental sciences. The final two years emphasize training and instruction in the clinical fields, including endodontics, fixed prosthetics, operative dentistry, oral diagnosis and treatment planning, oral radiology, oral and maxillofacial surgery, anesthesiaology, orthodontics, pediatric dentistry, periodontics, and removable prosthetics.

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. You are also referred to Chapter 5 for details on the three-year preclinical curriculum offered by the College of Letters and Science.

Postdoctoral Programs

The School of Dentistry offers the following opportunities for postdoctoral study: a one-year general practice residency program; a one-year residency in maxillofacial prosthodontics; a four-year oral and maxillofacial surgery residency training program; a three-year combined orthodontic-pediatric dentistry program; and two-year programs in the specialties of orthodontics, pediatric dentistry, periodontics, and prosthodontics.

Information on these postdoctoral programs can be obtained by writing directly to their respective directors, UCLA School of Dentistry, Los Angeles, CA 90024.

Oral Biology

63-050 Dentistry, (213) 825-1955

Professors
George W. Bernard, D.D.S., Ph.D.
John Beumer III, D.D.S., M.S. (Restorative Dentistry)
Angelo A. Caputo, M.S., Ph.D. (Biomaterials Science)
Fermin A. Carranza, Jr., D.D.S., Dr. Odont. (Periodontics)
Spiro J. Chaconas, D.D.S., M.S. (Orthodontics)
Glenn Clark, D.D.S., M.S. (Gnathology)
Andrew D. Dixon, D.D.S., M.D.S., Ph.D., D.Sc. (Orthodontics)
Colin K. Frankel, Ph.D.
Jay A. Gershen, D.D.S., Ph.D. (Pediatric Dentistry)
Louis J. Goldberg, D.D.S., Ph.D., Chair
Douglas Junge, Ph.D.
E. Barrie Kenney, D.D.S., M.S. (Periodontics)
Frank J. Kratochvil, D.D.S. (Removable Prosthodontics)
Carol M. Newton, M.D., Ph.D. (Biomathematics)
No-Hee Park, D.M.D., Ph.D.
George R. Riviere, D.D.S., M.S., Ph.D. (Pediatric Dentistry)
Max H. Schoen, D.D.S., M.P.H., Ph.D. (Public and Preventive Dentistry)
G. Douglas Silva, F.D.S., M.R.C.S. (ORAL MEDICINE)
Robert P. Thye, D.M.D., M.S., Clinical (Restorative Dentistry)
Stuart C. White, D.D.S., Ph.D. (Radiology)
John A. Yagiela, D.D.S., Ph.D.
Fred Herzberg, D.D.S., M.S., Emeritus
Norman S. Simmons, D.M.D., Ph.D., Emeritus

Associate Professors
Russell Christensen, D.D.S., M.S. (Oral Diagnosis)
Joseph P. Cooney, D.D.S., M.S. (Restorative Dentistry)
Donald F. Dupereon, D.D.S., M.Sc. (Pediatric Dentistry)
Patrick Turley, D.D.S., M.Ed. (Orthodontics)

Assistant Professor
Lawrence Wolinsky, D.D.S., Ph.D.

Adjunct Professor
Bernard G. Sarnat, M.D., D.D.S.

Adjunct Associate Professor
Michael G. Newman, D.D.S. (Periodontics)

Adjunct Assistant Professor
Mark L. Torbiner, D.M.D.

Scope and Objectives

The M.S. program in Oral Biology is intended to prepare students for teaching and research careers in dentistry while introducing them to modern approaches to research in the biology of the oral-facial area. The core curriculum is made up of basic science courses in embryology and histology, microbiology, immunology, pharmacology, neurophysiology, biology of bone, biochemistry of caries, pharmacology, and therapeutics, all directly related to oral-facial problems. In addition, students take concurrent courses in research methods and scientific writing, a course in biostatistics, and any of several electives in related areas.

All students carry out a research project, working in a laboratory in the School of Dentistry, Dental Research Institute, or other divisions of the Center for the Health Sciences. Each is exposed to modern research methodology and supervised by a faculty member with research experience. Many students are in cooperative D.D.S./M.S. programs or resident programs in specialty areas, and many are dentists trained in other countries.

Master of Science Degree

Admission

Applicants are expected to have an acceptable bachelor's degree with a strong background in the biological and chemical sciences or a Doctor of Dental Surgery degree or the equivalent (i.e., D.M.D.) from an accredited university. The Graduate Record Examination (GRE) and the Dental Aptitude Test (DAT) are not required but may be submitted. Three letters of recommendation are required as part of the admissions packet. There is no separate application
form other than that required by the Graduate Division. 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, for more information.

Major Fields or Subdisciplines
Areas of specialization or subdisciplines which may be followed to complement or complete the degree requirements include anatomy, biological chemistry, cell biology and virology, immunology, microbiology, pharmacology, and physiology.

Course Requirements
The program requires a total of nine courses, five of which must be at the graduate level. Seven graduate core courses are required: Oral Biology 202, 204, M205, M206, 207, 208, M214. These should be taken during your first year of graduate study. Course 490, which focuses on the preparation of scientific writing and communication, and Biomathematics 170A are both required for completion of the degree.

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 graduate adviser and by the faculty member who will direct the work of the thesis. After completing course requirements, you should prepare and send to your graduate committee a brief description of the proposed research project. The committee then discusses the proposal with you and makes suggestions.

The thesis should be prepared mainly in consultation with the sponsor, although other committee members are available for assistance. At least two weeks should be allowed between completion of the thesis and termination of the program, to allow committee members to read and comment on the manuscript.

Final Oral Examination
A final oral defense of your thesis is usually required.

Articulated Degree Program
The M.S. degree in Oral Biology has been structured so that students pursuing a dental degree or certificate in the UCLA School of Dentistry have an opportunity to participate in the program. These students must submit a separate application to the Graduate Admissions Office.

Graduate Courses
202. Principles and Methods of Research. Lecture, one hour; laboratory, three hours. Designed to familiarize students with the experimental method and its application to basic and applied research, including experimental method and design and interpretation of data. Research instrumentation and the advantages and limitations of various investigative tools.
Mr. Junge and the Staff (W)

M203. Oral Embryology. (Same as Anatomy M203.) Lectures and laboratory instruction in the development and histological structure of the facial region and the oral and per-oral organs and tissues.
Mr. Bernard and the Staff (Sp)

204. Antibiotics and Antimicrobial Agents (2 units). A summary of current information on the chemistry, synthesis mode of action, and mechanism of resistance for generically grouped antimicrobial substances. Emphasis also on pharmacokinetic complications of antibiotic usage.
Mr. Franker (F)
M205. Oral Physiology. (Same as Physiology M203.) Lecture, one hour; discussion, one hour. The organ-level and cellular physiology of the following systems, discussed in a somewhat flexible framework: (1) salivary glands, including the mechanisms of secretion, abnormalities such as Mikelicz-Sjogren syndrome, and effects on the dentition; (2) dental pulp: development, normal physiology, and reparative mechanisms; (3) organization of sensory systems, receptors, pathways, and central projections; (4) dentinal pain mechanisms, hydrodynamic theory, and electrical recordings from dentin; (5) taste receptors: mechanisms of perception of four basic tastes, alterations of taste caused by drugs, diseases, and aging; (6) oral touch and temperature receptors: comparison with similar systems in the skin, assessment of sensory dysfunction; (7) speech: phonation, resonance, and articulation in speech production, normal time-course of development of various sounds in children. Classes supplemented with audiovisual materials and many references from the literature. Mr. Junge (F).

M206. Secretory and Gastrointestinal Immunity (2 units). (Same as Microbiology and Immunology M208.) Review of anatomy and physiology of the oral cavity, the intestines, and the related lymphatic and blood vascular systems in reference to the immune system. The secretory and systemic immune systems, with particular emphasis on the unique properties of SIgA. Discussion in terms of recent experimental findings of the ability to process enteric antigens, to respond, and to regulate enteric immunity. The role that enteric immunity may play in diseases of the GI tract, such as dental caries and inflammatory bowel diseases. Students participate in discussions following each lecture and present seminars based on a review of the relevant scientific literature. Mr. Riviere (Sp, alternate years).

207. Brainstem Control of Rhythmic Movements (2 units). Discussion of the central nervous system mechanisms which coordinate and control the contraction patterns of the muscles which are involved in behaviors such as sucking, chewing, swallowing, speech, respiration, and locomotion. Emphasis on the interaction among brainstem reflexes, pattern generators, and "voluntary" control centers. Mr. Goldberg.

208. The Biochemistry of Saliva and Dental Caries (2 units). A seminar on current research in the field of saliva biochemistry and its relationship to the development of dental caries. Each student is expected to present a current article for discussion. Mr. Wolinsky (Sp).

M214. Biology of Bone (2 units). (Same as Anatomy M225.) Lecture, two hours; discussion, one hour. Prerequisite: consent of instructor. Embryology of bone tissue; bone as an organ; growth and development of specific bones; biochemistry and physiology of bone; remodeling of bone; crystallography of hydroxyapatite; pathological calcifications; pathology of bone; mechanisms and lineage of calcification; clinical correlations. Mr. Bernard (W).

M224A-M224B. Structure and Chemistry of Connective Tissue (2 units each). (Same as Anatomy M224A-M224B.) Prerequisites: histology, biochemistry. A seminar course designed for graduate students in dentistry, medicine, or basic science. Fundamental information on the fine structure and chemical composition of bone, dentin, cementum, cartilage, and cells of connective tissue in general, as well as enamel, with emphasis on the biosynthesis of collagen, noncollagenous proteins and glycoproteins, and glycosaminoglycans (mucopolysaccharides). The possible roles of the cellular and noncellular elements in the process of biological mineralization and correlation of biological processes to periodontal pathology. Mr. Weinstock and the Staff (F, W, alternate years).

225. Gross Postnatal Craniofacial Growth and Development (2 units). Designed primarily to develop a critical sense in the evaluation of the research literature and an appreciation of the dynamic complexity of postnatal craniofacial growth. At each session students present reviews and critiques of original articles, followed by group discussion. Specific aspects of the following general topics on growth of bone and bones considered in detail: historical review; modes of growth; general and craniofacial (mandible, midface, cranium) growth; methods of assessing factors affecting and conflicting hypotheses. Students are encouraged to pursue their particular interest. Mr. Sarnat (Sp).

226A-226B. Craniofacial Growth and Development (2 units each). Prerequisite: strong background in histology and embryology. Students acquire, from scientific literature discussed in a lecture-seminar format, advanced knowledge of relevant aspects of human biology as they apply to classic and current concepts of the principles governing growth and development of the craniofacial region. Students are required to present seminars on assigned topics which aid their understanding and analysis of the course content that has application to their specific and professional fields. In Progress grading. Mr. Dixon and the Staff (F, W).

227. Dental Embryology and Histology (1 unit). Description and interpretation of important stages in the development of the orofacial apparatus and histological features of its component tissues. Critique of scientific literature relevant to the course content and analysis of the current state of knowledge about selected features of the orofacial apparatus which are of significance to the clinical dental specialist. Mr. Dixon (F).

228. Dental Pharmacology and Therapeutics (2 units). Lecture, three hours. A survey of pharmacology, with particular emphasis on how drugs interact with dentistry. General principles of drug action and drug effects on the autonomic and central nervous systems. Mr. Park, Mr. Yagiel (W).

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, Mr. Seeger (W).

490. Professional Writing for Dentistry (2 units). Prerequisite: consent of instructor. Workshop in scholarly publication. Analysis of syntactic, rhetorical, and stylistic features of scientific prose to help students see the relationship of language to abstract thought and of writing to research. Coordinates with course 202. May be repeated once for credit. S/U grading. Ms. Gregory (W).

596. Directed Individual Study or Research (2 to 4 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 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, 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 11 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 one of the nation’s eight hospital-based biomedical cyclotrons producing shortlived radioisotopes for research and diagnostic nuclear medicine procedures.

Photo: Technician operates UCLA’s biomedical cyclotron.
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, 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 and laboratory sessions, demonstrations, and tutorials. In the last two years, instruction in patient care is given in the form of required and elective clinical clerkships at the UCLA Medical Center or at one of 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 are urged to 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. 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 Graduate Division in the following fields: anatomy, nurse anesthesia, biological chemistry, biomathematics, biomedical physics (Department of Radiological Sciences), microbiology and immunology, neuroscience, experimental pathology, pharmacology, physiology, and psychiatry and biobehavioral sciences. 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 six to 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 associate dean for Education in Medical Science at 891-2335.

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 therapist, vocational nurse, medical technologist, nurse anesthetist, operating room nurse, physician's assistant, physical therapist, prosthetist-orthotist, radiologic electronics specialist, radiologic technologist, radiation therapy technologist, and ultrasound technologist.

Information relative to these programs may be obtained from the Office of Allied Health Programs in the UCLA Center for the Health Sciences (825-6711).

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 offered 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.

Graduate Degrees Offered

<table>
<thead>
<tr>
<th>Program</th>
<th>Degree(s)</th>
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<tbody>
<tr>
<td>Anatomy</td>
<td>M.S., C.Phil., Ph.D.</td>
</tr>
<tr>
<td>Anesthesiology (Nurse Anesthesia)</td>
<td>M.S., Ph.D.</td>
</tr>
<tr>
<td>Biological Chemistry</td>
<td>M.S., Ph.D.</td>
</tr>
<tr>
<td>Biomathematics</td>
<td>M.S., Ph.D.</td>
</tr>
<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>
</tr>
<tr>
<td>Pharmacology</td>
<td>M.S.*, Ph.D.</td>
</tr>
<tr>
<td>Psychiatry and Biobehavioral Sciences</td>
<td>M.S.P.*</td>
</tr>
<tr>
<td>Social Psychiatry</td>
<td>Certificate</td>
</tr>
<tr>
<td>Clinical Psychology Internship</td>
<td></td>
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<tr>
<td>Radiological Sciences (Biomedical Physics)</td>
<td>M.S., Ph.D.</td>
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</tbody>
</table>

*The department admits only applicants whose objective is the Ph.D.

**Not admitting new students at this time.
Scope and Objectives

The Department of Anatomy offers advanced training leading to the Ph.D. degree. The great majority of students graduating with a doctoral degree in anatomy can look forward to an academic career in medical or dental schools and, in accord with this, the department strives to produce graduates soundly qualified both for teaching of anatomical subjects at this level and for the conduct of productive research in morphology or in some related area. An M.S. degree is also available to individuals whose major interests and training lie in allied fields. The department does not offer an undergraduate degree. An informational brochure may be obtained by writing to the Vice Chair, Department of Anatomy, 73-235 CHS, UCLA, Los Angeles, CA 90024.

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, elementary statistics, and the philosophy of science are highly recommended.

You must submit (1) transcripts of grades for all college-level work; (2) the results of the Graduate Record Examination (GRE), including the Advanced Test in Biology or in your undergraduate major; (3) at least three letters of recommendation from professors stressing potential for successful completion of graduate studies and creative independent research; and (4) an essay describing your background, work experience, interests, and career goals. Selected applicants are asked to a personal interview with an admissions committee of faculty and graduate students.

Major Fields or Subdisciplines

The major fields in which graduate research may be undertaken include (1) neuroanatomy and neurophysiology, (2) neuroendocrinology, and (3) cell biology, including immunology.

Master of Science Degree

The M.S. degree in Anatomy is available to applicants who have specialized objectives (e.g., students in bioengineering, medical illustration, physical therapy, and other paramedical specialties), as well as to international students who can plan only a limited stay in this country. Provision can also be made for medical and dental professionals at the postdoctoral level who wish to pursue a limited research project and will satisfy all requirements of the program.

Course Requirements

A total of 36 units of coursework is required, 20 of which must be in graduate-level courses. Eight units of Anatomy 598 may be applied toward the total requirement, but only four units may be applied toward the minimum graduate course requirement. All M.S. candidates must take two courses selected from 106 (eight units), M206A (five units), M206B (seven units), and 207A-207B (12 units); one departmental seminar; other courses essential to the student’s program; courses in the minor field (for those under the comprehensive plan).

Thesis or Comprehensive Examination Plan

You may elect either the thesis or examination plan. For the thesis plan, a committee of the adviser and two department members approves the thesis proposal, usually at the start of your second academic year. All members participate in criticism and approval of the eventual thesis; there is no oral defense. Under the comprehensive examination plan, you must demonstrate in a written examination a grasp of the general principles of anatomy, as well as an understanding of some related field that is relevant to your objectives.

Ph.D. Degree

Course Requirements

(1) Basic knowledge of the fields of gross and microscopic anatomy and of the physiology and biochemistry of the mammalian organism. Normally this requirement is satisfied by successful completion of these major courses: (a) human gross anatomy, (b) human microscopic anatomy, (c) neurosciences, (d) mammalian physiology, and (e) biological chemistry.

(2) Participation in at least two departmental seminars.

(3) Completion of such other courses as are essential for your research interest.

(4) Completion of a “breadth requirement” which consists of the equivalent of eight units of work selected to augment the dissertation project. This may be satisfied by a foreign language examination.

Teaching Experience

Since the anatomy profession generally imposes relatively heavy teaching obligations, it is strongly recommended that students seek opportunities to gain teaching experience in the major anatomy courses, gross anatomy in particular.

Qualifying Examinations

The written comprehensive examination is intradepartmental and intended to evaluate your capacity to organize and integrate information gained in the major core courses. All students are required to take the examination at the end of the second year. After passing
this examination and spending perhaps a year in a laboratory, taking seminars, and reading in the field of research interest, you must take a University Oral Qualifying Examination before an ad hoc doctoral committee which evaluates your knowledge of the research field and ability to formulate a practicable and significant research program.

The Anatomy 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 qualified and sufficient guidance, or is for other reasons not acceptable to the program.

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 you complete the research and writing of the dissertation, you must defend it in a final oral examination before the doctoral committee in closed session. You are also expected to give a final public seminar on your findings.

Upper Division Courses

104. Functional Neuroanatomy. Lecture-laboratory. Three three-hour sessions. Prerequisite: consent of instructor. Lectures, demonstrations, and laboratory dealing with the functional anatomy of the nervous system.

108. Neuroanatomy. Lecture-laboratory. Three two-hour sessions. Prerequisite: consent of instructor. Lectures, demonstrations, and laboratory dealing with the structure and functional organization of the nervous system.

109. Gross and Developmental Anatomy. Three three-hour sessions. Prerequisite: consent of instructor. Lectures, demonstrations, and laboratory dealing with the structure and functional organization of the nervous system.

199. Individual Special Studies (2 to 8 units). Prerequisite: consent of instructor. Coursework appropriate for the training of particular students, which may include reading as a substitute or part of laboratory work leading to a final oral or written report. S/U or letter grading.

Graduate Courses

201. Structure and Function of Cells and Tissues (2 units). Lecture, one hour; discussion, one hour. prerequisites or corequisites: course 101, consent of instructor. Current topics on structural and functional aspects of microscopic anatomy. May be repeated for credit. S/U or letter grading.

Mr. Dirksen, Mr. Young, and the Staff (F)

M203. Oral Embryology. (Same as Oral Biology M203.) Lectures and laboratory instructions in the development and histological structure of the facial region and the oral and nasal organs and tissues.

Mr. Bernard and the Staff (Sp)

M206A. Neurosciences: The Introductory Course for Graduate Students (5 units). (Same as Neuroscience M206A.) Lecture, four hours; laboratory, two hours; tutorial contacts. Prerequisites: course M206A or 103A-103B, or equivalent consent of instructor. Lectures, demonstrations, and laboratory introducing students to fundamental concepts and background for more advanced courses for students specializing in the neurosciences.

Mr. Decima, Mr. Scheibel, and Mr. Segundo (W)

M206B. Neurosciences: The Intermediate Course for Graduate Students (6 units). (Same as Neuroscience M206B.) Lecture, six hours; laboratory, two hours; tutorial contacts. Prerequisites: course M206A or 103A-103B, or equivalent consent of instructor. Lectures, demonstrations, and laboratory introducing students to fundamental concepts and background for more advanced courses for students specializing in the neurosciences.

Mr. Decima, Mr. Scheibel, and Mr. Segundo (Sp)

207A-207B. Gross and Developmental Anatomy for Graduate Students (8 units, 4 units). Lecture/laboratory or for four (Fall); one- to four-hour sessions (total of 20 hours) on an irregular schedule (Winter — first four weeks). Prerequisite: consent of instructor. Gross anatomy, embryology, and radiological anatomy of the human body as taught by lectures, demonstrations, and discussions. Prerequisites: 102A-103A or 102B-103B. Lecture, two hours; discussion, one hour. S/U or letter grading.

Mr. Maxwell and the Staff (W, Sp)

M221 A-M221B. Cellular and Molecular Neurochemistry. (Same as Neuroscience M221 A-M221B.) Lecture, two hours; discussion, one hour. Prerequisites: consent of instructor. Corequisite: laboratory course in biochemistry. Prerequisites: course M211A-M211B, and Psychology M221A-M221B.) Lecture, three hours. Prerequisites: Biological Chemistry M211A-M211B. Contemporary neurochemistry for students with a general background in biochemistry. Relates the biochemical and structural properties of the nervous system to its development and functions and introduces students to disorders that result from abnormalities in the functional and structural biochemistry of the nervous system. Although the subject is treated in an interdisciplinary manner, course progresses from structure through chemistry to functional correlates and biological terms.

Mr. de Vellis, Mr. Eisdon, Mr. Olsen (W, Sp)

M223. Paradigms of Evolution. (Same as Biology M231A.) Lecture, two hours; discussion, two hours. Prerequisite: consent of instructor. The range of conceptual foundations underlying evolutionary studies in various fields of biology, biochemistry, geology, and physics today. S/U or letter grading.

Mr. Brunk, Mr. Campbell

M224A-M224B. Structure and Chemistry of Connective Tissues (7 units each). (Same as Biology M224A-M224B.) Prerequisites: histology, biochemistry. A seminar course designed for graduate students in dentistry, medicine, or basic science. Fundamental information on the fine structure and chemical composition of connective tissues can be obtained from save, tissue, and cartilage, and cells of connective tissue in general, as well as enamel, with emphasis on the biosynthesis of collagen, noncollagenous proteins and glycoproteins, and glycosaminoglycans (mucopolysaccharides).

The possible roles of cellular and noncellular elements in the process of biological mineralization and correlation of biological processes to periodontal pathology explored.

Mr. Weinstock and the Staff (F, W, alternate years)

M225. Biology of Bone (2 units). (Same as Oral Biology M214.) Lecture, two hours; discussion, one hour. Prerequisite: consent of instructor. Embryology of bone tissue; bone as an organ; growth and development of specific bones; biochemistry and physiology of bone; remodeling of bone; crystallography of hydroxyapatite; pathological calcifications; pathology of bone; mechanisms and lineage of calcification; clinical correlations.

Mr. Brunk, Mr. Goldberg

M235. Gut and Brain Peptides (2 units). (Same as Neuroscience M235 and Physiology M235.) Prerequisite: consent of instructor. Presentation of current knowledge of gut and brain peptides by surveying their chemistry, anatomy, and physiology. Experiments used to study biologically active peptides. Review of literature about each of the major gut and brain peptides. S/U or letter grading.

Mr. Brecha, Mr. Reeve, Ms. Tache (W)

251. Problems in Developmental and Comparative Immunology (2 units). Prerequisite: consent of instructor. Review of current literature emphasizing early development and evolution of immunity in vertebrates.

Mr. Cooper (W)

252. Seminar on Basic and Quantitated Neurophysiology (2 units). Lecture, 90 minutes; discussion, 45 minutes. Prerequisite: consent of instructor. Lecture series on basic neurophysiology. Early lectures are by invited specialists on their specific fields. Later lectures by each student on a topic selected and prepared in collaboration with the instructor.

Mr. Segundo (Sp, even years)
501. Cooperative Program (2 to 8 units). Prerequisites: consent of UCLA graduate adviser and graduate dean, and host campus instructor, department chair, and graduate dean. Course is used to record enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596. Directed Individual Study or Research (2 to 12 units).

597. Preparation for M.S. Comprehensive Examination or Ph.D. Qualifying Examinations (2 to 12 units).

598. Thesis Research for M.S. Candidates (2 to 12 units).

599. Dissertation Research for Ph.D. Candidates (2 to 12 units).

Medical History Division

Professors
Ynez V. O’Neill, Ph.D., in Residence
L.R.C. Agnew, M.D., Emeritus
Mary A. Brazier, Ph.D., in Residence
Franklin D. Murphy, M.D., Sc.D., Emeritus

Associate Professor
Robert G. Frank, Jr., Ph.D., Division Chief

Adjunct Lecturer
Elizabeth R. Lomax, M.D., Ph.D.

Upper Division Courses

107A-107B. Historical Development of Medical Sciences. Lecture, three hours. The major contributions of medicine and medical personalities from earliest times through 1650. 107B. The subject in the period from 1650 through the 19th century. Illustrated lectures, class discussion, and required readings from selected texts. Mr. Frank (Sp), Ms. O’Neill (W).

M108A-M108B. History of Biological Sciences. (Same as History M195F-M195G.) Lecture, three hours. An examination of the themes underlying the development of biological sciences from ancient to the early 19th century; M108B. Biological Sciences from the Early 19th Century to the Mid-20th Century. Mr. Frank (W).

Graduate Courses

240A-240B. History of Medical Sciences (2 units each). Lecture, one hour. Survey of the development of scientific and medical thought from ancient times to the present.

241A-241B. History of Clinical Sciences (2 units each). Lecture, one hour. Survey of the development of the clinical specialties and comparison of medical practice in Western civilization with that developed in other parts of the world.

242. History of Pathology (1 unit). Survey of the history of pathology and related sciences from antiquity to the 20th century, tracing the development of pathological theory, practice, organization, and education and comparing them to current practice.


244. History of American Medicine (1 unit). Survey of the history of medicine in the United States from the Colonial period to the present.
Adjunct and Clinical Assistant Professors
Lori Berke, M.D., Adjunct
Byron C. Bloor, Ph.D., Adjunct
Joseph Cadranel, M.D., Clinical
Linda S. Finander, CRNA, M.S., Adjunct
Sandy Frey, CRNA, M.S., Adjunct
Charles A. Griffis, CRNA, M.S., Adjunct, Program Director
Marshall Kaplan, M.D., Adjunct
Jill L’Armand, M.D., Adjunct
Suhia Murad, M.D., Adjunct
Evelyn Norel, M.D., Adjunct
Jeanette F. Peter, CRNA, M.Ed., Adjunct
Con Gia Pham, M.D., Adjunct
Lois J. Remely, CRNA, M.S., Adjunct
John Ritter, M.D., Adjunct
Shannon L. Steck, CRNA, M.A., Adjunct

Scope and Objectives
The Department of Anesthesiology in the School of Medicine offers a program leading to the M.S. degree in Nurse Anesthesia. This program prepares qualified Registered Nurses in the specialty of anesthesiology and qualifies the graduate to sit for the certification examination given by the Council on Certification of Nurse Anesthetists. The graduate attains 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 anesthesiology and the teaching of nurse anesthesiology with the opportunity for participating 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 by the program.
(3) Licensure as a Registered Nurse prior to entry into clinical coursework. Evidence of status as a Registered Nurse in the State of California is mandatory.
(4) Completion of a minimum of one year 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) Aptitude Test results submitted to the program.
(7) Successful completion of the following undergraduate-level courses: (a) inorganic chemistry, organic chemistry, and biochemistry, (b) introductory physics, (c) biology, (d) anatomy, (e) physiology, (f) English, (g) psychology, (h) statistics, and (i) a course in methods of research (highly recommended).
(8) A scholarship record satisfactory to the Graduate Division and the Nurse Anesthesia Program. Transcripts must be sent to both.
(9) Interview with the program director or designee and with members of the final selection committee, and observation in the clinical practicum.

Approximately five to six students are selected for admission in Fall Quarter by the final selection committee which meets annually in January. Information regarding the program may be obtained by writing to the Department of Anesthesiology, 56-125 CHS, UCLA, Los Angeles, CA 90024. All applicants must apply to both the department and the Graduate Division. Separate applications are needed.

Foreign Language Requirement
There is no foreign language requirement for the M.S. degree.

Course Requirements
Total courses required for the degree: 131/4; all must be graduate-level courses.


Completion of courses 597 or 598A and 598B is required. Course 598B may be repeated twice, but only two of the courses may be applied toward the degree. Letter grading may be utilized in 500-series courses.

Thesis Plan
If you elect this option, your thesis committee is established during the second year of the program. The thesis proposal is written and approved during the Winter or Spring Quarter of your second year. You must take a written comprehensive examination for course completion.

Comprehensive Examination Plan
Students electing this option must demonstrate didactic and clinical competence in the field and must complete selected education courses.
If you elect the oral examination option, you must, in addition to the required curriculum in anesthesia, successfully complete designated courses in curriculum, testing and evaluation, and instruction to meet the accreditation requirements for teachers of anesthesia. 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 didactic and clinical work to earn the Master of Science degree.
(2) The program does not discriminate on any basis unless a handicap is determined by the selection committee to preclude the safe clinical practice of anesthesia.
(3) You must complete a minimum of 550 cases as the primary anesthetist.
(4) You must meet the requirements for application to sit for the Certification Examination of the AANA for program completion.

Graduate Courses
210A. Chemistry and Physics of Nurse Anesthesia I (2 units). Lecture, two hours; discussion, one hour. A continuation of the study of chemical and physical principles as applied specifically to the practice of anesthesia.

210B. Chemistry and Physics of Nurse Anesthesia II (2 units). Lecture, two hours; discussion, one hour. A continuation of the study of chemical and physical principles as applied specifically to the practice of anesthesia.

210C. Chemistry and Physics of Nurse Anesthesia III (2 units). Lecture, two hours; discussion, one hour. An introduction to the principles of chemistry and physics as applied to the practice of anesthesia.

215A. Pharmacology of Nurse Anesthesia I. Lecture, four hours; discussion, one to two hours. An introduction to basic pharmacological principles as applied to administration of anesthesia. A study of uptake, distribution, mechanism of action, fate, and toxicity as related to anesthetic agents.

215B. Pharmacology of Nurse Anesthesia II. Lecture/discussion. A study of the pharmacology of drugs influencing anesthesia administration, including their uptake and distribution, mechanism of action, fate, biotransformation, and toxicity.

220A. Respiratory Anatomy and Physiology for Nurse Anesthetists I (2 units). Lecture, two hours; discussion, one hour. A study of the structure and function of the respiratory system, with emphasis on anatomy and physiology at the cellular level.

220B. Respiratory Anatomy and Physiology for Nurse Anesthetists II (2 units). Lecture, two hours; discussion, one hour. A continuation of respiratory anatomy and physiology, with emphasis on the respiratory system as related to anesthesia administration and relevant problems.

220C. Respiratory Anatomy and Physiology for Nurse Anesthetists III (2 units). Lecture, two hours; discussion, one hour. A continuation of the study of respiratory anatomy and physiology as related to anesthesia administration and relevant problems.

221. Cardiovascular Anatomy and Physiology for Nurse Anesthetists. Lecture, four hours; discussion, one hour. An integrated study of the anatomy and physiology of the C-V system as related to the management of anesthesia administration.

M222. Biological Control Systems. (Same as Electrical Engineering 2M43.) Prerequisite: Electrical Engineering 141 or equivalent. Introduction to the application of control theory to the modeling and analysis of biological control systems, such as the respiratory system, cardiovascular system, and neuromuscular system. Emphasis on solving problems of current interest in biomedicine.
597. Preparation for M.S. Oral Qualifying Examination (2 units). Prerequisite: consent of instructor. Opportunity to pursue comprehensive study in anesthesiology and related areas on an individual basis, with the opportunity for discussion of the material with the instructor. Mr. Katz, Ms. Ward

598A. Research in Anesthesiology I (2 units). Prerequisite: consent of instructor. Opportunity to pursue anesthesia research projects or thesis preparation. Independent research of quality suitable for publication required. May be selected instead of the oral comprehensive examination for completion of the M.S. program. Ms. Ward

598B. Research in Anesthesiology II (2 units). Prerequisite: course 598A. Opportunity to pursue anesthesia research projects or thesis preparation. Independent research of quality suitable for publication required. May be selected instead of the oral comprehensive examination for completion of the M.S. program. May be repeated twice for credit. Ms. Ward

Scope and Objectives

Modern biochemistry is both intellectually and methodologically a wide-ranging and expanding field of science; it has grown well beyond its initial definition as the chemistry of living things. People who call themselves biochemists work in areas as diverse as medical research, nutrition, pharmacology, crystallography, virology, genetic manipulation, and cellular or molecular biology, as well as the "traditional" studies of metabolism, enzymology, and molecular structure.

The Biological Chemistry Department at UCLA attempts to provide students with the necessary background for continued growth in this fast-changing science. As a part of the School of Medicine, the department is involved in the basic education of students who will be practicing physicians, as well as medical research specialists. But through its graduate program and its interactions with other graduate departments, it deals with students whose primary interests are in biochemistry and other related sciences.

The department emphasizes biochemical research leading to the Ph.D. degree; the faculty represents a variety of research areas, and graduates find employment in a multiplicity of research or research-related fields, as well as in teaching. The department also offers limited opportunities for research or nonresearch study toward the M.S. degree.

Requirements for Graduate Degrees

Admission

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 methods, 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) Aptitude 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 Advanced Test in either Biology or Chemistry. In exceptional circumstances, the GRE test requirements may be waived by the department.

You are expected to take the Graduate Record Examination (GRE) Aptitude 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 Advanced Test in either Biology or Chemistry. In exceptional circumstances, the GRE test requirements may be waived by the department. You are expected to take the Graduate Record Examination (GRE) Aptitude 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 Advanced Test in either Biology or Chemistry. In exceptional circumstances, the GRE test requirements may be waived by the department. You are expected to take the Graduate Record Examination (GRE) Aptitude 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 Advanced Test in either Biology or Chemistry. In exceptional circumstances, the GRE test requirements may be waived by the department.

You are expected to take the Graduate Record Examination (GRE) Aptitude 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 Advanced Test in either Biology or Chemistry. In exceptional circumstances, the GRE test requirements may be waived by the department. You are expected to take the Graduate Record Examination (GRE) Aptitude 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 Advanced Test in either Biology or Chemistry. In exceptional circumstances, the GRE test requirements may be waived by the department. You are expected to take the Graduate Record Examination (GRE) Aptitude 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 Advanced Test in either Biology or Chemistry. In exceptional circumstances, the GRE test requirements may be waived by the department. You are expected to take the Graduate Record Examination (GRE) Aptitude 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 Advanced Test in either Biology or Chemistry. In exceptional circumstances, the GRE test requirements may be waived by the department.
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 at the master's level of achievement (see above).

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
Students are not required to obtain a master's degree prior to admission into the doctoral program and do not usually obtain a master's degree as part of the normal progress toward the Ph.D.

Course Requirements
In addition to the core course requirements listed above, students in the Ph.D. program are expected to complete:

(1) Biological Chemistry 220A-220B-220C (each quarter during the first year). You must arrange for at least two rotations in the laboratories of different faculty members to help in the selection of a research adviser.

(2) Three or four elective courses (total of 10 to 12 units) 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) Courses 596, 597, and/or 599 during quarters in which research (596, 599) or study for written or oral examinations (597) is part of your program. Course 599 is for students who have passed their oral examinations; course 596 is for those who have not.

Teaching Experience
All students in the doctoral program are expected to participate in teaching activities by assisting the faculty in a laboratory for medical or dental students (usually one day a week for one quarter during the second year) and by assisting in the grading of examinations (usually one to two times per quarter starting in the second year).

Qualifying Examinations
If you have passed the departmental written examination at the Ph.D. level of achievement (see above), you should consult with the department chair, who is responsible for nominating faculty members to serve on your doctoral committee.

The University Oral Qualifying Examination, which must be passed before you can be advanced to candidacy, consists of the presentation and defense of a research proposal to the doctoral committee. This proposal should not be in the area of your dissertation research. The doctoral committee determines whether you pass the examination and whether reexamination is allowed in case of failure. The examination may be repeated only once. It is expected that students will complete the University Oral Qualifying Examination by the beginning of the 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 applications 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
101A-101B-101C. Biological Chemistry. Lecture, three hours. Prerequisite: organic chemistry. Required in the medical curriculum; consent of instructor required for nondental students.

101E. Biological Chemistry Laboratory. Laboratory, seven hours. Required in the medical curriculum; consent of instructor required for nondental students.

102A-102B. Biological Chemistry Lecture (Dental Students). Lecture, three hours. Prerequisite: courses necessary for admission to dental school. Required in the dental curriculum; consent of instructor required for nondental students. The biochemical properties and structures of living systems, with special emphasis on mineral metabolism and nutrition.

102C. Biological Chemistry Seminar (Dental Students) (1 unit). Seminar, four hours (five weeks). Required in the dental curriculum; consent of instructor required for nondental students. The seminars, given by the students to small discussion groups, involve presentation of material from current research dealing with biochemical studies.

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. All three courses are graded S/U and may be taken as often as necessary.

Written Qualifying Examination
After completing the core course requirements (see above), you must take the departmental written examination (usually given in July; may be given in January or at other times if there is sufficient need). 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 and makes a recommendation to the departmental faculty of one of the following: (1) pass at the Ph.D. level of achievement; (2) pass at the master's level of achievement; (3) fail.

The departmental faculty can approve or change the recommended action and can authorize a reexamination in case of failure (consent is rarely given to take the test a third time). The faculty may also recommend or require additional coursework in specific areas prior to taking the examination a second time, or before taking final action on the results of the written examination.

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.

Course Requirements
All graduate students must take the four core courses (Biological Chemistry M253, M255, M263, and M267) unless excused by the graduate adviser. (See additional course requirements under each degree program.)

Admission
Students are not required to obtain a master's degree prior to admission into the doctoral program and do not usually obtain a master's degree as part of the normal progress toward the Ph.D.

Course Requirements
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
Students are not required to obtain a master's degree prior to admission into the doctoral program and do not usually obtain a master's degree as part of the normal progress toward the Ph.D.

Course Requirements
In addition to the core course requirements listed above, students in the Ph.D. program are expected to complete:

(1) Biological Chemistry 220A-220B-220C (each quarter during the first year). You must arrange for at least two rotations in the laboratories of different faculty members to help in the selection of a research adviser.

(2) Three or four elective courses (total of 10 to 12 units) 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) Courses 596, 597, and/or 599 during quarters in which research (596, 599) or study for written or oral examinations (597) is part of your program. Course 599 is for students who have passed their oral examinations; course 596 is for those who have not.

Teaching Experience
All students in the doctoral program are expected to participate in teaching activities by assisting the faculty in a laboratory for medical or dental students (usually one day a week for one quarter during the second year) and by assisting in the grading of examinations (usually one to two times per quarter starting in the second year).

Qualifying Examinations
If you have passed the departmental written examination at the Ph.D. level of achievement (see above), you should consult with the department chair, who is responsible for nominating faculty members to serve on your doctoral committee.

The University Oral Qualifying Examination, which must be passed before you can be advanced to candidacy, consists of the presentation and defense of a research proposal to the doctoral committee. This proposal should not be in the area of your dissertation research. The doctoral committee determines whether you pass the examination and whether reexamination is allowed in case of failure. The examination may be repeated only once. It is expected that students will complete the University Oral Qualifying Examination by the beginning of the 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 applications 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
101A-101B-101C. Biological Chemistry. Lecture, three hours. Prerequisite: organic chemistry. Required in the medical curriculum; consent of instructor required for nondental students.

101E. Biological Chemistry Laboratory. Laboratory, seven hours. Required in the medical curriculum; consent of instructor required for nondental students.

102A-102B. Biological Chemistry Lecture (Dental Students). Lecture, three hours. Prerequisite: courses necessary for admission to dental school. Required in the dental curriculum; consent of instructor required for nondental students. The biochemical properties and structures of living systems, with special emphasis on mineral metabolism and nutrition.

102C. Biological Chemistry Seminar (Dental Students) (1 unit). Seminar, four hours (five weeks). Required in the dental curriculum; consent of instructor required for nondental students. The seminars, given by the students to small discussion groups, involve presentation of material from current research dealing with biochemical studies.
Graduate Courses

201A-201B. Biological Chemistry. Lecture, three hours. Prerequisites: organic chemistry, an under-graduate course in biochemistry other than a beginning survey course, consent of instructor. A graduate-level course in fundamentals of biochemistry, with emphasis on mammalian biochemistry, Structure, function, and metabolism of major cell constituents. (F, 201A; W, 201B)

220A-220B-220C. Research Laboratory Rotations (2 to 8 units each). Lecture, one hour; laboratory, six hours. Prerequisite: consent of instructor. Students arrange apprenticeships in the 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 the selection of a thesis/research adviser. S/U grading.

Mr. Fulco and the Staff (F, 220A; W, 220B; Sp, 220C)

M221A-M221B. Cellular and Molecular Neurochemistry. (Formerly numbered 221.) (Same as Anatomy M221A-M221B, Neuroscience M221A-M221B, and Psychology M221A-M221B.) Lecture, three hours. Contempora-
yr neurochemistry for students with a general background in biochemistry. Relates the biochemical and structural properties of the nervous system to its development and function and introduces students to the disorders that result from alterations in the fundamental biochemistry of the nervous system. Although the subject is treated in an interdisciplinary manner, courses progress through a structured format in an attempt to function in precise manner and biological terms.

Mr. de Vellis, Mr. Eiduson, Mr. Olsen (W/Sp)

222. Biochemistry of the Synapse (2 units). Prerequisite: course M221A. Detailed analysis of the re-
say literature dealing with biochemistry of the syn-
apse. Metabolism, storage, and release of transmit-
ter; transmitter receptors and functions; neuronal plasticity.

Mr. Howard

M248. Molecular Genetics. (Formerly numbered 248A.) (Same as Genetics M248.) Lecture, three hours; discussion, one hour. Prerequisite: consent of in-
structor. Basic concepts in modern genetics, drawing examples from both eukaryotic and prokaryotic sys-
tems. Emphasis on the use of genetic techniques for addressing fundamental questions in biochemistry and molecular biology. Topics include mutation, gene recombination, recombination, genetic mapping, complementation, transposable elements, gene organ-
ization, genetic regulation, and molecular evolu-
tion.

Ms. Calame, Mr. McEntee, Mr. Miller, Mr. Shapiro (Sp)

M253. Macromolecular Structure (6 units). (Same as Chemistry M253.) Lecture or recitation, five hours. Prerequisites: courses 101A-101B or 201A-201B, or Chemistry 110A, 156, 157A, and 157B, or equivalent, or consent of instructor. Chemical and physical prop-
erties of proteins, nucleic acids, and other macromo-
lecular complexes, with emphasis on theory and meth-
odology; correlation of structure and biological prop-
erties; chemical synthesis and synthesis and poly-
peptide and polynucleotides.

Ms. Calame (F)

M255. Biological Catalysis (2 units). (Same as Chemistry M255.) Prerequisites: course 101A or 101B or Chemistry 156, 157A, or 157B, or equivalent, or consent of instructor. Reaction mecha-
nisms in molecular biology; experimental approaches for the study of enzymes, including kinetics, isotopic labeling, and enzyme modification, and spectroscopy; the design of pharmacologically active agents and artificial enzymes. Mr. Sigman (Sp)

M257. Physical Chemistry of Biological Macromolecules (2 units). (Same as Chemistry M257.) Prerequisites: Chemistry 25 or 110A or consent of in-
sstructor. Theory of hydrodynamic, thermodynamic, and optical techniques used to study the structure and function of biological macromolecules.

(W)

M261. Advanced Chemistry and Biochemistry of Lipids. (Same as Chemistry M261.) Lecture, three hours; discussion, one hour. Prerequisites: courses 101A-101B or 201A-201B or Chemistry 157A and 157B, or equivalent. Comprehensive treatment of lipids, lipoproteins, and metabolic-nutrient interactions.

Ms. Allin-Slater, Mr. Edmond, Mr. Mead (W)

M263. Metabolism and Its Regulation. (Formerly numbered M264.) (Same as Chemistry M263.) Lecture, three hours. Prerequisites: course 101A or 101B or Chemistry 156, 157A, or 157B, and 110A, or equivalent, or consent of instructor. Thermodynamic and kinetic aspects of metabolism; regulatory properties of enzymes; metabolic regulation; consideration of competitive and non-competitive pathways in relation to phys-
iological function.

Mr. Atkinson, Mr. Weiss (Sp)

M264A-M264B-M264C. Molecular Basis of Atherosclerosis: Selected Topics (2 units each). (Same as Chemistry M264A-M264B-M264C.) Prerequisites: course M261 or equivalent, consent of in-
structor. The biochemistry, morphology, and path-
ology of atherosclerosis. Emphasis on the chemistry of lipoproteins and the role of plasma lipoproteins in the regulation of tissue lipid metabolism and the develop-
ment of atherosclerosis. Each course may be taken independently for credit.

265. Seminar in the Biochemistry of Nuclear Acids (2 units). Lecture or recitation, one hour. Prerequisite: course M253 or equivalent. Biochemistry and chemical and nuclear acids and nucleotides.

Mr. Gitz

266A-266B-266C. Seminar in the Biochemistry of Differentiation (2 units each). Lecture or recitation, five hours. Prerequisites: courses 101A-101B or 201A-201B or Chemistry 157A and 157B, or equivalent. Recommended: course M253. Metabolism of nucleic acids and pro-
teins; biosynthesis of complex lipids and polysac-
charides; structure and properties of cellular organ-
elles.

Mr. Herschman, Mr. Martinson (W)

M267. Macromolecular Metabolism and Subcellular Organization (6 units). (Same as Chemistry M267.) Lecture or recitation, five hours. Prerequisites: courses 101A-101B or 201A-201B or Chemistry 157A and 157B, or equivalent. Recommended: course M253. Metabolism of nucleic acids and pro-
teins; biosynthesis of complex lipids and polysac-
charides; structure and properties of cellular organ-
elles.

Mr. Herschman, Mr. Martinson (W)

M269. Developmental Biochemistry (2 units). (Same as Chemistry M269.) Prerequisites: course M267 or consent of instructor. Macromolecular aspects of development, specific tissue and cell function, and developmental gene expression. The biochemistry of cell differentiation and molecular systems; the biochemistry of cell differentiation and molecular systems; and the control of gene expression pertaining to the biochemistry of development.

Mr. Harary, Mr. Herschman

M298. Seminar on Current Topics in Molecular Biology (2 units). (Same as Biology M298, Chemistry M298, Microbiology M298, Microbiology and Immunology M298, and Molecular Biology M298.) Prereq-
usites: consent of instructor and graduate adviser of interdepartmental Molecular Biology Ph.D. commit-
tee. Each student conducts or participates in discus-
sions on assigned topics. May be repeated for credit.

F, W/Sp

596. Directed Individual Study and Research (2 to 12 units). Laboratory, to be arranged. Prerequisite: consent of graduate adviser. S/U grading.

599. Research for and Preparation of Ph.D. Dis-
sertation (2 to 12 units). Prerequisite: consent of graduate adviser. Preparation of research data and writing of Ph.D. dissertation. S/U grading.

Biomathematics

AV-617 Center for the Health Sciences, (213) 825-5018

Professors

Abdelmonem A. Affifi, Ph.D.
Virginia A. Clark, Ph.D.
Robert M. Elashoff, Ph.D.
Donald J. Jenden, M.D., Ph.D. (hc)
Robert I. Jennrich, Ph.D.
Kenneth L. Lange, Ph.D., Chair
Frank J. Massey, Ph.D.
Carol M. Newton, M.D., Ph.D.
Michael E. Phelps, Ph.D.
M. Anne Spence, Ph.D., in Residence
Winfried J. Dixon, Ph.D., Emeritus

Associate Professors

Susan E. Hodge, D.Sc., in Residence
Henry Huang, D.Sc., in Residence
Edward Korn, Ph.D., in Residence
Roderick J.A. Little, Ph.D., Vice Chair

Assistant Professor

Elliot M. Landaw, M.D., Ph.D.

Adjunct Professors

Edward C. DeLand, Ph.D.
Jerald E. Elashoff, Ph.D.
Alan B. Forsythe, Ph.D.
Arthur Peskoff, Ph.D.

Adjunct Assistant Professors

Ellie Engel, M.D., Ph.D.
David Greenberg, Ph.D.
Daniel F. Herlihan, Ph.D.

Scope and Objectives

As biology advances rapidly in quantitative re-
search methods, both the need for and possi-
bility of closely associated theoretical research increases. On numerous medical and medical science frontiers — such as human genetics, onco-
logy, pharmacology, neurosciences, and physiol-
ogy — 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 com-
puting, modeling, and statistics. Premedical majors with mathematical/computer interests can receive early guidance toward an M.D./
Ph.D. program. The department is responsible for statistical and biomathematical training in the medical cur-
riculum.
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 Aptitude and Advanced 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 Graduate Admissions Office application 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.

You are admitted to either 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
In fulfilling the University's minimum requirement of nine courses, master's candidates must complete at least five graduate-level courses in biomathematics, of which Biomathematics 201, 202, and 203 are required.

No more than two 596 courses may be applied toward the required nine courses, and none may be applied toward the graduate course requirement.

Thesis Plan
You generally are required to follow the comprehensive examination plan. Permission to undertake a thesis plan must be given by the departmental advisory committee, which must approve the thesis committee, as well as your plans for the thesis.

Comprehensive Examination Plan
A written comprehensive examination administered by a committee consisting of at least three faculty members appointed by the chair, with approval of the advisory committee, covers material presented in your coursework. This is usually the written comprehensive examination for the doctoral program given during the summer, but in exceptional cases a special committee and written examination is provided.

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, 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, 207A, M207B, 208, 209.

**Mathematics:** Five graduate courses from an approved list, with two substitutions possible if especially appropriate to your research field. Consent may be given by the advisory committee at the time of admission to the program 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 must 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.

The following courses are recommended:

**Mathematics:** 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. The numerical analysis sequence in the Department of Mathematics and computing courses in biomathematics are suggested.

**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.

With consent of the advisory committee, a student who does not plan to pursue an academic teaching career may, for one quarter, participate at the level of one 596 course in the individual-instruction activities of a member of the department faculty (e.g., informal instruction of biomedical scientific collaborators, planning and guiding individual reading programs, developing and administering term projects in research).

Qualifying Examinations
In the summer, the department offers 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 joint action of the curriculum and advisory committees in consultation with advisers from the specialty area.

The University Oral Qualifying Examination, administered by the departmental 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

110. Elements of Biomathematics. Lecture, three hours; laboratory, three hours. Prerequisite: calculus. Analysis of deterministic models. Conditions under which deterministic and probabilistic descriptions of biological phenomena are appropriate. Both approaches applied to selected experimental physiology and biology. Mr. Eng (Sp)

M153. Introduction to Computational Statistics. (Same as Public Health M101D.) Lecture, three hours; discussion, one hour. Prerequisite: Mathematics 150B or 152B or equivalent. Statistical analysis of data by means of package programs. Regression, analysis of variance, discriminant analysis, and analysis of categorical data. Emphasis on understanding the connections between statistical tests and numerical results, and analysis of real data. Mr. Jennrich

CM156. Human Genetics. (Same as Biology CM156.) Lecture, three hours; discussion, one hour. Prerequisites: Biology 8, Chemistry 25. The application of genetics to human populations, with emphasis on cytogenetics, biochemistry, 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 the practical application of methods and results to problems and solutions. Concurrently scheduled with course CM256

Mr. Merriam, Ms. Spence (Sp)

190. Introductory Biomathematics for Medical and Biomedical Research. Lecture, four hours; discussion, three hours. An elementary statistical course that focuses on statistical concepts and critiques the literature, with emphasis on clinical research. Output from statistical computer packages discussed in class, but students do not use the computer themselves. Topics include descriptive statistics, t-tests, confidence intervals, linear regression and correlation, analysis of variance, nonparametric statistics, basic experimental design, sample size determination, article interpretation. Ms. Elashoff (W)

170A. Computer-Based Introductory Biomathematics for Medical and Biological Experimenters. (Not the same as course 170B prior to Fall Quarter 1986.) Lecture, four hours; discussion, nine minutes. A second course in biomathematical methods. Topics include randomization methods, intermediate experimental design, contingency table analysis, analysis of variance, multiple linear regression, logistic regression, methods of classification, model checking, basic mathematical models including compartment models, and statistical computer software. Students have the opportunity to obtain their own data and analyze them on the computer, and to analyze previously collected data. Mr. Korn (Sp)

170B. Statistical and Mathematical Modeling in Medical and Biomedical Research. (Not the same as course 170B prior to Spring Quarter 1986.) Lecture, four hours; discussion, 90 minutes. A second course in biomathematical methods. Topics include randomization methods, intermediate experimental design, contingency table analysis, analysis of variance, multiple linear regression, logistic regression, methods of classification, model checking, basic mathematical models including compartment models, and statistical computer software. Students have the opportunity to obtain their own data and analyze them on the computer, and to analyze previously collected data. Mr. Korn (Sp)

172. Design, Conduct, and Analysis of Clinical Investigations (2 units). Lecture, two hours; discussion, two hours. Introduction to the theory of design and analysis of experiments. Observational studies, comparative studies, clinical trials, and possible therapy to clinical use; design of studies in animals to assess antihumor response; randomization, historical controls, p-values, size of study, stratification, crosstabs, ethics of human experimentation; informed consent; human studies; indications for various types of controls, prognostic factors, survivorship studies, design of prognostic studies; organization of a clinical trial — administration, comparability, protocols, nursing and clinical standards, data collection and management. P/NP grading. Mr. Elashoff (Sp, five weeks)

Graduate Courses

200. Research Frontiers in Biomathematics (2 units). Prerequisite: consent of instructor. A series of presentations by the faculty on research frontiers in biomathematics. Grading. Mr. (even years)

201. Deterministic Models in Biology. Prerequisite: knowledge of linear algebra and differential equations. Examination of the conditions under which deterministic approaches can be employed and conditions where they may be expected to fail. Topics include general methods, analysis of energy flow, and physiological control systems, and cellular/animal population models. Mr. Newton (F)

202. Fourier Analysis in Biology. Prerequisite: knowledge of calculus, linear algebra, and probability. Introduction to the theory of Fourier transforms and Fourier series from the point of view of generalized functions. Elementary applications to differential equations, quantum mechanics, image reconstruction, X-ray crystallography, branching processes, and time series. Brief review of computational techniques based on the fast Fourier transform. Mr. Lange (W)

203. Stochastic Models in Biology. Prerequisite: Mathematics 150A or equivalent. Models and probability. The mathematical description of biological relationships, with particular attention to areas where the conditions for deterministic models are inadequate. Examples of stochastic models drawn from genetics, physiology, ecology, and a variety of other biological and medical disciplines. Mr. Lange (Sp)

204. Biomedical Data Analysis. Prerequisite: consent of instructor. The quantity and quality of observational data are crucial in the design and evaluation off clinical and epidemiological research. Though computer-based patient simulation. Depending on each student's interests, special topics include analysis of patient data, design of parenteral and dialysate fluids, mathematical principles, patient simulation using on-line patient data, or analysis of physiological mechanisms. Mr. DeLand (W)

210. Introduction to Biomedical Computation. Lecture, three hours; laboratory, three hours. Prerequisite: graduate standing. An introduction to FORTRAN programming, with a survey of biomedicale applications and data processing techniques, both within the context of both clinical and laboratory environments. Pace is rapid and subjects biologically oriented. Not recommended for students who merely wish an introductory course in FORTRAN programming. Prior knowledge of computers is not required even though the programming skills that are attained by the end of the quarter are quite substantial. Mr. Little (Sp)

213. Biomedical Laboratory Computing (Biomedical Minicomputing). Analysis of computational and data management problems encountered in the use of small digital computers for biomedical research. Practical experience acquired with the department's minicomputer in system generation and patching, documentation, interfacing, file management, assembler language, and higher order language programming with computer graphics. Selected laboratories used for experience in the direct processing of physiological data and in controlling laboratory experiments. Ms. Newton (W)


207A. Theoretical Genetic Modeling. Lecture, three hours; discussion, one hour. Prerequisite: upper division mathematics or human genetics, or consent of instructor. The theoretical foundations underlying methods and techniques used in mathematical genetics and genetic epidemiology. Topics include use of likelihood methods, segregation analysis, ascertainment bias, linkage analysis, genetic heterogeneity, and complex genetic models. Course complements M207B: students may take either and are encouraged to take both. Ms. Hodge (F, odd years)

207B. Applied Genetic Modeling. (Formerly numbered M207J.) (Same as Anthropology M222R.) Lecture, three hours; discussion, one hour. Prerequisites: Anthropology M222Q and graduate standing, or consent of instructor. Methods of computer-oriented genetic analysis. Topics include segregation and linkage analysis, polygenic (quantitative) models, and population structure. Includes a laboratory for hands-on computer analysis of genetic data; laboratory reports required. Course complements M207A: students may take either and are encouraged to take both. Ms. Spence (F, even years)

208. Modeling and Analysis of Neuroelectric Data. Designed for biologists (especially neuroscientists), but open to other science majors. Application of mathematical modeling and the development and advancement of theoretical neuroelectric theory to basic neurophysiological phenomena and neural models. Appropriate practical approaches.

209. Problems in Fluid and Electrolyte Management. Eight units. Prerequisites: biochemistry, physiology, FORTRAN. Elements of cell and tissue fluid and electrolyte balance. Laboratory experiments, computer and paper simulation. Development of concepts of metabolic, acid-base chemistry, and a schema for the development of the science of the research literature. Development and demonstration of the principles of management of acute imbalance, using computer-based patient simulation. Depending on each student's interests, special topics include analysis of patient data, design of parenteral and dialysate fluids, mathematical principles, patient simulation using on-line patient data, or analysis of physiologic mechanisms. Mr. Deland (W)
220. Kinetic and Steady State Models in Pharmacology and Physiology. Recommended: knowledge of linear algebra, differential equations, and statistics. Designed for biologists and theoreticians. Modeling and data analysis in pharmacokinetics, enzyme kinetics, and endocrinology. Topics include compartmental and noncompartmental approaches, steady-state analysis of transport and binding, biological kinetics, and optimal experiment design. Mr. Landau (Sp)

M230. Computed Tomography: Theory and Applications. (Same as Radiological Sciences M230.) Prerequisites: 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. S.-C. Huang (W)

M231. Special Topics: Statistical Methods for Categorical Data. (Same as Public Health M201E.) Lecture, three hours; discussion, one hour. Prerequisites: Public Health 100B or 101B, Mathematics 150C or 152B, or equivalent, consent of instructor. Statistical techniques for the analysis of categorical data including discussion and illustration of their applications and limitations. Mr. Korn (W)

M232. Statistical Analysis of Incomplete Data. (Same as Public Health M202F.) Lecture, three hours; laboratory, one hour. Prerequisites: Public Health 100B or 101B, Mathematics 150C or 152B, or equivalent, consent of instructor. Statistical methods for the analysis of incomplete data sets, with material from the sample survey, econometric, biometric, psychometric, and general statistical literature. Topics include treatment of missing data in statistical packages, missing data in ANOVA and regression imputation, weighting, likelihood-based methods, and nonrandom nonresponse models. Emphasis on application of the methods to applied problems, as well as on the underlying theory. S/U or letter grading. Mr. Little (Sp, odd years)

M233. Simultaneous Statistical Inference. (Same as Public Health M202G.) Lecture, three hours; discussion, one hour. Prerequisites: Mathematics 150C, Public Health 200C, M205A. Methods and theory of simultaneous statistical inference. Mr. Korn (Sp, odd years)

M234. Applied Bayesian Inference. (Same as Public Health M202H.) Lecture, three hours; discussion, one hour. Prerequisites: Mathematics 150C, Public Health 200C, and M205A, or consent of instructor. The Bayesian approach to statistical inference, with emphasis on biomedical applications and concepts rather than mathematical theory. Topics include a sample Bayes inference from likelihood, noninformative and conjugate priors, empirical Bayes. Bayesian approaches to linear and nonlinear regression, model selection, bootstrap hypothesis testing, and numerical methods. S/U or letter grading. Mr. Little (Sp, even years)

M246. Probability Models and Statistical Methods in Genetics. (Same as Anthropology M222C.) Lecture, three hours. Prerequisites: Anthropology 222P, Mathematics 3A, two quarters of statistics, graduate standing. An introduction to probability models and statistical methods in genetics. Maximum likelihood estimation for estimating genetic parameters illustrated and discussed in detail. Mr. Read (W)

CM256. Human Genetics. (Same as Biology CM256.) Lecture, three hours; discussion, one hour. Prerequisites: Biology 8, Chemistry 25. The application of genetic principles in human populations, with emphasis on cytogenetics, biochemical genetics, population genetics, and family studies. Lectures and readings in the literature, with focus on current questions in the fields of medical and human genetics and the genetic counseling appropriate to answer such questions. Concurrently scheduled with course CM156. Independent research project required of graduate students. Mr. Memiam, Ms. Spence (Sp)

M270. Optimal Experiment Design and Control for Biological and Other Dynamic Systems. (Same as Computer Science M270D and Medicine M270D.) Prerequisites: Computer Science 270B and M270C, or consent of instructor. Theory and algorithms for designing optimal experiments for quantifying or optimal inputs for controlling dynamic systems in engineering and life sciences. Optimal sampling schedules for parameter estimation. Control optimization and variations for designing optimal test-inputs. Algorithms, software, and applications in medicine and engineering. Mr. Jennrich (F)

M281. Survival Analysis. (Same as Public Health M201K.) Lecture, three hours; discussion, one hour. Prerequisites: Mathematics 150C and Mathematics 152C or 152B, or equivalent, consent of instructor. Statistical methods for the analysis of survival data. Mr. Elashoff (F)

M282. Problems of Statistical Consultation. (Same as Public Health M202E.) Lecture, two hours; discussion, one hour; laboratory, two hours. Prerequisites: graduate course in applied statistics. Textbook and original problems requiring special expertise in design and analysis. Use of computer packages to diagnose failure of assumptions, suitability of models, and alternate analyses in statistical packages. Mr. Little (W)

596. Directed Individual Study or Research in Biomathematics (2 to 12 units). Individual study on topics not yet covered by the offerings of the department. May be repeated for credit with topic change.

597. Preparation for M.S. or Ph.D. Comprehensive Examination or Ph.D. Qualifying Examinations (2 to 8 units). Prerequisite: consent of graduate adviser. Individual study. S/U grading.

Microbiology and Immunology

32-127 Center for the Health Sciences, (213) 825-6275

Acting Executive Chair
Roy T. Young, M.D.

Chairs
Lawrence R. Freedman, M.D., M.D. (Wadsworth VA)
Richard J. Glassock, M.D. (Harbor-UCLA)
A. Paul Kelly, M.D., Acting (King/Drew)
Stanley G. Korneman, M.D. (Sepulveda VA)

Vice Chairs
Robert S. Sparkes, M.D. (Academic)
Roy T. Young, M.D. (Training and Clinical)

Scope and Objectives

The principal goal of the Department of Medicine is to educate students in the expert diagnosis and comprehensive management of human illness. Building on the biochemical, physiological, and behavioral foundations of the preclinical experience, students are taught in-information acquisition through history taking, physical examination, and laboratory evaluation; information synthesis by 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.

In instruction in the department is provided in the sophomore, junior, and senior years of medical school, with the junior and senior years constituting a continuum of clinical experience. Students become integrated into a ward team and 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 intern 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 most 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 are interwoven disciplines. Microbiology has played a central role in all aspects of biological sciences, including morphogenesis, genetics, developmental biology, physiology, biochemistry, and cell biology. An understanding of microbiology is thus fundamental to biological research. Immunology, once a branch of microbiology, is now a major biological discipline and a basic component of disease-oriented microbiology.

The graduate program in microbiology and immunology is closely associated with advanced (postdoctoral) training in research, clinical and public health diagnostic work, and industrial applications. Careers in microbiology and immunology include industrial appointments and clinical laboratory supervision in both government agencies and private enterprises and academic positions.

Master of Science Degree

The department does not accept students whose sole objective is a master's degree.

Ph.D. Degree

Admission

In addition to the University minimum requirements, the following items are required:

1. A bachelor's degree with a major in either the biological or physical sciences.
2. At least a B+ in chemistry, physics, and mathematics; at least a B average in biology (upper division and prior graduate study).
3. Three favorable letters of recommendation.
4. Graduate Record Examination (GRE) general test and subject test in biology.
5. Acceptable statement of purpose.
6. An interview with members of the department graduate student committee when indicated.

For departmental brochures and/or application forms, write to the Graduate Student Office, Department of Microbiology and Immunology, 43-204 CHS, UCLA, Los Angeles, CA 90024.

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 202A, 202B, 202C, 202D are required and must be completed during your first year of study.
2. Course 596 is required. You complete a laboratory rotation program during your first year of study.
3. Courses M258A and M258B are required.
4. Biological Chemistry M253 and six additional units of graduate biochemistry (Biological Chemistry M267 is recommended) are required.
5. Additional course requirements are determined by your major field and your major professor.

Teaching Experience

Teaching assignment in one laboratory section of Microbiology and Immunology 201, 212, or another laboratory course presented by the department is required.

Qualifying Examinations

The departmental written qualifying examination is to be taken at the end of your first year of graduate study. The examination consists of a three-hour written test in your major (immunology, medical microbiology, or virology) and two three-hour tests in two additional minor field topics selected from bacteriology, genetics, immunology, molecular biology, mycology, parasitology, and virology. 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 is separately scheduled at the end of your first year and may be repeated once if failed.

You have the option of completing the University Oral Qualifying Examination by the end of either the second year (Plan I) or the third year (Plan II). Advancement to candidacy is awarded after successful completion of this examination. If inadequacies are encountered, you may be required to repeat the examination, in which case Plan II becomes mandatory.

Plan I (passed within 24 months) includes the preparation and defense of a research proposal (the topic is the same as the research that you intend to use as your thesis work) and the demonstration of general knowledge of microbiology and immunology.

Plan II (passed within 36 months) includes the preparation and defense of a research proposal (the topic is in a different area and uses a different approach from that of your thesis project and research, but within the fields of interest in the department), an explanation of the research and results, and the demonstration of general knowledge of microbiology and immunology.

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 presented in the University-required format.

Final Oral Examination

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

M185. Immunology. (Same as Biology M185 and Microbiology M185.) Lecture, three hours; discussion, one hour. Prerequisites: Biology 8, Chemistry 23, 25. Recommended corequisite: Chemistry 152 or 155. Introduction to experimental immunobiology and immunohematology; cellular and molecular aspects of humoral and cell immune reactions.
Mr. Clark, Mr. Sercarz (F)

M186. Experimental Design in Immunology. (Same as Biology M186 and Microbiology M186.) Laboratory, 12 hours. Prerequisites: course M185, consent of instructor. Corequisites: course M187. Emphasis on a limited number of situations designed to train the student in organizing and evaluating immunological laboratory experiments.
Mr. Clark, Mr. Sercarz (W)

M187. Immunology Seminar (2 units). (Same as Biology M187 and Microbiology M187.) Prerequisites: course M185, consent of instructor. Corequisites: course M186. Student presentation of selected papers from the immunology literature. Designed to serve as a forum for the critical analysis of research papers.
Mr. Clark, Mr. Sercarz (W)

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. Limited to 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 immunocommunity; cellular and molecular aspects of humoral and cell-mediated immune functions.

202B. Medical Bacteriology (2 units). Prerequisite: consent of instructor. Characteristics of bacteria relevant to clinical infections. 

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. Introductions to tumor viruses.

202D. Medical Mycology and Parasitology (2 units). Prerequisite: consent of instructor. Morphology, physiology, and pathogenicity of the fungi which cause human and animal diseases. Study of the morphology, biology, host-parasite relationships, public health aspects, and control of protozoa, helminths, and arthropods parasitic in and on humans and animals.

206. Secretary and Gastrointestinal Immunity (2 units). (Same as Oral Biology M206.) Focus on the anatomy and physiology of the GI tract, the intestines, and the related lymphatic and blood vascular systems in relation to the immune system. The secretory and systemic immune systems, with particular emphasis on the unique properties of SIGA. Discussion in terms of recent experimental findings of the ability to process enteric antigens, to respond, and to regulate enteric immunity. The role that enteric immunity may play in diseases of the GI tract, such as dental caries and inflammatory bowel diseases. Students participate in discussions following each lecture and present seminars based on a review of the relevant scientific literature.

208. 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. Activities include workshop discussions with students in the anatomy and physiology of several of the viruses, such as viral structure, viral cell interaction, virus replication, and viral oncogenesis. Special emphasis on understanding the molecular mechanism involved in the control and regulation of replication, transcription, and translation in viral genomes and their complex interactions with host.

210. Medical Mycology (3 units). Prerequisites: course M185, Microbiology 101, C103A, C103B. Recommended: Microbiology 110 (consent of instructor may be obtained in special cases). A study of the morphology, physiology, and pathogenicity of fungi causing human and animal diseases.

210L. Medical Mycology (2 units). Prerequisites: course M185, Microbiology 101, C103A, C103B. Recommended: Microbiology 110 (consent of instructor may be obtained in special cases). Laboratory application of principles discussed in course 210. Laboratory must be taken by undergraduate students.

212. Laboratory Procedures in Immunological Research (2 units). (Formerly numbered M212.) Prerequisites: course M185 or equivalent, consent of instructor. Limited to 25 students. A series of intensive laboratory workshops designed to acquaint students with the advanced methodologies utilized for immunological research. Workshops offered at regular intervals and last two to three days. Successful completion of four workshops constitutes the requirements for the course. 

214. Bacterial Pathogenesis. Lecture, two hours. Prerequisites: course 202B and/or consent of instructor. A study of the genetic and biochemical properties of bacteria and factors of the host which are relevant to the pathogenesis of bacterial diseases. S/U or letter grading.

215. Interdepartmental Course in Tropical Medicine (2 units). (Same as Medicine M215, Pathology M215, and Pediatrics M215) Prerequisite: courses in microbiology and parasitology of infectious diseases in the School of Medicine or Public Health. Course deals with the principles of medicine and public health to present current knowledge about diseases prevalent in tropical areas of the world. Use of lectures, demonstrations, and audiovisual materials. Corequisites: five units. Prerequisites: five units or course M185 or 202A or consent of instructor. Reading and discussion of current research articles on the topics of infectious diseases, with coverage of problems in nutrition and exotic noninfectious diseases. A syllabus supplements the topics covered in the classroom. 

222. Membrane Behavior. (Formerly numbered M222.) Lecture, two hours; discussion, two hours. Prerequisite: consent of instructor. Description and related topics of membrane structure and function of membranes as both barriers to and mediators of normal and pathological biological responses. Development of general principles of membrane behavior from studies of simple and complex biological systems.

M223. Membrane Research Seminar (2 units). (Same as Microbiology M223.) Prerequisite: consent of instructor. Critical discussions of the current literature in membrane research, with emphasis on the relationship between structure and function in lipid bilayers. May be repeated for credit.

M252. Seminar in Viral Pathogenesis (2 units). Prerequisites: course M201 and Microbiology M260.) Prerequisite: consent of instructor. Lecture, two hours; discussion, two hours. Prerequisite: course M185 or 202A or consent of instructor. Reading and discussion of recent research articles on cancer, including viral structure, virus-cell interaction, and evaluation of attempts at immunotherapy of tumors. S/U grading.

M255A. Molecular Genetics of the Immune System (2 units). (Same as Biology M250A and Microbiology M258A.) Lecture, two hours; discussion, two hours. Prerequisite: consent of instructor. Reading and discussion of current research articles on immunoglobulin and T, B cell antigen receptors, and loci affecting differentiation. S/U or letter grading.

M258B. T and B Cell Function (2 units). (Same as Biology M250B and Microbiology M258B.) Lecture, two hours; discussion, two hours. Prerequisite: consent of instructor. Reading and discussion of current research articles on T cell and B cell immunity, with coverage of problems in nutrition and exotic noninfectious diseases. A syllabus supplements the topics covered in the classroom. S/U or letter grading.

M258C. Major Histocompatibility Complexes (2 units). (Same as Biology M250C and Microbiology M258C.) Lecture, two hours; discussion, two hours. Prerequisite: consent of instructor. Reading and discussion of current research articles on tolerance and autoimmunity, autoimmune disease models, immune complex disease, immediate hypersensitivity and its cellular and molecular mechanisms, and immune deficiency disease. S/U or letter grading.

M258E. Immunoregulation (2 units). (Same as Biology M250E and Microbiology M258E.) Lecture, two hours; discussion, two hours. Prerequisite: consent of instructor. Reading and discussion of current research articles on immune networks, suppressor T cells, tolerance at T-B cell levels, and Ig gene control. S/U or letter grading.

M258F. Immunocommunity (2 units). (Same as Biology M250F and Microbiology M258F.) Lecture, two hours; discussion, two hours. Prerequisite: course M185 or 202A or consent of instructor. Reading and discussion of current research articles on the immunochemistry of antibodies, antigens, and complements, antigenic recognition, antibody restriction. S/U or letter grading.

M258G. Immunopathology (2 units). (Same as Biology M250G and Microbiology M258G.) Lecture, two hours; discussion, two hours. Prerequisite: course M185 or 202A or consent of instructor. Reading and discussion of recent research articles on the immunochemistry of antibodies, antigens, and complements, antigenic recognition, antibody restriction. S/U or letter grading.

M259. Immunoregulation (2 units). (Same as Biology M250F and Microbiology M258F.) Lecture, two hours; discussion, two hours. Prerequisite: course M185 or 202A or consent of instructor. Reading and discussion of current research articles on the immunochemistry of antibodies, antigens, and complements, antigenic recognition, antibody restriction. S/U or letter grading.

M260. Immunology Forum (2 units). (Same as Microbiology M260.) Prerequisite: course M185. A broad range of current topics in immunology presented and discussed at an advanced level. A continuing UCLA-wide, general graduate-level seminar involving faculty, postdoctoral immunologists, and graduate students from diverse departments. S/U or letter grading.

261. Tumor Immunology (2 units). Prerequisites: course M185 or 202A, M258B, or consent of instructor. Examination of the experimental basis for investigation of immune response to tumor, review of cell-mediated immunity and related human immunity; evidence for tumor-associated antigens in neoplasms; treatment at immunotherapy of tumors. S/U or letter grading.

262. Seminar in Immunobiology of Cancer (2 units). Prerequisite: consent of instructor. Review recent literature in the fields of immunology, biology, and biochemistry of cancer, with emphasis on fundamental studies involving cell-mediated immunity, humoral response, tumor specific antigens, and new techniques. Reports on scientific meetings discussed and evaluated. S/U grading.

Mr. Bonavia (W)
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

1-239 Reed Neurological Research Center, (213) 825-5647

Acting Chair
Robert W. Baloh, M.D.

Vice Chairs
Mark A. Goldberg, M.D., Ph.D., in Residence (Harbor-UCLA)
Christian Herrmann, Jr., M.D.
Wallace W. Tourtellot, 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 clinical examination of the normal nervous system; in the second year, neurological history taking and neurological examination of afflicted patients are stressed. The third year consists of a clerkship at an affiliated hospital, 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.

Neuroscience (Interdepartmental)

73-346 Center for the Health Sciences, (213) 825-8153

Professors
Larry L. Bulcher, Ph.D. (Psychology), Chair
Carmine D. Clemente, Ph.D. (Anatomy)
Samuel Eduson, Ph.D., in Residence (Psychiatry and Biological Chemistry)
Jerome Engel, M.D., Ph.D. (Neurology)
Joaquin M. Fuster, M.D. (Psychiatry)
Ronald M. Harper, Ph.D. (Anatomy), Vice Chair
Michael T. McGuire, M.D. (Psychiatry)
Richard W. Olsen, Ph.D. (Pharmacology)
Stephen Zamenhof, Ph.D., Emeritus (Microbiology and Immunology)

Associate Professors
Michael S. Letinsky, Ph.D. (Physiology)
Peter M. Narins, Ph.D. (Biophysics)

Scope and Objectives

Few research fields have greater potential and importance to mankind than neuroscience. The brain is responsible for every human thought, emotion, action, and accomplishment. It is a miraculous organ which orchestrates and paces human maturation; permits us to learn, remember, reason, and behave as we do; and coordinates the function of every other organ and structure in the body.

To understand this complex organ completely is, perhaps, an unapproachable objective since it is the principal organ responsible for mankind's evolution and is itself constantly evolving. Yet, basic questions relating to neural function and dysfunction are approachable, and the solutions to many human neurological and psychiatric disorders can be achieved only through brain research.

The interdisciplinary program of graduate training leading to the Ph.D. in Neuroscience utilizes facilities, resources, and activities of the Brain Research Institute and is administered by an interdepartmental degree committee.

Ph.D. Degree

Admission

All applicants must satisfy the University minimum requirements. In addition, Graduate Record Examination (GRE) or Medical College Admission Test (MCAT) scores are required. Recommended preparation includes mathematics through calculus and at least one year each of general chemistry, organic chemistry, physics, and basic biology. Three letters of recommendation are required.

Information regarding the program may be obtained by writing to the Neuroscience Office, 73-346 CNS, UCLA, Los Angeles, CA 90024.
Major Fields or Subdisciplines
Biobehavioral sciences; neuroanatomy; neurochemistry; neurocybernetics and communication; neuroendocrinology; neuroimmunology; neuropathology; neuropharmacology; neurophysiology.

Foreign Language Requirement
The program does not have a language requirement but does have a breadth requirement which can be satisfied in one of the following ways:
(1) Passing the Graduate School Foreign Language Test in one of the approved languages (French, German, or Russian) with a score of 500 or better. Any exceptions must be approved by the neuroscience committee.
(2) Completing an in-depth minor in an area related to your field. A minor is defined as at least eight units of study beyond the introductory level.

Course Requirements
Basic course requirements include Biology 171 (or Physiology 213, 214, or 215 with approval of the neuroscience committee), Bio- mathematics 170A, 210, Neuroscience M201A-M201B, M206A, M206B, M221A-M221B, 233, and electives and laboratory experience as determined in consultation with your adviser.

Substitutions to the basic requirements may be made, depending on your background, with consent of the graduate adviser. You are expected to complete the core courses within your first two years of study.

Teaching Experience
Teaching experience is not required for the degree. However, such experience is obtained by virtually all students in Neuroscience 233, which is required.

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, to locate and interpret literature, and to apply research problems.

After passing the written qualifying examination, you and your adviser select your doctoral committee to administer the University Oral Qualifying Examination, which is normally taken after the written qualifying examination and the breadth requirements have been completed.

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 optional with your doctoral committee.

Graduate Courses

(Short years)
M201A-M201B-M201C. The Functional Organization of Behavior (2 units each). (Same as Psychology M201A-M201B-M201C.) Prerequisite: consent of instructor. Course M201A is prerequisite to M201B, which is prerequisite to M201C. M201A. The development of behaviors within different species and the functional uses of behaviors; use of an evolutionary biological perspective as the framework. M201B. Research studies designed to take into account the functional behavior of animals. M201C. Special questions of interest to students.

Mr. McGuire, Mr. Woody (F,W,Sp)
M204. Structure and Function of the Limbic System (2 units). (Same as Neurology 204.) Prerequisite: consent of instructor. Current knowledge of the mammalian limbic system presented by surveys of its developmental anatomy, intrinsic synaptic organization, synaptic chemical, afferent and efferent systems, and dysfunctions in memory and cognition associated with limbic system function. The pathophysiology of limbic epilepsy, related to normal limbic system structure and functions. Mr. Babb

205. Brain-Behavioral Strategies for the Neurosciences (3 units). Prerequisite: consent of instructor. Emphasis on behavioral designs, methods, and instruments employed to test specific neurological afferent-effector and integrative systems of the central nervous system. The programming of signals and incentives in arousal, habituation, classical conditioning, and operant conditioning paradigms discussed in terms of the neural challenges for the coping animal. Emphasis on behavioral methods, along with concurrent recording of neurophysiological data. Designed primarily to present practical behavioral techniques to neuroscience students.

Mr. McGuire, Mr. Woody (F,W,Sp)
M206A. Neurosciences: The Introductory Course for Graduate Students (5 units). (Same as Anatomy M206A.) Lecture, four hours; laboratory/demonstrations, three hours. Prerequisites: a college-level course in biology or zoology, some familiarity with the subjects of electrophysics and electronics, consent of instructor. Introductory course on the principles of organization and function of the nervous system, intended for graduate students in relevant disciplines and as background for more advanced courses for students specializing in the neurosciences.

Mr. Decima, Mr. Scheibel, Mr. Segundo (W)
M206B. Neurosciences: The Intermediate Course for Graduate Students (7 units). (Same as Anatomy M206B.) Lecture, six hours; laboratory, two hours; tutorial contacts. Prerequisites: course M206A or 103A-103B, or equivalent, consent of instructor. Neuronal excitability and integration, sensory mechanisms, and motor control as related to behavior.

Mr. Decima, Mr. Scheibel, Mr. Segundo (Sp)

Ms. Buchwald (F), Mr. Halgren (Sp), Ms. Van Lancker (W)
M221A-M221B. Cellular and Molecular Neurochemistry. (Same as Anatomy M221A-M221B, Biological Chemistry M221A-M221B, Pharmacology M221A-M221B, and Psychiatry M221A-M221B.) Lecture, three hours. Prerequisites: Biological Chemistry 101A-101B-101C or equivalent. Contemporary neurochemistry for students in a general background in biochemistry. Relates the biochemical and structural properties of the nervous system to its development and functions and introduces students to subjects that result from alterations in the fundamental biochemistry of the nervous system. Although the subject is treated in an interdisciplinary manner, course progresses from structure through chemistry to function in precise manner and biological terms.

Mr. de Vellis, Mr. Eiduson, Mr. Olsen (W,Sp)

M235. Gut and Brain Peptides (2 units). (Same as Anatomy M235 and Physiology M235.) Prerequisite: consent of instructor. Presentation of our knowledge of gut and brain peptides by surveying their chemistry, anatomy, and physiology. Experimental approaches used to study biologically active peptides. Review of current information about effects of major gut and brain peptides. S/U or letter grading.

Mr. Brecha, Mr. Reeves, Ms. Tache (W)
254. Interdisciplinary Research Seminar (2 units). Lectures and discussions on many different disciplines in the neurosciences. The student must work closely with a faculty member to broaden the experience of students studying fields that are not part of the program in neuroscience. S/U grading.
M256A-256B-256C. Survey of the Basic Neurological Sciences (2 units each). Summary information concerning methodologies utilized in different research approaches to brain study (e.g., neurophysiology, neuroendocrinology, brain ultrastructure, neuropharmacology, and others) and brief review of present state of knowledge available from each. For students with interest in interdisciplinary aspects of brain research.

(Short years) Mr. Parmalee
259A-259B-259C. Neurophysiology of Behavior: The Fetus, Newborn, and Infant (2 units each). An integrated review of neuroanatomic, neurophysiologic, and behavioral development of human and animal fetuses and infants. Correlation of behavior with the development of the brain during this period, and postnatal change in both.

Mr. Parmalee
M261. Neuronal Circuit Analysis (2 units). (Same as Anatomy M261.) Lecture/discussion, three hours. Prerequisites: courses M206A, M206B, or equivalent. A seminar with strong emphasis on graded reading assignments. An integrated view of neuronal circuit analysis at an advanced level; the layout and performance of a variety of basic neuronal circuits serving different control functions.

Mr. Schlag (W)
596. Directed Individual Study or Research (2 to 12 units). Prerequisite: consent of instructor.

Mr. Butcher
597. Preparation for Ph.D. Qualifying Examinations (2 to 12 units). Prerequisite: consent of instructor.

Mr. Butcher
599. Dissertation Research for Ph.D. Candidates (4 to 12 units). Designed for students requiring special instruction or time to work on dissertation.

Mr. Butcher
Obstetrics and Gynecology

24-153 Center for the Health Sciences, (213) 825-5688

Chair
J. George Moore, M.D.

Vice Chairs
Richard A. Bashore, M.D. (Administration)
Ezra C. Davidson, M.D. (King/Drew)
William J. Dignam, M.D. (UCLA Medical Center)
John R. Marshall, M.D. (Harbor-UCLA)
Dominic Muzsnai, M.D. (Olive View)
Maelyn E. Wade, M.D. (Cedars-Sinai)

Scope and Objectives

The undergraduate program in obstetrics and gynecology is designed to teach students the physiology of women in infancy, childhood, and adolescence, an understanding of reproductive endocrinology during the menstruating years, experience in the management of obstetric deliveries, and an understanding of the changes in the postmenopausal years. The program includes experience in the management of normal and pathological obstetrical conditions, the anatomical and physiological variants following childbirth, and gynecological abnormalities not necessarily related to reproduction.

Students work on the wards and in the outpatient clinics during the third year, with clinical experience continuing during the fourth year in the advanced clinical clerkship.

The graduate medical education program in obstetrics and gynecology includes a four-year course of instruction. Subspecialty units provide instruction in perinatal medicine, general gynecology, gynecologic oncology, reproductive endocrinology, and family planning and sex counseling.

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.

Ophthalmology

2-142 Jules Stein Eye Institute,
(213) 825-5051

Chair
Bradley R. Straatsma, M.D.

Vice Chairs
Robert E. Christensen, M.D.
Sherwin J. Isenberg, M.D. (Harbor-UCLA)

Scope and Objectives

Ophthalmology is the medical science that encompasses knowledge concerning the eyes and the visual system. Derived from many basic and clinical fields, this knowledge must be synthesized by the physician and applied to the prevention, diagnosis, medical management, and surgical therapy of ocular disease.

In response to the steadily increasing incidence and growing importance of ocular disorders, the Department of Ophthalmology and the Jules Stein Eye Institute are closely coordinated to form a comprehensive center for research in the sciences related to vision, for the care of patients with disease of the eyes and related structures, and for education in the broad field of ophthalmology.

The Department of Ophthalmology provides instruction to medical students during the second, third, and fourth years. Through lectures, demonstrations, discussions, and the opportunity to examine patients with a variety of ocular conditions, students gain knowledge and experience in ophthalmology.

For further details on the Department of Ophthalmology and a listing of the courses offered, see the Announcement of the UCLA School of Medicine.

Pathology

13-327 Center for the Health Sciences, (213) 206-6307

Professors
Marcel A. Baluda, Ph.D.
Luciano Barajas, M.D.
Pasquale A. Cancilla, M.D., Ph.D.
Alistair J. Cochran, M.D., Ph.D., in Residence
Walter F. Coulson, M.D.
Robert Y. Foos, M.D.
Paul C. Fu, Ph.D., in Residence
Yao-Shi Fu, M.D.
Richard A. Gatti, M.D.
Hideo H. Itabashi, M.D., Ph.D., in Residence
Harrison Latta, M.D.
Juan Lechago, M.D., Ph.D., in Residence
Klaus J. Lewin, M.D., Ph.D., Vice Chair
Joseph M. Mira, M.D.
Robert J. Morin, M.D., in Residence
Byron A. Myvre, M.D., Ph.D., in Residence
Donald E. Paglia, M.D.
David D. Porter, M.D.
Denis G. Rodger, Ph.D., in Residence
George S. Smith, M.D.
Julien L. Van Lancer, M.D.
M. Anthony Venty, M.D.
Roy L. Wallford, M.D.
Luciano Zamboni, M.D., in Residence, Vice Chair
W. Jann Brown, M.D., Emeritus
William H. Carnes, M.D., Emeritus
Baldwin G. Lamson, M.D., Emeritus
M. Michael Lubman, M.D., Ph.D., Emeritus
Sidney C. Madden, M.D., Emeritus

Associate Professors
Judith A. Berliner, Ph.D., in Residence
Arthur H. Cohen, M.D., in Residence
Faramarz Naem, M.D., in Residence
Shi-Kuang Peng, M.D., in Residence

Assistant Professors
Sanford H. Barsky, M.D.
Jonathan Braun, M.D.
Paul S. Dickman, M.D., in Residence
Thomas A. Drake, M.D., in Residence
Faye A. Eggderring, M.D., Ph.D.
Oliver Hankinson, Ph.D., in Residence
S. David Hutnall, M.D., in Residence
William Lewis, M.D.
James H. McBride, Ph.D., in Residence
Harry V. Vinters, M.D.

Adjunct Professors
Ruth Gussen, M.D.
Frank M. Hirose, M.D.

Adjunct Associate Professors
Peter J. Howantz, M.D.
Roberta K. Nielberg, M.D.
Dorothy L. Rosenthal, M.D.
Nora C.J. Sun, M.D.

Adjunct Assistant Professors
Sunilta M. Bhuta, M.D.
Camilla J. Cobb, M.D.
Richard H. Weinrich, 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 prevention, 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 generally 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 are the same as those for the Ph.D., with the following exceptions:

1. Only 30 units of the listed electives are required in addition to the core courses.
2. You are also expected to enroll in a minimum of eight units of Pathology 599 each quarter, starting in the third year. These may not be applied toward the minimum course requirement for the degree.
3. You must pass the written qualifying examination at the master’s level. The University Oral Qualifying Examination acts as the comprehensive examination. A thesis is also required, which encompasses individual research.

Ph.D. in Experimental Pathology

Admission

In addition to the University minimum requirements, Graduate Record Examination (GRE) Aptitude Test scores and three letters of recommendation are required. There is no application form in addition to the one used by the Graduate Division. Because of the sequencing of classes, applicants are generally considered for admission to the Fall Quarter only. For departmental brochures, write to the Chair, Department of Pathology, 13-327 CHS, UCLA, Los Angeles, CA 90024.

Students intending to take advanced degrees in the Department of Pathology must have a bachelor’s degree in physical or biological sciences or in the premedical curriculum. M.D.s are also encouraged to apply. Minimum course requirements for admission normally include one year of calculus, physics, general chemistry, organic chemistry, and biological sciences.

A physical chemistry course requiring calculus, a course in molecular biology, and a course in histology are recommended and are required before taking the written qualifying examination. In some cases, deficiencies in the prerequisites may be fulfilled in the first year of study.

Course Requirements

The following courses are required: Pathology 231A, M240, 242A, 242B, 244, 250A-250B-250C, 251, M293, and Biomathematics 170A. Three laboratory rotations must be taken to intelligently select a thesis adviser. In addition, if you are beginning the program with a bachelor’s degree, you must select 40 units from remaining pathology courses and related biomedical areas of interest at the upper division or graduate level. Within these electives, you must take courses to obtain a basic knowledge of biochemistry and molecular biology. If you are entering the program with a master’s degree or M.D., you may have fewer elective units to complete for the Ph.D.

Teaching Experience

You may assist for one or two quarters in medical or dental pathology courses to gain teaching experience.

Qualifying Examinations

After the core course requirements are completed (usually at the end of the second year), a comprehensive written qualifying examination covering core courses and required basic knowledge is administered. If examiners feel that some questions should be elaborated on orally, you must do this within three months of the written examination. If failed, the examination may be repeated.

Six months to one year after the written examination, the University Oral Qualifying Examination is administered by the doctoral committee. This examination normally includes defense of the subject matter of your proposed dissertation topic. You are expected to have done preliminary work before the examination and to demonstrate a wide and comprehensive knowledge of your special subject. After passing, you are advanced to candidacy.

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.

Graduate Courses

200A, Dental Pathology (3 units). Lecture, 90 minutes; laboratory, three hours. Prerequisite: consent of instructor. The fundamental causes of disease processes, using as examples selected lesions or diseases of major organ systems.

Mr. Foos and the Staff

M215. Interdepartmental Course in Tropical Medicine (2 units). (Same as Medicine M215, Microbiology and Immunology M215, and Pediatrics M215.) Prerequisites: basic courses in microbiology and parasitology of infectious diseases in the School of Medicine or Public Health. Course draws on expertise in the Departments of Medicine, Pediatrics, Pathology, and Microbiology and Immunology to present current knowledge about diseases prevalent in tropical areas of the world. Use of lectures, demonstrations, and audiovisual materials to describe diseases which are prevalent in or localized in certain geographic areas. Major emphasis on infectious diseases, with coverage of problems in nutrition and exotic noninfectious diseases. A syllabus supplements the topics covered in the 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 an area of general pathology.

Ms. Eggerding and the Staff (F)

231B-231C. Pathophysiology of Disease (8 units each). Prerequisites: course 200A, 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 an area of general pathology. In Progress: graduate standing, and the Staff (W,Sp).

Mr. Glasscock, Mr. Porter

242A. Molecular Mechanisms in Disease (2 units). Prerequisites: course 231A, consent of instructor. A description of molecular events resulting from administration of injurious chemical and physical agents (u.v., X rays, carcinogens, toxins, etc.) and from reactions to injuries (e.g., necrosis, degeneration, hyperplasia, neoplasia, inflammation, etc.) and an interpretation of structural and functional disturbances in terms of the molecular alterations.

Mr. Van Lancker and the Staff

242B. Molecular Mechanisms in Disease (2 units). Prerequisites: course 242A, consent of instructor. A description of molecular events resulting from administration of injurious chemical and physical agents (u.v., X rays, carcinogens, toxins, etc.) and from reactions to injuries (e.g., necrosis, degeneration, hyperplasia, neoplasia, inflammation, etc.) and an interpretation of structural and functional disturbances in terms of molecular alterations.

Mr. Van Lancker and the Staff

244. Electron Microscopy in Experimental Pathology. Lecture, six hours; discussion, four hours. Ultrastructural aspects of pathology, including introduction to use of modern methods of electron microscopy in pathological studies, essentials of normal ultrastructure, and ultrastructural phenomena in general pathology.

Mr. Berliner, Ms. Frank

250A-250B-250C. Pathology Graduate Student Seminar (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.

Mr. O’Donnell and the Staff

250A-250B-250C. Pathology Graduate Student Seminar (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.

Mr. O’Donnell and the Staff

251. Pathology Graduate Student Laboratory Seminar (2 units). Prerequisite: consent of instructor. Consists of 10 two-hour seminars, conducted by Pathology Department staff and guest lecturers, which may include demonstrations of apparatus and methods dealing with new and advanced experimental techniques of value in experimental pathology. Subjects include the biochemistry, biological and morphological techniques in tissue fractionation, tissue culture, and radioautography (electron microscopy, etc.) that are frequently used in the study of disease mechanisms.

Mr. Hankinson, Mr. Rodgerson

253. Free Radical Pathology (2 units). Lecture, four and one-half hours. Prerequisites: basic biochemistry, physical chemistry. Free radicals, mechanisms of formation, properties, and reactions. Reactions with significant biomolecules. Modes of production in vivo. Reactions in vivo. Protection against and sensitization toward these damaging effects.

Mr. O’Donnell
M256. Seminar in Viral Oncology (2 units). (Same as Microbiology and Immunology M256.) An advanced research seminar designed to consider the current developments in the field. Selection of current subjects and publications dealing with tumor viruses, oncopgenes, 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 the 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). Ms. Berliner (Sp)

261A-261B-261C. Laboratory Rotation (2 units each). Laboratory, six hours. An introduction to research with individual instructors, laboratories.

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. Hankinson, Mr. Seeger (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 the purpose of supplementing programs available in the department. S/U grading.


Olive View Medical Center. The clinical fundamentals course offers medical students detailed instruction in the techniques of the clinical examination of pediatric patients.

The required six-week clinical clerkship in pediatrics is given at one 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.

Scope and Objectives

The Department of Pediatrics encompasses four teaching hospitals: UCLA, Harbor-UCLA, King/Drew, and Cedars-Sinai Medical Centers. The UCLA Medical Center integrates its clinical program and teaching activities with the

Pharmacology

23-278 Center for the Health Sciences, (213) 825-5596

Professors

Jorge R. Barrio, Ph.D.
Robert O. Bauer, M.D.
Arthur K. Cho, Ph.D., Vice Chair
Matthew E. Conolly, M.D.
Werner E. Flacke, M.D.
Daniel X. Freedman, M.D.
Robert George, Ph.D.
Mark A. Goldberg, M.D., Ph.D., in Residence
William L. Hewitt, M.D.
Louis J. Ignarro, Ph.D.
Murray E. Jarvik, M.D., Ph.D.
Donald J. Jenden, M.D., Ph.D. (h.c.), Chair
Peter Lomax, M.D., D.Sc.
Ronald Okun, M.D., in Residence
Richard W. Olsen, Ph.D.
Jeremy H. Thompson, M.D., F.R.C.P.I.
Dermot B. Taylor, M.D., Emeritus

Associate Professors

Don H. Cattin, M.D.
Bernard K-K. Fung, Ph.D., in Residence

Assistant Professors

Cameron B. Gunderson, Ph.D., in Residence
Sherrel G. Howard-Butcher, Ph.D.
R. Craig Kammerner, Ph.D.
Bjorn V. Ringdahl, Ph.D., in Residence

Lecturer

Joseph H. Beckerman, Pharm.D.

Adjunct and Visiting Professors

II Jin Bak, Ph.D., D.D.S., Adjunct
Yi-Han Chang, Ph.D., Adjunct
Roger W. Russell, Ph.D., Visiting

Adjunct Associate Professors

M. David Fairchild, Ph.D.
Larry A. Wheeler, Ph.D.

Scope and Objectives

The Department of Pharmacology offers instruction for undergraduate, graduate, and medical students. It includes a systematic treatment of the effects of drugs in normal and pathological states, the mechanisms by which these effects are exerted, and the factors influencing their absorption, distribution, and biological disposition. Consideration is also given to the medical and social problems created by the increasing use of drugs by both the medical profession and the public.

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 Degree

The Pharmacology 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

Admission

In addition to meeting University requirements for graduate admission, you must have received a bachelor's degree in a biological or physical science or in the premedical curriculum.

In suitable cases, students who have course deficiencies may be admitted to graduate standing, but any deficiencies must be removed within a specified time. Graduate Record Examination (GRE) scores, Test of English as a Foreign Language (TOEFL) scores for international students, and three letters of recommendation are required. Prospective students may write for a departmental brochure to the Graduate Student Office, Department of Pharmacology, 23-250 CHS, UCLA, Los Angeles, CA 90024.

Major Fields or Subdisciplines

Cardiovascular pharmacology; chemical pharmacology; clinical pharmacology; immunopharmacology; neuroendocrine pharmacology; neuropharmacology; psychopharmacology.

Course Requirements

Required: Pharmacology 200 (three quarters), 201A-201B, 202, 212A-212B, 234A-234B-234C, 237A-237B-237C, 241, 251 (must be taken every quarter), 291 (three quarters or alternative courses); Biological Chemistry 101A-101B-101C, or 101C and 201A-201B; Physiology 101, 102, 103A-103B (Anatomy 103A-103B); one course in biostatistics. All coursework should be completed by the end of the sixth quarter and prior to taking the departmental comprehensive examinations.

The Pharmacology Department provides a system of laboratory rotations (course 200) in order to familiarize students with a variety of pharmacological research areas and techniques. During your first six quarters in the department, you participate in projects of your choosing. If possible, two of these are during the regular academic year and the third during
the summer. You also become familiar with the literature relevant to the various research projects and thus establish a basis for the selection of your own research area. If you have already chosen a research area at the time you enter the department, you may benefit by working in the related laboratory during the previous summer. This would provide an uninterrupted period of over two months to work on a research project.

As part of course 200 you must submit a report of your activities in the various research groups by the end of the quarter. The report should include the nature of the project, how you participated, the results obtained, and a critical evaluation of the project.

Teaching Experience
Seminar presentations are required of all students in the graduate program.

Qualifying Examinations
Examinations are given in all courses except seminars and research. These are in the form of written examinations, oral examinations, term papers, and/or laboratory practicals.

After completing the first two years of study, you are required to take a departmental comprehensive examination consisting of a written part and an oral part. You are then recommended for continuation toward the Ph.D. degree, for further remedial study, or for termination. Questions are intended to test for a rational, analytical approach to problem solving and for ability to integrate material learned in different courses. You are expected to know basic principles of pharmacology and the status of topics of current interest in pharmacology.

After passing the departmental comprehensive examination, you must take the University Oral Qualifying Examination within 18 months. This examination is administered by the doctoral guidance committee. Most questions concentrate on the background literature, experimental methods, and implications of your field of interest and dissertation project. When you pass this examination, you are eligible to petition the Graduate Division for advancement to Ph.D. candidacy

If you fail any one of the above required examinations, you may be reexamined at a later date determined by the guidance committee.

Final Oral Examination
A final oral examination is administered after submission of the dissertation.

Articulated Degree Program
The Department of Pharmacology offers an articulated M.D./Ph.D. program with the UCLA School of Medicine. Candidates must be accepted by the School of Medicine Admissions Office in order to qualify.

Upper Division Courses

110. Drugs: Mechanisms, Uses, and Misuse. Lecture, four hours (seven weeks); discussion, four hours (three weeks). Prerequisites: Biology 5, 6, 7, Chemistry 21, 23, 25, or equivalent. An introduction to pharmacology for undergraduate students, emphasizing the principles underlying the mechanism of action of drugs, their development, control, rational use, and misuse.

Mr. Jenden (W)

199. Special Studies (2 to 8 units). Prerequisite: consent of instructor and department chair. Special studies in pharmacology with emphasis on either research assignments or laboratory work or both, designed for appropriate training of each student. (F, W, Sp)

Graduate Courses

200. Introduction to Laboratory Research (2 to 4 units). Prerequisite: consent of instructor. Individual projects in laboratory research for beginning graduate students. At the end of each quarter students submit to their supervisor a report covering the research performed. Pharmacology graduate students must take this course three times during their first two years in residence. (F, W, Sp)

201A-201B. Principles of Pharmacology (4 units, 2 units). (Formerly numbered 201.) Prerequisites: mammalian physiology, biochemistry. A systematic consideration of the principles governing the interaction between drugs and biological systems and of the principal groups of drugs used in therapeutics. Particular attention to the interaction of pharmacokinetics, and disposition to provide a scientific basis for their rational use in medicine.

Mr. Ignarro in charge (F, W)

202. Clinical Pharmacology (2 units). (Formerly numbered 202A-202B.) Prerequisites: courses 201A-201B. A series of lectures and case presentations designed to illustrate the principles of pharmacology in a clinical context, and the solution of practical therapeutics by reference to pharmacokinetics, mechanisms of action, and disposition of drugs.

Mr. Catlin in charge (Sp)

212A-212B. Graduate Commentary: Clinical Pharmacology (2 units each). Prerequisites: mammalian physiology, biochemistry. A supplementation of topics covered in course 202. Primarily for graduate students.

Mr. Catlin M221A-M221B. Cellular and Molecular Neurochemistry. (Same as Anatomy M221A-M221B, Biochemistry M221A-M221B, and Neuroscience M221A-M221B, and Psychiatry M221A-M221B.) Lecture, three hours. Prerequisites: Biological Chemistry 101A-101B or equivalent. Contemporary neurochemistry for students with a general background in biochemistry. Relates the biochemical and structural properties of the nervous system to its development and functions and introduces students to disorders that result from alterations in the fundamental biochemistry of the nervous system. Although the subject is treated in an interdisciplinary manner, course progresses from structure through chemistry to function in precise manner and biological terms.

Mr. de Vellis, Mr. Eduson, Mr. Olsen (W, Sp)

234A-234B-234C. Experimental Methods in Pharmacology (2 units each). Prerequisite: consent of instructor. A survey of experimental methods and instrumentation used in the analysis, identification, and study of mechanisms of action of pharmacologically active compounds.

Mr. Cheng, Mr. George, Mr. Kammerer (F, W, Sp)

236. Neuropharmacology. Prerequisite: neurophysiology. Advanced neuropharmacology, including actions and modes of action of drugs acting on the central nervous system, interactions between drugs and nervous tissue, movements of drugs through the blood brain barrier, and distribution to the central nervous system; problems of central transmission.

Mr. George (W)

237A-237B-237C. Neurotransmission. (Formerly numbered 237.) Prerequisites: course 241, consent of instructor. A detailed examination of neurotransmission, dealing in particular with the cholinergic and adrenergic transmission mechanisms and pharmacological agents that affect them. Critical examination of the evidence for mechanisms involving other possible transmitters.

Mr. Cho, Mr. George, Mr. Gundersen, 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 the 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 the state of present knowledge, and to application of the knowledge in regulating risks of both prenatal and postnatal exposure. Particular emphasis on the relevance of this knowledge to human behavior.

Mr. Russell (Sp)

239. Psychopharmacology. (Same as Psychiatry M239.) Prerequisite: consent of instructor. A presentation of the effects of drugs on behavior, with special attention to drugs used in psychiatry and drug seeking behavior. Physiological and biochemical mechanisms underlying such actions. Reports on relevant current research. (Formerly numbered 239.) Mr. Januk (Sp)

241. Introduction to Chemical Pharmacology. Prerequisite: organic and biological chemistry. Introduction to general principles of pharmacology. The role of chemical properties of drugs in their distribution, metabolism, and excretion. Mr. Cho (F)

251. Seminar in Pharmacology (2 units). Seminars presented by students, faculty, and guest lecturers on a variety of topics. S/U grading.

Mr. Gundersen (F, W, Sp)

252. Seminar in Environmental Toxicology (2 units). Prerequisite: consent of instructor. Oral reports and discussions of current research on chemical pollutants in the environment, their effects on biological systems, and the mechanism of these effects.

Mr. Jensen (F, W, Sp)

M257. Introduction to Toxicology. (Same as Pathology M257.) Prerequisite: course 241 or consent of instructor. Biochemical and systemic toxicology, basic mechanisms of toxicity, and interaction of toxic agents with specific organ systems.

Mr. Cho, Mr. Fromes (F, Sp)

M258. Pathologic Changes in Toxicology. (Same as Pathology M258.) Designed to give students experience in learning the normal histology of tissues which are major targets of toxicity and the range of pathologic changes that occur in these tissues (e.g., brain, lung, kidney, nervous system, and vascular system).

Ms. Berliner (Sp)

261. Introduction to Clinical Pharmacology (2 units). Prerequisite: consent of instructor. Lectures, case presentations, and discussions designed to acquaint graduate students with the 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).
Physiology

53-170 Center for the Health Sciences, (213) 825-6717

Professors
Francisco J. Bezanilla, Ph.D.
Allan J. Brady, Ph.D.
Jennifer S. Buchwald, Ph.D., in Residence
Michael H. Chase, Ph.D., in Residence
Sergio Ciani, Ph.D.
Jared M. Diamond, Ph.D.
George Eisenman, M.D.
Alan D. Grinnell, Ph.D.
Susumu Hagiwara, M.D., Ph.D. (Eleanor I. Leslie Professor of Neuroscience)
Earl Homsher, Ph.D.
Douglas Junge, Ph.D.
Yoshiaki Kidokoro, M.D., Ph.D., in Residence
Glen A. Langer, M.D. (Castera Professor of Cardiology)
Wiltfield F.H. Mommaerts, Ph.D., Chair
Arthur Peskoff, Ph.D. (Biostatistics)
Paul Quinton, Ph.D.
Gordon Ross, M.D.
Eduardo H. Rubinstein, M.D., Ph.D.
George Sachs, D.Sc. (Leon J. Tiber, M.D. and David S. Apert, M.D. Professor of Medicine)
Maria W. Seraydarian, Ph.D. (Nursing)
Ralph R. Sonnenschein, M.D., Ph.D.
John McD. Tormey, M.D.
Julio Vergara, Ph.D.
Bernice M. Wenzel, Ph.D.
Bryan Whipp, Ph.D.
Ernest M. Wright, D.Sc.
Mary A. Brazier, D.Sc., Ementus, in Residence
Donald B. Lipsky, Ph.D., Ementus

Associate Professors
Joy Frank, Ph.D., in Residence
Richard Horn, Ph.D., in Residence
Sally Krasne, Ph.D.
Michael S. Letinsky, Ph.D.
Kenneth D. Philpston, Ph.D., in Residence

Lecturer
Jessie O. Washington, D.V.M.

Adjunct Associate Professor
Oscar U. Spremian, M.D.

Adjunct Assistant Professor
Kenneth S. Leonards, Ph.D.

Scope and Objectives

Physiology is the science of the functional activities of the human body. This covers a wide range, on the one hand involving observations on human organisms and patients, on the other hand 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
Candidates for admission to graduate standing in the Department of Physiology are expected to pursue the Ph.D. degree. The department does not admit candidates for the M.S. degree. Ph.D. students must conform to the general admission requirements set by the Graduate Division and have received a bachelor’s degree in a biological or physical science or in the premedical curriculum. In general, at the time of admission, you should have completed courses in mathematics through calculus and differential equations (equivalent to Mathematics 31A, 31B, 33A); physics (12 quarter units); chemistry (16 quarter units, including quantitative analysis, physical and organic chemistry); biology or zoology (16 quarter units, including comparative vertebrate anatomy).

In certain cases, at the discretion of the department, students lacking some of the preparation but having a strong background in areas pertinent to physiology may be admitted to graduate standing, provided that deficiencies are made up. Successful completion of the first-year curriculum requires knowledge of physical chemistry (at least equivalent to Chemistry 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, which would likely extend the first-year curriculum into the second year. Students may also be admitted on the recommendation and sponsorship of staff members subject to admission committee approval.

The Graduate Record Examination (GRE) Aptitude Test is required as well as the Advanced Test in Biology or in your major field. Medical College Admission Test (MCAT) scores are accepted in lieu of the GRE. Three letters of recommendation are required and should be addressed to the Director of Graduate Studies. Completion of a master’s program is not required.

An application packet and/or departmental brochure is available from the Graduate Student Office, Department of Physiology, 53-170 CHS, UCLA, Los Angeles, CA 90024.

Major Fields or Subdisciplines

Cellular electrophysiology; membrane transport; excitation, contraction, energetics, and protein chemistry of muscle; fundamental neurophysiology; cardiovascular, respiratory, and gastrointestinal physiology.

Course Requirements

The graduate training program consists of a core requirement (Biology 171, Physiology 101, 102, 205) which must be completed within your first two years of study. A second series of at least three courses applicable to your research interest(s) and one advanced course in physiology outside your major area of interest are also required. Your curriculum must be approved by the graduate committee and your faculty adviser. One laboratory rotation is required within the first two years, prior to taking the written comprehensive examination.

Qualifying Examinations

The written comprehensive examination is given at the end of your formal coursework (core curriculum and specialty courses); it also contains at least one oral section covering your area of specialization. Recommendations following the examination are based on the total and specific areas of competence revealed by the examination, performance in coursework during the year, and recommendations of staff with whom you have had close association. Marginal performance in all areas with excellence in none is not considered acceptable.

Following successful completion of the departmental comprehensive examination, you must select a sponsor who acts as chair of your doctoral committee and directs your thesis research project. The committee members conduct the University Oral Qualifying Examination to establish that you are capable of conducting a productive research project. At this point in your training, you normally will have completed all formal coursework, will have passed the departmental comprehensive examination, and will have devoted approximately a year to a research project. After successful completion of the oral qualifying examination, you are advanced to candidacy.

Final Oral Examination

The final oral examination is optional with the doctoral committee.

Upper Division Courses

100. Elements of Human Physiology (6 units). Prerequisite: dental student standing or consent of instructor. Required of first-year dental students. Lectures, laboratories, and demonstration/discussions concerning functional activities of the living body in terms of both cellular and systemic functions. Examples presented, where possible, on the basis of information relevant to oral function.

Mr. Homsher and the Staff (F)
101. Neuromuscular and Cardiovascular Physiology (7 units). Prerequisites: Basic courses in chemistry, physics, and biology, at least one year each; organic chemistry; histology; gross anatomy, human or comparative. Primarily for first-year medical students, but open to other students with consent of instructor. Lectures, laboratory, and conferences. An analysis of the electrical properties of muscle and nerve, the contractility of muscle and the heart; and the cardiovascular system and its regulation.

Ms. Wenzel (W)

102. Renal, Respiratory, and Gastrointestinal Physiology (6 units). Prerequisites: same as for course 101. Primarily for first-year medical students, but open to other students with consent of instructor. Lectures, laboratory, and conferences. A continuation of course 101, dealing with respiration, and the distribution of water, electrolytes, and metabolites by the renal and gastrointestinal systems, and the special physiology of certain organs.

Mr. Tormey, Ms. Wenzel (Sp)

103A-103B. Basic Neurology (1 unit, 3 units). Lectures, laboratory, one four-hour and one two-hour session (Winter — last six weeks); one two-hour, one three-hour, and one two-hour sessions (Spring). Prerequisite: medical student standing or consent of instructor. Required of third-year medical students. Lectures and discussion, with emphasis on a correlative approach to anatomy and physiology of the human body.

Ms. Seraydarian

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 appropriate training of each student.

Graduate Courses

200. Transport across Biological Membranes. Prerequisite: consent of instructor. An in-depth study of transport ions, nonelectrolytes, and water across plasma membranes. Techniques, hydrostatics, and electrophysics. Lectures include such topics as membrane structure, the passive permeability of membranes to ions and non-electrolytes, active transport, transport carriers, active transport, the mechanisms of water transport. Experimental work involves the transport of ions across single cell membranes and epithelia using radioactive tracer and electrophysiological techniques.

Mr. Wright

202. Permeability of Biological Membranes to Ions (6 units). Prerequisites: Chemistry 110A, 110B, or equivalent; consent of instructor. Topics include ion permeability, electron transport, and the physical basis of ion discrimination across cell membranes.

Mr. Diamond

203. Oral Physiology. (Same as Oral Biology M203.) Lecture, one hour; discussion, one hour. The anatomy, physiology, and the medical aspects of the following systems, discussed in a somewhat flexible framework: (1) salivary glands, including the mechanisms of secretion, abnormalities such as Mikulicz-Sjogren syndrome, and effects on the dentition; (2) dental pulp: development, normal physiology, and reparative mechanisms; (3) organization of sensory systems, receptors, pathways, and neural projections; (4) salivary gland physiology, hypoglycemic theory, and electrical recordings from dentin; (5) taste receptors: mechanisms of perception of four basic tastes, assessment of taste and sensations, drugs, diet, and aging; (6) oral touch and temperature receptors: comparison with similar systems in the skin, assessment of sensory dysfunction; (7) speech: phonation, resonance, articulation in speech production, normal time-course of development of various sounds in children. Classes supplemented with audiolinguial materials and many references from the literature.

Mr. Junge (F)

205. Physical Chemistry of Membranes and Cellular Systems. Prerequisite: consent of instructor. A mathematical and physical background for understanding current approaches in cellular electrophysiology and transport across membranes. Ordinary differential equations, functions of many variables, Fourier series, and integrals. The principle of equilibrium and nonequilibrium thermodynamics, the basic concepts of electrostatics and their application to physical-chemical problems typical of course 203 and of the study of membrane transport (e.g., osmotic pressure, Gibbs-Dornan equilibrium, surface potential, solvent-solute coupling in transmembrane fluxes, integration of the Nernst-Planck equation and of the time-dependent diffusion equation, etc.).

Mr. Ciani

207. Neurophysiology. Prerequisite: consent of instructor. Seminar and laboratory course designed to acquaint students with behavioral techniques and concepts relevant to research problems encountered in modern neurophysiology, and to consider means of integrating them with neurophysiological methods.

Mr. Wenzel

210. Critical Topics in Physiology (1 to 8 units each). Prerequisite: consent of instructor. Advanced treatment of critical topics in physiology by staff and guest lecturers for graduate and postdoctoral students in the biomedical sciences.

213. Methods in Cell Physiology (6 units). Prerequisites: courses 212, 214. Integrated laboratory course dealing with the integrated circuits and other solid-state devices employed in modern instrumentation, so that students learn to design and build many of the simple circuits often required in their research. Emphasis on the particular circuits used in electrophysiology, RC analysis, and an introduction to cable theory.

Mr. Bezanilla, Mr. Vergara (F)

214. Cell Physiology: Excitability (2 to 8 units). Concepts in physiology and general principles of cell physiology. General properties of excitable cells, linear cable properties, nonlinear conductance changes, and the generation and propagation of the nerve impulse. Voltage-gating and gating currents, as well as the relationship between research problems encountered in modern neurophysiology and conductance and single channel properties.

Mr. Bezanilla (W)


Sp

216. Cellular Electrophysiology (6 units). Prerequisites: basic knowledge of the physics of electricity, integral and differential calculus, and biology (equivalent to Science 18) and 212. Topics include general concepts of membrane structure, passive cable properties, nonlinear properties of excitation and conduction, and biophysics of transport phenomena, presented in semiquantitative terms. Rigorous in-depth coverage offered in course 213.

217A. Ion-Permeable Channels in Cell Membranes. Prerequisites: physical chemistry, consent of instructor. The properties of ion-permeable channels in cell membranes, including a survey of the types of ion-permeable channels found in membranes, analysis of the permeability and selectivity of channels, voltage and chemical regulation of ion-permeable channels, and single-channel properties.

Mr. Ciani, Mr. Hagiwara, Mr. Horn, Ms. Krasne

217B. Transport Systems in Cell Membranes. Prerequisite: consent of instructor. Properties of pumps and carriers in cell membranes. Topics include nonelectrolyte (sugar, amino acid, cardiac glycosides) and ion (Na, K, H, and Ca) transport across plasma membranes of single cells and epithelia.

Mr. Sachs, Mr. Wright

217C. Cellular Neurophysiology. (Formerly numbered 217B.) Prerequisite: course 213 or 216 or consent of instructor. Structure and function of synaptic transmission, neurotransmitters, excitation/inhibition, special sensory receptors.

Mr. Sachs, Mr. Wright

218A. Integrative Neurophysiology. Prerequisite: course 217C or consent of instructor. Structure and function of CNS neurons, structure and function of visual, cerebellum, and other CNS systems. Structure and function of autonomic nervous system.

218B. Physiology of Muscle. Prerequisite: course 216 or consent of instructor. Ultrastructure of muscle. Excitation, excitation-contraction coupling, calcium regulation of contraction, myofilament interactions, energetics mechanics, and chemical kinetics of contraction in vertebrate muscles.

221A-221B-221C. Concepts of Excitation and Contraction in Muscle (2 to 6 units each). Prerequisite: consent of instructor. In-depth study of muscle physiology, with material derived from a critical review of classical and recently published research sources. Content varies according to the special interests of the students.

Mr. Brady

222. Graduate Commentary: Renal, Respiratory, and Gastrointestinal Physiology (2 units). Prerequisite: consent of instructor. Tutorial directed to specific theoretical problems of interest to the students.

Mr. Ciani

228. Epithelia: Structure and Function (2 units). Prerequisite: consent of instructor. Lectures and seminars on the physiology of epithelial cells, with particular emphasis on membrane transport. S/U grading.

Mr. Wright (W)

229. Research Topics in Neurobiology (2 units). Prerequisite: consent of instructor. Discussion of current research problems in neurobiology. S/U or letter grading.

Mr. Letinsky

230A-230B-230C. Selected Topics in Organ Physiology (2 to 8 units each). Prerequisite: consent of instructor. Macroscopic, microscopic, and ultrastructural correlates of tissue and organ function. Advanced consideration of special topics in the physiology of the cardiovascular and gastrointestinal systems, as well as the respiratory, renal, and central nervous systems. Staff and guest lecturers.

231A-231B-231C. Cardiovascular and Respiratory Physiology (2 to 6 units each). Prerequisite: consent of instructor. In-depth study of the cardiovascular and respiratory systems. 231A. Respiratory mechanisms and control. 231B. Cardiovascular mechanisms and control of the cardiovascular system and its relationship to the mechanics of respiration and cellular gas exchange. Critical reviews and discussion of selected articles in journals.

M235. Gut and Brain Peptides (2 units). (Same as Anatomy M235 and Neuroscience M235.) Prerequisite: consent of instructor. Presentation of current knowledge of gut and brain peptides by surveying their chemistry, anatomy, and physiology. Experiments are designed to acquaint students with the function of gut and brain peptides. Review of current information about each of the major gut and brain peptides. S/U or letter grading.

Mr. Brecha, Ms. Reeve, Ms. Tache (W)
245. Stochastic Analysis of Channel Gating. Prerequisite: consent of instructor. Review of probability theory; combinatorial analysis; introduction to theory of stochastic processes; renewal theory; discrete- and continuous-time Markov processes; analysis of kinetic models of channel gating; applications for single channel and "nois"e measurements. S/U or letter grading.

246. Current Topics in Single Channel Recording. Lecture, three hours. Prerequisite: consent of instructor. Discussion of current literature involving the use of single channel recording. Gating and ion permeation mechanisms in single channels and recent technical developments in the method. S/U grading.

Mr. Horn

250A-250B-250C. Techniques in Biological Research (1 unit each). Discussion of techniques of interest to students in the biological sciences. S/U grading.

251A-251B-251C. Seminar in Physiology (1 unit each). Prerequisite: consent of instructor. Review and discussion of current physiological literature, research progress, and special topics. S/U grading.


253A-253B-253C. Current Topics in Neurobiology and Biophysics (2 units each). Lecture, one hour; discussion, one hour; prerequisite: consent of instructor. Weekly lectures by members of the faculty and visiting scientists, followed by scheduled discussion periods for students. All aspects of cellular neurobiology, with emphasis on quantitative and biophysical approaches. Most talks deal with original research, placed in the context of overall developments in the field. Some talks are reviews of recent interesting research, with handouts for student preparation. S/U grading.


Ms. Buchwald (F), Mr. Halgren (Sp), Mr. Van Lancker (W)

260. The Use of Laboratory Animals in Research. Prerequisite: consent of instructor. An introductory course for graduate students in the medical and biological sciences covering principles and practical problems in the handling and use of common laboratory animal species. Mr. Washington

297. Developmental Neurology. Lecture, two hours; discussion, two hours. Prerequisites: Biology 171 or equivalent, consent of instructor. Processes governing the production and differentiation of neurons, synaptogenesis, and specificity and plasticity in neuronal and nerve-muscle connections.

Mr. Ford, Mr. Grinnell

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.

SCHOOL OF MEDICINE / Psychiatry and Biobehavioral Sciences / 459

Psychiatry and Biobehavioral Sciences

B7-349 NPI8H, (213) 825-0770

Professors

Ransom J. Arthur, M.D., in Residence, Vice Chair
D. Frank Benson, M.D.
Nicholas G. Burton Jones, D.Phil. (Biobehavioral Sciences)
Nathaniel A. Buchwald, Ph.D., in Residence (Biobehavioral Sciences)
Anthony T. Campagnone, Ph.D., in Residence (Biobehavioral Sciences)
Dennis P. Cantwell, M.D. (Joseph Campbell Professor of Child Psychiatry)
Steven D. Cederbaum, M.D., in Residence
Ching-piao Chen, M.D., in Residence
Kenneth M. Colby, M.D.
Barbara F. Cramond, M.D., in Residence
Jean S. de Vellis, M.D. (Biobehavioral Sciences)
Wilfred J. Dixon, Ph.D. (Biobehavioral Sciences)
Robert B. Edgerton, Ph.D., in Residence (Biobehavioral Sciences)
Samuel Edelson, Ph.D., in Residence (Biobehavioral Sciences)
Javier I. Escobar, M.D., in Residence
Barbara Fish, M.D.
Anvar L. Fliharty, Ph.D., in Residence (Biobehavioral Sciences)
Charles V. Ford, M.D., in Residence, Vice Chair
Steven R. Fornes, Ed.D., in Residence (Biobehavioral Sciences)
Daniel X. Freedman, M.D. (Judson Braun Professor of Biological Psychiatry, Executive Vice Chair)
Joaquin M. Fuster, M.D., in Residence
Roslyn Gaines, Ph.D., in Residence (Medical Psychology)
Gary C. Galbraith, Ph.D., in Residence (Medical Psychology)
Ronald G. Gallimore, Ph.D., in Residence (Biobehavioral Sciences)
John Garcia, M.D. (Biobehavioral Sciences)
Richard Green, M.D., in Residence
Donald Guthrie, Ph.D., in Residence (Biobehavioral Sciences)
John Hanley, M.D., in Residence
Frank W. Hayes, M.D., in Residence
Frank M. Hewett, Ph.D. (Biobehavioral Sciences)
Chester D. Hilt, Ph.D., in Residence (Biobehavioral Sciences)
Lissy F. Jarvis, Ph.D., M.D.
Murray E. Jarvik, M.D., Ph.D.
Joseph R. Jezdychowski, D.D.S. (Biobehavioral Sciences)
Harry J. Jerison, Ph.D., in Residence (Biobehavioral Sciences)
Marvin Karno, M.D., in Residence
John G. Kennedy, Ph.D., in Residence (Biobehavioral Sciences)
Arthur S. Kling, M.D., in Residence
Lewis L. Langness, Ph.D., in Residence (Biobehavioral Sciences)
Henry Lesse, M.D., in Residence
Michael S. Levine, Ph.D., in Residence (Neuroanatomy)
Robert A. Liptonman, M.D., in Residence
James T. Marsh, Ph.D. (Medical Psychology)
David S. Maxwell, Ph.D. (Biobehavioral Sciences)
Philip R. A. May, M.D. (Della Martin Professor of Psychiatry)
Mark T. McGuire, M.D.
Ivan N. Mensh, Ph.D. (Medical Psychology)
Milton H. Miller, M.D., Vice Chair
Mark J. Mills, J.D., M.D., in Residence
Jinmin Zh, Ph.D., in Residence (Medical Psychology)
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)
William M. Ormec, M.D. (Residence or Ph.D. Qualifying Examinations (2 to 12 units). Prerequisite: consent of instructor.

Edward M. Ornitz, M.D., in Residence
Alfonso Paredes, M.D., in Residence
Robert O. Piasau, M.D., in Residence
Morris J. Paulson, Ph.D., in Residence (Medical Psychology)
Dennis D. Pointer, Ph.D. (Biobehavioral Sciences)
Douglas R. Price-Williams, Ph.D., in Residence (Biobehavioral Sciences)
Edward R. Ritzo, M.D., in Residence
Don A. Rockwell, M.D., Vice Chair
Alexander C. Rose, Ph.D., in Residence (Medical Psychology)
Robert W. Rowley, M.D., in Residence
Paul Satz, Ph.D., in Residence (Neurophysiology)
Arnold B. Scheibl, M.D.
Eustace A. Serafetinides, Ph.D., in Residence
David Shapiro, Ph.D. (Medical Psychology)
Erich Shalit, M.D., in Residence (Therapeutics)
Arthur B. Silverstein, Ph.D., in Residence (Medical Psychology)
James O. Simmons, M.D., in Residence, Vice Chair
George F. Solomon, M.D., in Residence
S. Stefan Sohly, Ph.D., in Residence (Neurobiology)
Robert S. Sparkes, M.D.
M. Anne Spence, Ph.D., in Residence (Biobehavioral Sciences)
Barnes M. Sternman, Ph.D., in Residence (Biobehavioral Sciences)
Robert J. Stoller, M.D.
Peter E. Tanguay, M.D., in Residence
George Tarjan, M.D.
Claudwell S. Thomas, M.D., in Residence
Bernard Towers, M.D.
J. Thomas Ungerleider, M.D., in Residence
Jaime R. Villablanca, M.D., in Residence (Neurophysiology)
Herbert Weinberger, M.D., in Residence
Thomas S. Weisner, Ph.D., in Residence (Biobehavioral Sciences)
Barnes M. Wenzel, Ph.D. (Biobehavioral Sciences)
Louis J. West, M.D., in Residence
Charles D. Woody, M.D., in Residence (Biobehavioral Sciences)
Joel Yager, M.D., in Residence
Joe Yang, M.D., in Residence
Arthur M. Yeh, M.D., in Residence (Biobehavioral Sciences)
Emeritus Professors

T. George Bidder, M.D.
Norman Q. Britl, M.D.
W. Jann Brown, M.D.
Milton Greenblatt, M.D., Vice Chair
Horace W. Magoun, Ph.D.
George J. Popjak, M.D.
Fredrick C. Redlich, M.D.
Frank T. Tallman, M.D.
Richard D. Walter, M.D.
Henry H. Work, M.D.

Associate Professors

Anthony M. Adinolfi, Ph.D. (Biobehavioral Sciences)
Robert F. Asarnow, Ph.D., in Residence (Medical Psychology)
Fawzy I. Fawzy, M.D., in Residence
Frederick J. Frankel, Ph.D., in Residence (Medical Psychology)
Betty Jo Freeman, Ph.D., in Residence (Medical Psychology)
Eric Halgren, Ph.D., in Residence, (Medical Psychology)
Susan E. Hodge, Ph.D., in Residence (Biobehavioral Sciences)
Kay R. Jamison, Ph.D., in Residence (Medical Psychology)
Keith T. Kernan, Ph.D., in Residence (Biobehavioral Sciences)
Stephen R. Marder, M.D., in Residence
Keith H. Neuchterlein, Ph.D., in Residence (Medical Psychology)
Gloria J. Powell, M.D., in Residence
Andrew T. Russell, M.D., in Residence
Walid G. Shafik, M.D., in Residence
Jerome M. Siegel, Ph.D., in Residence (Biobehavioral Sciences)
Marian D. Sigman, Ph.D., in Residence (Medical Psychology)
Michael A. Strober, Ph.D., in Residence (Medical Psychology)
Alexander J. Tymchuk, Ph.D., in Residence (Medical Psychology)
David K. Welisch, Ph.D., in Residence (Medical Psychology)
Gail E. Wyatt, Ph.D., in Residence (Medical Psychology)
Edward Geller, Ph.D., Emeritus

Assistant Professors
Joan A. Asarnow, Ph.D., in Residence (Medical Psychology)
Lewis R. Baxt, M.D., in Residence
Kirk J. Brower, M.D., in Residence
carole H. Browner, Ph.D., in Residence (Biobehavioral Sciences)
Rochelle Caplan, M.D., in Residence
Marcia L. Daniels, M.D., in Residence
Spencer Eth, M.D., in Residence
Thomas R. Garrick, M.D., in Residence
Mateh Goklaney, M.B., in Residence
David A. Gorelick, M.D., in Residence
Harry E. Gwirtzman, M.D., in Residence
Neil Hartman, M.D., in Residence
Sherrill G. Howard, Ph.D. (Biobehavioral Sciences)
Marcy C. Hubert, Ph.D., in Residence (Medical Psychology)
Asa Mat LaRue, Ph.D., in Residence (Medical Psychology)
Keh-Ming Lin, M.D., in Residence
Wendy B. Mackinn, Ph.D., in Residence (Biobehavioral Sciences)
Barnet D. Malin, M.D., in Residence
David J. Martin, Ph.D., in Residence (Medical Psychology)
Ricardo P. Mendoza, M.D., in Residence
Martin E. Mueller, M.D., in Residence
Rama K. Nadella, M.D., in Residence
Robert E. Neshkes, M.D., in Residence
Charles E. Olmstead, Ph.D., in Residence (Physiological Psychology)
George G. Paz, M.D., in Residence
Robert S. Pynoo, M.D., in Residence
Stephen L. Read, M.D., in Residence
Gerri W. Schwarz, M.D., in Residence
Esther Sinclair, Ph.D., in Residence (Biobehavioral Sciences)
Gary W. Small, M.D., in Residence
James E. Sper, M.D., in Residence
Gordon D. Strauss, M.D., in Residence
Kenneth B. Wells, M.D., in Residence
Deane L. Woicott, M.D., in Residence

Adjunct Professors
Jambur V. Ananth, M.D.
Annette M. Brodsky, Ph.D. (Medical Psychology)
Robert H. Coombs, Ph.D. (Biobehavioral Sciences)
Norman Cousins, B.A. (Medical Humanities)
Joseph W. Cullen, Ph.D. (Biobehavioral Sciences)
John R. Elpers, M.D.
Calvin J. Frederick, Ph.D. (Medical Psychology)
Irene T. Goldenberg, Ed.D. (Medical Psychology)
Rodric Gorney, M.D.
Frederick Gottlieb, M.D.
Saul I. Harrison, M.D.
Christoph M. Heinicke, Ph.D. (Medical Psychology)
Jean C. Holroyd, Ph.D. (Medical Psychology)
Hayato Kinara, Ph.D. (Biobehavioral Sciences)
Melvin R. Lansky, M.D.
Edward H. Liston, M.D.
Judith Marmor, M.D.
James G. Miller, M.D., Ph.D.
Armando Morales, D.S.W. (Social Work)
Michel Philippart, M.D.
Kiki V. Roe, Ph.D. (Medical Psychology)
Donald A. Schwartz, M.D.
Ira Simiel, M.D.
Paul F. Stawom, M.D.
Manuel Straker, M.D.
Theodore Van Putten, M.D.
Dora B. Weiner, Ph.D. (Medical Humanities)

Adjunct Associate Professors
Christian A. M. Baitaxe, Ph.D. (Biobehavioral Sciences)
Warren S. Brown, Ph.D. (Biobehavioral Sciences)
V. Charles Charuvastra, M.D.
Milton S. Davis, Ph.D.
David W. Foy, Ph.D. (Medical Psychology)
Victor Haddox, M.D., J.D.
Donald F. Haggerty, Ph.D. (Biobehavioral Sciences)
Richard L. Heinich, M.D.
Lewis M. King, Ph.D. (Biobehavioral Sciences)
Ira M. Lesser, M.D.
Charles P. McCreary, Ph.D. (Medical Psychology)
James F. McGrinn, Ph.D. (Biobehavioral Sciences)
Gerald J. McKenna, M.D.
Paul R. Munford, Ph.D. (Medical Psychology)
Warren R. Procci, M.D.
H. Rebecca Rausch, Ph.D. (Neuropsychology)
Marvin E. Rosen, M.D.
Jeffry N. Wilkins, M.D.

Adjunct Assistant Professors
Luis J. Fitten, M.D.
J. Stephen Heisel, M.D.
Richard J. Loewenstein, M.D.
Barringer D. Marshall, M.D.
Rochelle Reno, Ph.D. (Medical Psychology)
Larnry L. Snooggard, M.D., Ph.D.

Adjunct and Visiting Lecturers
Nancy J. Allen, M.P.H., Adjunct (Biobehavioral Sciences)
Linda A. Andron, M.S.W., Adjunct (Social Work)
J. Wesson Ashford, M.D., Adjunct
Marion T. Baer, Ph.D., Visiting (Nutrition)
S. Delores Barnes, D.S.W., Adjunct (Social Work)
Barbara A. Bass, M.S.W., Adjunct (Social Work)
Diane J. Bass, M.S.W., Adjunct (Social Work)
Carol L. Bender, M.S.W., Adjunct (Social Work)
M. Christina Benson, M.D., Visiting
Elizabeth A. Carlin, Ph.D., M.S.W., Visiting (Social Work)
Virginia K. Cruz, D.S.W., Visiting (Social Work)
Richmond E. Embry, M.S.W. Visiting (Social Work)
Angela Farrell, M.S.W., Adjunct (Social Work)
Florence Frisch, M.S.W., Adjunct (Social Work)
Charlotte B. Gelb, M.S.W., Adjunct (Social Work)
Claudia Gerber, R.N., Adjunct (Nursing)
Tracy A. Goedligg, B.A., Adjunct (Biobehavioral Sciences)
Mary Lou Gottlieb, M.S.W., Adjunct (Social Work)
Jean E. Johnson, M.S.W., Adjunct (Social Work)
Martha B. Jura, Ph.D, Adjunct (Biobehavioral Sciences)
Tom L. Kennon, M.S.W., Adjunct (Social Work)
Paul Koegel, Ph.D., Visiting (Anthropology)
Marthin O. Lowell, M.A., Adjunct (Biobehavioral Sciences)
Myrtle Mandleberg, M.A., Adjunct (Biobehavioral Sciences)
Miran A. Meyer, M.S.W., Visiting (Social Work)
Wendy L. Morrel, M.S.W., Adjunct (Social Work)
Natalie R. Newman, M.D., Adjunct (Biobehavioral Sciences)
Olgia Jenckiveko, M.S.W., Adjunct (Social Work)
Olga P. Platun-Qaudens, M.D., Visiting
Anderson S. Pollard, M.S.W., Adjunct (Social Work)
Terr A. Price, M.A., Adjunct (Biobehavioral Sciences)
Pearl Rapp, M.S.W., Adjunct (Social Work)
Judith W. Ross, M.A., Adjunct (Biobehavioral Sciences)
Joanne Sajdak, M.S.W., Adjunct (Social Work)

Catherine C. Sammons, M.S.W., Adjunct (Social Work)
Olga Samuel, M.S.W., Adjunct (Social Work)
Breana T. Satterfield, M.S.W., Visiting (Social Work)
Esielie L. Shane, Ph.D., Visiting (Psychoanalysis)
Elizabeth Shim, M.S.W., Adjunct (Social Work)
Cynthia A. Telles, Ph.D., Adjunct (Biobehavioral Sciences)
J. Mark Thompson, M.D., Adjunct (Medical Psychology)
Frank A. Treskin, Ph.D., Adjunct (Medical Psychology)
Bertha B. Unger, M.A., Adjunct (Biobehavioral Sciences)
W. Paul Von Blum, J.D., Adjunct (Medical Humanities)
Ruth A. Waldron, M.S.S., Visiting (Social Work)
Claire Weiner, M.S.W., Adjunct (Social Work)
Kathryn P. White, Ph.D., Adjunct (Biobehavioral Sciences)
Joyce Will, M.S.W., Visiting (Social Work)

Scope and Objectives
The Department of Psychiatry and Biobehavioral Sciences offers interdisciplinary courses related to the mental health professions of the biobehavioral sciences in addition to its programs for psychiatry interns and residents and for medical students (courses for medical students are listed in the Announcement of the UCLA School of Medicine and the School of Medicine Handbook of Clinical Courses).

Enrollment in department courses is limited to registered UCLA students, students registered in programs officially affiliated with UCLA, and students enrolled concurrently through University Extension. Students who meet these requirements, but who are not affiliated with a departmental training program, must also meet required course prerequisites determined by specific educational programs. Additional information is available from the department office.

Programs
The Developmental Disabilities Immersion Program is cosponsored by the Department of Psychology and the Department of Psychiatry and Biobehavioral Sciences and by the Office of Instructional Development — Field Studies Development. Each year a group of 28 students is selected for the program which runs during the Winter/Spring Quarters. Students participate in courses and research at Lanterman State Hospital and Developmental Center, a facility for mentally retarded citizens in Pomona, and do related fieldwork while living at the site. During each quarter of the program up to 20 units of coursework related to developmental disabilities are offered. Most of the courses are in the Psychiatry/Psychology M180 through M184 series, but courses from other departments (such as Biology) may supplement these offerings. Many of the courses fulfill psychology undergraduate major requirements. Student individualized research projects are also part of the immersion experience. Students interested in the program should contact the Office of Instructional Development — Field Studies Development (70 Powell Library) or the Psychology Undergraduate Office (1531 Franz Hall).
The department offers a 12-month Clinical Psychology Internship, which is a Graduate Division certificate program. Students enrolled in clinical psychology programs at APA-approved universities are eligible to apply. Applications are accepted through January 1. The primary goal of the internship is to provide a year of intensive exposure to a wide variety of clinical and human services experiences and to maximize the personal growth of each professional. Students interested in this certificate program should contact the Psychology Internship Training Office, C8-532 NPI&H (825-0145).

A certificate is also awarded by the department to qualified graduate students who successfully complete the Mental Retardation and Other Developmental Disabilities Training Program. The program fulfills the internship requirement for the Ph.D. program in Clinical Psychology and the master's program in social welfare, and for the disciplines of speech pathology, occupational therapy, and nutrition at nearby universities. Further, it satisfies state licensure and clinical placement requirements in psychology, speech and language, special education, social welfare, nursing, pediatrics, pediatric dentistry, occupational therapy, and nutrition. Interested students should contact the program training director, 78-243A NPI&H (825-0147), for further information.

Information on clinical practicums which are offered in conjunction with other educational institutions and UCLA departments may be obtained from the department office.

Master of Social Psychiatry

The Master of Social Psychiatry (M.S.P.) program is not admitting new students at this time.

Upper Division Courses

M112. A Laboratory for Naturalistic Observations: Developing Skills and Techniques. (Same as Anthropology M126B and Psychology M155.) Prerequisite: consent of instructor. The skill 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 the social sciences. Mr. Gallimore, Mr. Turner, Mr. Weisner (W) M119. Evolution of Intelligence. (Same as Psychology M119.) Lecture, two hours; discussion, two culture hours. Prerequisite: Psychology 15 or 115, an introductory statistics course, junior or senior standing, consent of instructor. Intelligence treated as neural information-processing capacity; its evolution in vertebrates correlated with the evolution of enlarged brains. Quantitative approaches in evolutionary biology and the neurosciences. Mr. Jerson M133. Exceptional Children. (Same as Psychology M133B.) Prerequisite: Psychology 130. Study of the issues and research problems in the areas of mental retardation, giftedness, learning disorders, emotional disorders, and childhood psychosis. Mr. Franken M142. Advanced Statistical Methods in Psychology. (Same as Psychology M142.) Lecture, two hours; discussion, two hours. Prerequisite: Psychology 41. Chi square, special correlation methods, multiple regression, nonparametric methods, analysis of variance, reliability and validity. Mr. Nihira (W) M175. Women Physicians: Professional Socialization. The professional socialization of women in medicine. The developmental stages of medical training and practice (premed, medical school, internship, residency, and various specialty areas of private practice) for trainees and physicians in various specialties participate in presentations. Research project required. Mr. Coombs (F) M180A. Contemporary Problems in Mental Retardation. (Same as Psychology M180A.) Prerequisite: Psychology 41. Limited to Immersion Program students. Presentation of the concepts, issues, and research techniques in the area of mental retardation. Biological, psychological, and community variables; role and treatment of developmental disabilities, as well as systems for the care and training of retarded individuals. Lectures, directed reading, and discussion. Mr. Harty and the Staff M180B. Contemporary Issues in Mental Retardation. (Same as Psychology M180B.) Prerequisite: course M180A. Limited to Immersion Program students. Psychosocial issues in mental retardation, current legal issues in the areas of field experiences, through lectures, discussions, media, and six student papers. Mr. Baker M181A-M181B. Research in Contemporary Problems in Mental Retardation. (Same as Psychology M181A-M181B.) Prerequisite: course M180A. Research experience. In Progress grading. Mr. Silverstein and the Staff M182A. Advanced Statistical Methods in Mental Retardation. (Same as Psychology M182A.) Prerequisite: course M180A. Limited to Immersion Program students. Introduction of statistical methods and design in experimentation principles of statistical inference and appropriate testing methods. Introduction to the use of computers and various software packages. Mr. Omstead M182B. Advanced Design and Statistics. (Same as Psychology M182B.) Prerequisite: course M182A. Continuation of course M182A. Mr. Silverstein M182C. Perception. (Same as Psychology M182C.) Lecture, four hours; laboratory, one hour. Prerequisite: consent of instructor. Perception of visual stimuli, the sensory base of visual perception, and the principles of perception. Mr. Fluharty M182D. Current Issues in Mental Retardation. (Same as Psychology M182D.) Limited to Immersion Program students. Analysis of research approaches to issues in mental retardation. May be repeated for credit with consent of instructor. Mr. Omstead M183. Introduction to Neuroscience. (Same as Psychology M183.) Limited to Immersion Program students. Gross anatomy of the brain and spinal cord. Mr. Buchwald, Mr. Omstead M184. Human Genetics. (Formerly numbered 198.) (Same as Psychology M184.) Lecture, two hours; discussion, two hours. Limited to Immersion Program students. Application of genetic principles in human populations, with emphasis on cytogenetics, biochemical and population genetics, and family studies. Lectures and readings on the methodologies appropriate for the study of human genetics and the functional uses of behaviors; use of an evolutionary perspective in learning and development of behaviors within different species and the functional uses of behaviors; use of an evolutionary biological perspective as the framework. Mr. Fluharty Research studies designed to take into account the functional behavior of animals. M201C. Special questions of interest to students. Mr. Eiduson, Mr. McGuire, Mr. Woody. (F, W, S) M207A-207B-207C. Hypnosis Seminar (2 units each). Three units numbered 207A. Prerequisite: psychology intern, psychiatrist, graduate, member of (or trainee in) one of the licensed mental health professions, or consent of instructor. Experiential seminar intended to prepare mental health professionals for clinical practice, hypnosis, and consultation. Mr. Silverstein (F) M207C. Research experience. In Progress grading. Mr. Silverstein (W) M208A-208B-208C. Clinical Neuropsychology (2 units each). Lecture, 90 minutes. Prerequisites: graduate or postgraduate standing, consent of instructor. Introduction and review of neuropsychological concepts, including functional neuroanatomical systems and the brain, the effect of general and focal brain impairment on behavior, and an introduction to the use of neuropsychological test instruments. Mr. Marsh (F, W, S) M210A-210B. Seminar in Psychosocial Studies. (Same as Anthropology M234A-M234B.) Lecture, three hours. Prerequisite: consent of instructor. A two-semester introduction to the present state of research in psychosocial studies. Survey of work in child development and socialization, personality, psychobiology, trans-cultural psychiatry, deviance, learning, perception, cognition, and psychosocial perspectives on change. Mr. Karna, Mr. Price-Williams M211. Sociocultural Perspectives on Mental Retardation. (Same as Anthropology M234R.) Lecture, three hours. Prerequisite: consent of instructor. Exploration of concepts such as "intelligence," "compence," and "adaptive behavior" in varying non-Western societies as background to the study of the phenomenon of mental retardation in the West, particularly the phenomenon of idiocy. Mr. Marsh (F, W, S) M212. Cultural Modes of Thought. (Same as Anthropology M236F.) Lecture, three hours. Prerequisite: consent of instructor. Exploration of the influences of culture on learning, perception, thinking, and intelligence. The fields of cross-cultural psychology, in addition to cognitive anthropology. Focus on learning theories and non-Western problems, including problems of education in ethnic areas within the U.S. Mr. Price-Williams (W) Graduate Courses

200. Colloquium on Biobehavioral Sciences (1 unit). Prerequisite: consent of instructor. A vehicle for continuing education on recent advances in various scientific fields relevant to behavior in its bio-behavioral context. Open to any attending faculty member for pertinent interdisciplinary discussion. Speaker presents information from their area of competence and expresses their ideas on the relevance of this material to the field. Mr. Soltysik (F) M201A-M201B-M201C. The Functional Organization of Behavior (2 units each). (Same as Neuroscience M201A-M201B-M201C.) Prerequisite: consent of instructor. Course M201A is prerequisite to M201B, which is prerequisite to M201C. The development of behaviors within different species and the functional uses of behaviors; use of an evolutionary biological perspective as the framework. Mr. Soltysik Research studies designed to take into account the functional behavior of animals. M201C. Special questions of interest to students. Mr. Eiduson, Mr. McGuire, Mr. Woody. (F, W, S)

Mr. Langness (F,W)

M214. Selected Topics in the Cross-Cultural Study of Socialization and Development. (Same as Anthropology M226P.) Lecture, three hours. Prerequisite: consent of instructor. Methods, ethnographic data, and theoretical orientations. Emphasis on current research. May be repeated for credit. 

Mr. Weisner (F,W)

M216A-M216B-M216C. Functional Neuropsychology. (Formerly numbered 216.) (Same as Neuroscience M216A-M216B-M216C and Physiology M226B.) Lecture and laboratory, four hours. Prerequisites: consent of instructor. Basic knowledge in biochemistry. Relates the biochemical and structural functions of the brain to its overall behavior in biochemistry. 

Ms. Van Lancker (W)

M219A-M219B. Basic Core Courses in Mental Retardation Research (2 units each). (Same as Anthropology M237A-M237B.) Lecture, two hours; discussion, one hour. Consent of instructor required. 

Mr. Riedman (F,W)

M220A-220B. Living Systems Theory and Its Application (2 or 4 units each). Prerequisite: consent of instructor. The living systems approach to understanding living religious and cognitive systems. 

Dr. Miller (F,W)

M221A-M221B. Cellular and Molecular Neuroscience. (Same as Anatomy M221A-M221B, Biological Chemistry M221A-M221B, and Pharmacology M221A-M221B.) Lecture, three hours; laboratory, two hours. Prerequisites: Biological Chemistry 101A-101B or equivalent. Investigating the molecular mechanisms and cellular processes underlying nervous system function. 

Mr. De Vellis, Mr. Edson, Mr. Olsen (W,S)

M222. Transcultural Psychiatry. (Same as Anthropology M222.) Lecture, three hours. Prerequisite: consent of instructor. Psychiatric problems in a cross-cultural perspective. 

Mr. de Vellis, Mr. Edson, Mr. Olsen (W,S)

M223. MMI Seminar and Case Conference (2 units each). Seminar, one hour; case conference, one hour. Prerequisite: consent of instructor. MMI profile and treatment planning. 

Mr. Kennedy

226A-226B. Childhood Psychopathology (2 units each). Seminar, three hours. Prerequisite: consent of instructor. Current research in the etiology and behavioral correlates of childhood psychopathology. Discussion on diagnosis and etiology of childhood psychopathology. 

Ms. Sigman, Mr. Tanguay (F,W)

228. Behavioral Medicine. Seminar, three hours. Prerequisite: consent of instructor. Review of behavioral science knowledge and techniques relevant to the understanding and treatment of mental illness, with emphasis on the family. 

Mr. McCreary, Mr. Munford, Mr. Reeves, Mr. Shapiro


Mr. Chien, Mr. Yamamoto (W)

231. Hispanic Mental Health Issues and Treatment (2 units). Prerequisite: consent of instructor. Mental health needs and issues of Hispanics through seminars and videotapes dealing with historical companionship, family dynamics, and the language experience of Hispanics. Emphasis on the analysis of the various theoretical perspectives regarding biopsychosocial behavior; distinguishing psychodynamic from cultural factors in the treatment of Hispanic clients. 

Ms. Loya, Ms. Morales, Ms. Telles (W)

232A-232B-232C. Human Sexual Dysfunction (2 units each). Prerequisite: consent of instructor. One-year training and research course in the direct behavioral treatment of human sexual dysfunction. A comprehensive presentation of didactic material and supervised experience. 

Mr. Golden (F,W,S)

234A-234B. Affective Disorders (1 unit each). (Formerly numbered 234A-234B-234C.) Prerequisites: graduate standing; consent of instructor. General topics related to affective disorders (depression, manic depressive illness), including diagnosis, pharmacology, epidemiology, psychology, phenomenology, biology, and treatment. S/U grading. 

Ms. Freeman, Mr. Gillin, Mr. McCreary (w)

M235. A Laboratory for Naturalistic Observations: Developing Skills and Techniques. (Same as Anthropology M236Q and Education M222A.) Lecture, one hour; observation, two hours. Laboratory, three hours. Prerequisites: Anthropology 101A-101B or equivalent. Contemporary approaches to field observation for students with a general background in biology. 

Mr. Henry, Mr. Phillipson, Ms. Kellar (W)

M242A-242B-242C. Child Psychotherapy Seminar (1 or 2 units each). Seminar, three hours. Prerequisites: consent of instructor. Videotaped diagnostic and treatment sessions of children and their families provide a framework for discussing such topics as diagnostic criteria, the beginning interview, the evaluation of the determined nature of the symptom, transcendent phenomenon related to parent-child conflict, initial recovery of psychological reactions to past events, factors enhancing development, and the relationship with child and family, and various other technical issues, including the handling of terminations. 242C. The theory and principles of psychoanalytic work with parents, with emphasis on the initiation, maintenance and termination of the family. Student presentations encouraged in order to amplify clinical and theoretical issues. 

Mr. Heinicke

243A-243B-243C. Mental Retardation Interdisciplinary Core Curriculum (1 unit each). Seminar, one hour in each of three weeks. Prerequisite: consent of instructor. Supervised curricular experience. 

Mr. Forness, Mr. Jacobs (F,W,S)

244. Computers in Mental Retardation Research. Prerequisite: consent of instructor. An introduction to the basic nature of digital computer systems, with emphasis on their applications to mental retardation research. Directed practice in the use of computers, providing the student with a broad general understanding of applications and limitations of computers. Specific examples from clinical, research, and administrative areas. 

Mr. McCreary, Mr. Munford, Mr. Reeves, Mr. Shapiro

245A-245B. Psychological Assessment of Severely Handicapped Children (3 units each). Lecture, 90 minutes; seminar, 45 minutes; laboratory, two hours. Consent of instructor. Course 245A is prerequisite to 245B. The psychological assessment of the preschool child. Specific emphasis on the assessment of children with developmentally disabilities and children who are generally thought to be "untestable." A practical orientation, involving two hours per week of supervised testing. S/U grading. 

Ms. Freeman (F,W)

M246. Psychological Aspects of Mental Retardation. (Same as Psychology M246.) Prerequisite: consent of instructor. Discussion of the psychological aspects of mental retardation, including classification, diagnosis, etiology, and treatment. (May be repeated for credit.) 

Mr. Tymochk (F)

247A-247B-247C. Neurodynamics in Childhood Psychiatry (1 unit each). Seminar, three hours. Prerequisites: graduate standing; consent of instructor. Discussion of advances in neurophysiology, neuroanatomy, and neuropsychology, with particular reference to modern developmental studies. Faculty members or advanced students present results of their research work in the context of available literature; intense discussion and after presentation. S/U grading. 

Mr. McCreary, Mr. Munford, Mr. Reeves, Mr. Shapiro

248. Research Rounds in Mental Retardation and Developmental Disabilities (1 unit). Prerequisite: consent of instructor. Monthly session, with presentations of research data in major research areas relevant to that session. Staff members from various disciplines and invited speakers participate. S/U grading. 

Mr. Levine (F,W,S)

251. Laboratory Experiences in the Techniques of Mental Retardation Research (1 unit each). Seminar, three hours; laboratory, three hours. Prerequisites: graduate standing, consent of instructor. Application of new techniques relevant to that session. Staff members from various disciplines and invited speakers participate. S/U grading. 

Mr. Haggerty (W)

262. Child Development (1 unit). Prerequisite: consent of instructor. Theories of child development. Systems of child development, and chronological aspects of child development. Presentation of assigned readings by students plays a major role in each session. 

Mr. Carwell
M254. Counseling Families of Handicapped Children (2 units). (Same as Social Welfare M242.) Prerequisite: consent of instructor. Techniques and issues in counseling families through evaluation, feedback, and treatment. Social and psychological stresses on family unit, professional reactions, community resources, and issues of genetic counseling, placement, and developmental crises.

Ms. Gottlieb (W)

255. Basic Clinical Child Psychopathology (1 unit). Prerequisite: consent of instructor. Weekly seminars covering the basic clinical aspects of child psychopathology. Readings provided for a basis of discussion on topics including interviewing of parents and children, diagnosis, and related social problems.

Mr. Cantwell

257A-257B-257C. Communication Disorders Associated with Developmental Disabilities and Psychiatric Disorders (3 units each). Laboratory, 90 minutes; didactic, 90 minutes. Prerequisite: consent of instructor. Didactic and practical training in communication and its dysfunction as these relate to language disabilities seen in an interdisciplinary medical setting. Three three hour sessions for graduate and postgraduate students who plan to engage in clinical work and/or clinical research in which language disturbances of childhood and adulthood are relevant.

Ms. Ballaxe (F, W, Sp)

258. Legal and Ethical Issues in Working with Vulnerable Populations (3 units). Discussion, 90 minutes; laboratory, three and one-half hours. Prerequisite: consent of instructor. Discussion of current laws dealing with vulnerable populations (e.g., children, developmentally disabled people, elderly people) and related ethical issues. Emphasis on recent developments in bioethical issues and legal considerations. Mr. Tymchuk (W)

260. The Chronically Medically Ill Child and Family (3 units). Three hours; seminar. Prerequisite: consent of instructor. Seminar: consent of instructor. Examination from a biopsychosocial perspective of the ramifications of chronic illness affecting the life-style 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)

261. Psychopathology in the Mentally Retarded (1 unit). Seminar, 90 minutes. Prerequisite: consent of instructor. Review of current research and clinical practice concerning dually diagnosed populations. Nosology, theoretical issues, assessment and therapeutic interventions pertaining to populations with mental retardation and emotional problems.

Ms. Jacobs, Mr. Price-Williams (F)

263A-263B-263C. Current Issues: Mental Retardation and Developmental Disabilities (1 unit each). Seminar, 21/2 hours per quarter. Prerequisite: consent of instructor. Current clinical trends and research developments in the fields of mental retardation and development disabilities, providing a forum for discussion. Selected topics include autism, legal and ethical issues, intervention, and medical genetics. S U grading.

Mr. Forness, Ms. Jacobs

264. Biofeedback: Theory, Research, and Clinical Application. Seminar, two hours; laboratory, one hour. Prerequisite: consent of instructor. Introduction to conditioning principles and methods. Emphasis on review of experimental literature and applications to various clinical problems (hypertension, headache, pain and anxiety, sexual dysfunction, cardiac arrhythmias, neuromuscular disorders, etc.). Training in the use of available biofeedback devices. Consideration of recent developments in research and clinical issues.

Mr. Shapiro (W)

265. Mind and Brain in Evolution (2 units). Prerequisite: consent of instructor. Review of the fossil evidence on the organic evolution of the brain and the implications of that evidence for the evolution of mind and intelligence, with emphasis on quantitative approaches. Although some implications for cognitive psychology and individual differences are considered, the evolutionary analysis is “above the species level.”

Mr. Jerson (Sp)

266. Psychophysiological Research (1 unit). Seminar, 90 minutes. Prerequisite: consent of instructor. Advanced seminar and discussion of ongoing laboratory research, involving concepts, experimental design, and data analysis. Recent topics include regulation of physiological and subjective reactions to stress and pain, discrimination and control of blood pressure, and behavioral regulation of postural hypotension.

Mr. May

268. Behavioral Management of Pain Problems (2 units). (Same as Anesthesiology M268.) Prerequisite: consent of instructor. Review of current knowledge and skills involved in the behavioral assessment and management of acute and chronic pain problems. The behavioral perspective integrated with related physiological and medical considerations.

Mr. McCreary, Mr. Reeves (W)

271. Ethology of Motivation and Conditioning. Basic facts and concepts of motivation and learning in animals, presented in the framework of ethological and neurophysiological approach. Classical and instrumental conditioning procedures, with particular attention to the motivational variables.

Mr. Solsky (W)

272. Psychological Anthropology. (Same as Anthropology M234C.) Lecture, three hours. Prerequisite: consent of instructor. Various psychological issues in anthropology, both theoretical and methodological. Ethological approach to cultural and ethnic culture and personality, and culture psychiatry. Discussion of questions relating to symbolic and unconsciousness processes as they are related to culture. Topics vary from quarter to quarter. May be repeated for credit.

Mr. Edgerton, Mr. Kennedy (N)

273. Social Relations, Illness, and Health. (Formerly numbered 273.) (Same as Anthropology M263C.) Prerequisite: one upper division course in anthropology, sociology, or psychology. Sodality and social factors that influence how health is defined and illness experienced, managed, and treated in the U.S. and abroad. Topics include the determinants of household health, institutional issues in the delivery of health services, and gender and health.

Ms. Brown

274. Neurophysiology and Behavior (3 units). Prerequisite: graduate standing, consent of instructor. Analysis of different strategies and approaches used to study behavior of mammalian organisms. Special emphasis on recent developments in electrophysiological and recording techniques in behaving animals and how such developments relate to classical concepts of behavior and brain function.

Mr. Jarvik


Mr. McGuire (F, W)

277. From Research to Practice: Biobehavioral Contributions (2 units). Prerequisite: consent of instructor. An overview of biobehavioral research as it is currently translated into therapeutic and preventive practice across disciplines. S U grading.

Mr. May

278. Clinical Psychopharmacology Research. Discussion, two hours; laboratory, two hours. Prerequisites: experience in a psychiatric facility, involvement in psychiatric research, consent of instructor. Development and research and evaluation of psychopharmacological treatment. Clinical skills taught in the practical setting of ongoing psychopharmacology research projects. Discussion of clinical case problems and ongoing psychopharmacology research projects and of proposed new projects focusing on practical problems, design, methodology, procedures, and instrumentation.

Mr. May

M279A-M279B-M279C. Seminar: Selected Topics in Human Ethology. (Same as Anthropology M229A-M229B and Education M281A-M281B-M281C.) Ethologists now use successful animal behavior methodology to study human behavior. When is this appropriate, how can it contribute? Each quarter covers one level of analysis: describing and recording behavior; causation, development, especially longitudinal studies; adaptation, evolutionary only. Mr. Kul its (F, W, Sp)

280. Women, Work, and Health. Seminar, three hours; discussion, one hour. Prerequisite: consent of instructor. Examination of how women's socioeconomic roles in both developing and industrial societies influence their own health and that of the households in which they live. Women's caretaking roles in the household and in the larger society.

Ms. Browner (F)

281. Behavioral Therapy in an Educational Setting. Seminar, two hours; supervised experience in a classroom working with exceptional children. Theoretical background furnished through a one-hour weekly lecture.

Mr. Richey (F, W, Sp)

282. Schizophrenia: A Developmental Perspective. (2 units.) Prerequisite: consent of instructor. Review of research on the transmission of schizophrenia. Emphasis on a critical appraisal of the research strategies used and the relative contributions of environmental and genetic factors in the transmission of schizophrenia and on studies of children at risk for schizophrenia.

Mr. Asarnow


Ms. Goldenberg

287. Psychopharmacology Seminar (2 units), Pre- requisite: consent of instructor. A discussion of ongoing research in the area of psychopharmacology. Emphasis on stimulation and control of related habits. Topics include initiation, maintenance, and cessation of habits. Basic mechanisms stressed. Psychological procedures used in habit development and control, particularly reinforcement schedules. Various psychological is- sues are discussed along with the use of animal research in the development of clinical behavior therapy. History, foundations, and indications and contraindications for family therapy and diagnosis. Observations and demonstrations. Students encouraged to participate in videotaping of their families for use in discussion.

Ms. Goldenberg

289. Quantitative Analysis of Ethnographic Data. Prerequisite: graduate standing. Didactic and experimen- tal training in quantification and analysis of ethnographic data, including principles of psychological scaling and techniques of numerical measurement, application of techniques as appropriate to ethnographic data and application of univariate and multivariate statistical methods for analysis of ethnographic data.

Mr. Nihira


293A-293B-293C. Sexual Abuse Seminar (1 unit each) directed by a faculty member. Prerequisites: consent of instructor. Review of the interdisciplinary evaluation and treatment of sex- ually abused children and their families: recognition; reporting requirements and procedures; child advo- cacy; incidence and phenomenology; interviewing techniques; the physical examination; treatment modalities such as group, individual, family therapies, and self-help; family dynamics: special needs of the developmentally disabled; the adult molested as a child; understanding the perpetrator and controver- sial issues.

Ms. Johnson, Ms. Moan, Ms. Powell (F, W, Sp)
462A-462B-462C. School Intervention by Child Psychiatriasts. Prerequisite: consent of instructor. Knowledge of children in schools through (1) field experience, (2) a didactic program, (3) group supervision, and (4) a new group. Each trainee selects a specific educational or junior high school as the site of field experience in consultation. Supervision focuses on assessing the needs of the school and initiating the consultation. Seminars cover theoretical aspects of consultations and clinical activities related to childhood and adolescence. Participants receive individual supervision on a weekly basis. Ms. Betz (Sp).

465. Pediatric Psychopharmacology Seminar (1 unit). Prerequisite: child psychiatry fellow or consent of instructor. Designed for all fellows in child psychiatry for the background of child and adolescent 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 articles. Mr. Cantwell.

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 discussants are invited. The presenting trainees expected to cover the pertinent literature, select a local element of the literature for presentation, and discuss the case or problem at hand. Most sessions eligible for Continuing Medical Education credit.

M472A. Nursing Care of the Developmentally Disabled. (Same as Nursing M410A.) Lecture, one hour; discussion, one to two hours; laboratory, 10 hours minimum. Prerequisite: consent of instructor. Study of the handicapping conditions of childhood and their effects on the individual and the 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 the implementation of intervention strategies. Series of three courses integrates didactic material and clinical experience. Ms. Betz (F).

M472B. Nursing Care of the Developmentally Disabled. (Same as Nursing M410B.) Lecture, one hour; discussion, one to two hours; laboratory, 10 hours minimum. Prerequisite: course M472A and/or consent of instructor. Each month one second-year child psychiatry fellow presents a major clinical problem. Senior faculty discussants are invited. The presenting trainees expected to cover the pertinent literature, select a local element of the literature for presentation, and discuss the case or problem at hand. Most sessions eligible for Continuing Medical Education credit.

M472C. Nursing Care of the Developmentally Disabled. (Same as Nursing M410C.) Lecture, one hour; discussion, one to two hours; laboratory, 10 hours minimum. Prerequisites: course M472B and/or consent of instructor. Each month one second-year child psychiatry fellow presents a major clinical problem. Senior faculty discussants are invited. The presenting trainees expected to cover the pertinent literature, select a local element of the literature for presentation, and discuss the case or problem at hand. Most sessions eligible for Continuing Medical Education credit.

474. Child Psychiatry Colloquia (1 unit). Lecture, 90 minutes per month. Prerequisite: consent of instructor. Presentations of programmatic research in child psychiatry. Each trainee is required to read each paper and attend the colloquia. The presentation is followed by comments from invited discussants, as well as general discussion. S/U grading. Ms. Asarnow, Mr. Tanguay.

478. Clinical Genetics Rounds (No credit). Prerequisites: medical graduate, consent of instructor. Weekly clinical rounds on patients seen in the wards during the preceding week. House staff and other clinicians involved in clinical work may attend. Usual in-depth discussion of the clinical and genetic aspects of one or more disorders presented.

479. Genetics Clinic Presentation (No credit). Prerequisite: consent of instructor. A weekly clinical teaching session on the patients seen in the preceding genetics clinic. In-depth discussion on the genetics of each disorder.

480. Analysis of Human Chromosome Studies (1 unit). Prerequisite: consent of instructor. Chromosome karyotypes prepared in the cytogentic laboratories during the preceding week are presented and discussed with reference to clinical findings. Teaching includes the interpretation of abnormal karyotypes and the technical aspects of routine and special chromosome stains.

481. Chromatography Review (No credit). Prerequisite: medical course or biochemistry, consent of instructor. A weekly session with presentation of amino acid chromatography carried out during the preceding week. The interpretation of abnormal chromatograms together with the technical aspects of the tests used.

482. Psychology Intern Group Process (1 unit). (Formerly numbered 482A-482B-482C.) Seminar, 90 minutes. Prerequisite: consent of instructor. Group processes and dynamics, involving an active learning experience whereby students study their own group interactions in order to examine group process variables such as styles of leadership, verbal and nonverbal methods of communication, the development of trust, self-disclosure, and the effects on group process of stereotypes about ethnic and masculine-feminine characteristics of people. S/U grading. Ms. Holroyd.

485. Medical Genetics Seminar (No credit). Prerequisite: introductory course, consent of instructor. A weekly lecture series intended for those interested in genetics or in the specific topic to be presented. Speakers are invited for their expertise or research in some specific area related to genetics and may be from UCLA or elsewhere. Discussion and questions from the audience encouraged.

Mr. Crandall and the Staff.

596P. Individual Studies in Psychiatry (2 to 12 units). Prerequisite: consent of instructor and department chair. Based on a written proposal outlining the course of study (to be structured by instructor and student at time of initial enrollment). Additional information and course proposal forms available in the Office of Education, 37-049, or the Director, Individual research and study in psychiatry at the graduate level.

Ms. Tymchuk.

Radiation Oncology

B3-109 Center for the Health Sciences, (213) 825-9304

Chair
Robert G. Parker, M.D.

Vice Chair
Edward A. Langdon, M.D.

Scope and Objectives

The Department of Radiation Oncology includes clinical divisions at the UCLA and Wadsworth VA Medical Centers and divisions of experimental radiation biology and medical radiation physics. Research and teaching facilities are available at both medical centers. The primary clinical mission of the department
Radiological Sciences

AR-259 Center for the Health Sciences, (213) 825-7811

Professors
Zoran L. Barbaric, M.D. (Diagnostic Radiology)
Jorge R. Barrio, Ph.D. (Nuclear Medicine)
Leslie R. Bennett, M.D., Acting Chair
H. K. Huang, D.Sc., Medical Imaging Division Chief
Norman S. McDonald, Ph.D. (Nuclear Medicine)
Carol M. Newton, M.D., Ph.D.
Amos Norman, Ph.D. (Radiation Biology)
Robert G. Parker, M.D. (Radiation Oncology)
Michael E. Phelps, Ph.D. (Jennifer Jones Simon Professor of Biophysics), Nuclear Medicine and Biophysics Division Chief
James B. Smathers, Ph.D. (Radiation Oncology)
Milo M. Webber, M.D., Ph.D. (Nuclear Medicine)
Gabriel H. Wilson, M.D. (MRI)
H. Rodney Withers, M.D., D.Sc. (Radiation Oncology)
Moses A. Greenfield, Ph.D., Emeritus
Richard F. Riley, Ph.D., Emeritus

Associate Professors
Edward J. Hoffman, Ph.D., in Residence (Nuclear Medicine, Biophysics)
Sung-Cheng Huang, D.Sc. (Nuclear Medicine, Biophysics)
James Winter, M.D., Ph.D., in Residence (Diagnostic Radiology)

Assistant Professors
Stephen L. Gluckman, Ph.D., in Residence (Biophysics, Nuclear Medicine)
W. N. Paul Lee, M.D., in Residence (Pediatrics)
Juan F. Lois, M.D., in Residence (Diagnostic Radiology)
Nicholas J. Markovich, Ph.D., in Residence (Medical Imaging)

Adjunct Professors
J. Duncan Craven, M.D. (Diagnostic Radiology)
L. Stephen Graham, Ph.D. (Nuclear Medicine)
Adjunct Associate Professors
F. Eugene Holly, Ph.D. (Radiation Oncology)
Martin W. Herman, Ph.D. (Diagnostic Radiology)
Lawrence E. Williams, Ph.D. (Medical Imaging)

Adjunct Assistant Professors
Carolyn Kimme-Smith, Ph.D. (Medical Imaging)
Richard L. LaFontaine, Ph.D. (Diagnostic Radiology)
Lee T. Myers, Ph.D. (Radiation Oncology)
James S. Whiting, Ph.D. (Medical Imaging)

Adjunct and Visiting Lecturers
David O. Findley, Ph.D., Visiting (Diagnostic Radiology)
Charles L. Moier, Adjunct (Diagnostic Radiology)
Peter J. Rosemark, Ph.D., Visiting (Radiation Oncology)
Marilyn C. Wexler, M.S., Visiting (Radiation Oncology)

Scope and Objectives

The biomedical physics graduate program in the Department of Radiological Sciences offers training in four subspecialties: biophysics, medical imaging, medical physics, and radiation biology. Specialized facilities for training and research are available in the departmental clinical laboratories, the Laboratory of Biomedical and Environmental Sciences, the Image Processing Laboratory, and a number of associated hospitals. Highly specialized equipment includes the biomedical cyclotron, the radiation oncology cyclotron, the positron emission tomography (PET) scanners, the stereotactic gamma irradiator, and three VAX computer systems with three image processor systems. Students are trained to work both as professional medical physicists and as independent investigators.

Graduates in biomedical physics can expect to engage in any combination of clinical service, consultation, research, and teaching. Biomedical physicists are usually employed in hospitals frequently associated with a medical school, where they are members of the academic staff. They are also in demand in high technology private industry engaging in research and development of diagnostic equipment. In government agencies, biomedical physicists are involved in the formulation and enforcement of regulations applied to the use of radiation in health care delivery.

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), plus the equivalent of Physics 8E, (2) two years of college math-
Qualifying Examinations

The screening examination for admission to the Ph.D. program should be taken by the end of your sixth quarter in residence. Once the screening examination is passed and you have selected a research topic in your subspecialty for the dissertation, you should, within a reasonable time frame agreed on with the dissertation adviser, 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 screening examination, you may be required to take it again.

Final Oral Examination

The final oral examination, or dissertation defense, is required.

Upper Division Course

199. Directed Individual Study or Research for Undergraduate Students (2 to 4 units). Prerequisite: consent of graduate adviser (based on a written proposal outlining the course of study or research). Directed individual study in biomedical physics for undergraduate students to be structured by faculty member and student at time of initial enrollment. Mr. Norman (F, W, Sp)

Graduate Courses

200A. Physics and Chemistry of Nuclear Medicine. Lecture, one hour; laboratory, three hours. Prerequisite: consent of instructor. Nuclear structure, statistical dynamics of radioactive decay, nuclear radiations and their interaction with matter, nuclear decay processes, nuclear reactions, and compartment models. The physical and chemical properties of radioactive preparations used in nuclear medicine. Mr. Hoffman (F)

200B. Instrumentation in Nuclear Medicine. Prerequisite: course 200A. Introduction to nuclear medicine instrumentation, including exterior probe systems, well scintillation detectors, liquid scintillation counters, scanners, and cameras; dosimetry of internally administered radioisotopes. Mr. Graham (W)


202A. Nuclear Medicine. Prerequisite: course 200B or consent of instructor. (F, W, Sp)

202B. Diagnostic Radiology. Prerequisites: courses 200A, 205, and 208A-208B, or consent of instructor. (F, W, Sp)

202C. Radiation Therapy. Prerequisites: courses 203, 204, and 207, and 208A-208B, or consent of instructor. (F, W, Sp)

203. Physics of Radiation Therapy. Radiation quantities and units. Radiation dosimetry, clinical applications in treatment planning, methods of measuring radiation quantities. The calibration of radiation therapy equipment. Mr. Smathers (W)

204. Introductory Radiobiology. Effect of ionizing radiation on chemical and biological systems. Mr. Withers (Sp)

205. Physics of Diagnostic Radiology. Production of X-rays, basic interactions between X-rays and matter, X-ray system components, physical principles of medical radiography, radiographic image quality, fluoroscopy, image intensifiers, special procedures, X-ray protection. Laboratory experiments illustrate the basic theory. Mr. Glickman, Mr. H. Huang (Sp)

206. Advanced Instrumentation: MRI, CT, and DR. Prerequisites: courses 200A, 200B, 209, 210. An introduction to the recent advances in digital diagnostic imaging systems, with topics centered on instrumentation in magnetic resonance imaging (MRI), computed tomography (CT), and digital radiography (DR). Mr. H. Huang (F)

207. Radiation Protection and Health Physics. Concepts in radiation protection, the recommendation process, radiation protection and measurement techniques. Mr. Herman, Mr. Norm (F, W, Sp)

208A-208B. Medical Physics Laboratory. Prerequisites: courses 203, 205. Techniques for measuring ionizing and nonionizing radiation, applications to problems in radiological sciences. Mr. Herman (F, 208B; Sp, 208A)

209. Digital Techniques in Radiological Sciences. Lecture, three hours; laboratory, one hour. Prerequisites: one course in FORTRAN or another computer language, consent of instructor. Basic principles of digital techniques in radiological sciences. The concepts and experience necessary to undertake radiological research in a diverse computing environment. Discussion of the relationship between computers and diagnostic equipment with regard to data acquisition, equipment interfacing, and data analysis. Mr. Markovich (F)

210. The Physics of Medical Imaging. Prerequisites: courses 200A, 200B, 205, 209. Review of Fourier analysis measurement of the LSF and MTE. Radiographic, scintillation techniques, and the Wiener spectrum. Physics, mathematics, and engineering of imaging devices in conventional radiography, computerized tomography, ultrasound, and nuclear medicine. Detection of faint shadows, the ROC curve. Mr. H. Huang (W)

211. Medical Ultrasound. Lecture, 90 minutes; laboratory, two hours. Prerequisite: at least one course in calculus; for non-Radiological Sciences Department students: consent of instructor. Introduction to the advanced biomedical physics students to calibrate ultrasound medical imaging equipment, to evaluate new instrumentation and research in the field, and to initiate their own research into clinical ultrasound studies. Mr. Kim (W), Mr. K. S-C. Huang (W)

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 biomedical engineering. Basics of computed tomography (CT), various reconstruction algorithms, special characteristics of CT, physics in CT, and various biomedical applications. Mr. S-C. Huang (W)

260A-260B. Seminar in Medical Physics (2 units each). Joint critical study by students and instructors of the fields of knowledge pertaining to medical physics, basic contributions made by visiting scientists. Discussion and research in progress. Mr. Norman (W, 260A; Sp, 260B)

265A-265B-265C. Seminar in Nuclear Medicine (2 units each). Topics of current interest in nuclear medicine. Intended for physicians, radiation physicists, and graduate students. S/U grading. Mr. Bennett (F, W, Sp)

268. Seminar in Radiopharmaceuticals (2 units). Current concepts in radiopharmaceutical agents in clinical use, including promising investigational agents. Utilization of short-lived, cyclotron-produced isotopes in radiopharmaceuticals. The rational design of new radiodiagnostic agents. Mr. Barrio (Sp)

495. Special Studies in Biomedical Physics. Discussion, two hours; laboratory, four hours. Teaching assistance in graduate laboratory courses under the supervision of a faculty member. S/U grading.

596. Research in Biomedical Physics (4 to 12 units). Directed individual study or research. Only one 596 course may be applied toward the M.S. degree requirements. May not be repeated. S/U grading.

597. Preparation for Ph.D. Qualifying Examinations. May not be applied toward the M.S. degree requirements. May not be repeated. S/U grading.

598. Research for and Preparation of M.S. Thesis (4 to 12 units). Two 598 courses (or 598 and 596 combined) may be applied toward the M.S. degree requirements. May be repeated. S/U grading.


Scope and Objectives

The Department of Surgery instructs medical students during all four years of medical school. Students are expected to obtain a broad knowledge of diseases treated by surgical means, 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. UCLA, Wadsworth VA, and Harbor-UCLA Medical Centers provide individual sections, each of which has a special orientation depending on the patient population and the individual staff. During the fourth year, students may elect to take additional clinical clerkships 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.
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 its fine undergraduate and graduate programs. Faculty and administration are proud that a new educational opportunity at UCLA, a Doctor of Nursing Science degree program, is expected to be available for enrollment in Fall Quarter 1987.

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 the learning; for example, computer, media, and print resources are available for student use and are integral to the environment.

Students are selected for their capabilities, background, and potential for contributions to the profession and are prepared as highly competent professional nurses. Alumni, employed at all levels in many employment settings in different geographical areas, well represent the School of Nursing.

Outstanding educational opportunities are offered by the school. Faculty and administration are proud of the accomplishments and recognition of the school and its graduates and that the school continues to be in the forefront in preparing the future leaders in nursing.
School of Nursing

2-200 Louis Factor Building, (213) 825-7181

Professors
Charles E. Lewis, M.D., Sc.D., Ada M. Lindsey, R.N., Ph.D., Dean
Sharon J. Reeder, R.N., Ph.D.
Maria W. Seraydarian, Ph.D.
Donna L. Vredevoe, Ph.D.
Lulu Wolf Hansenplug, R.N., M.P.H., Sc.D., Emeritus
Dorothy E. Johnson, R.N., M.P.H., Emeritus
Harriet C. Moidel, R.N., M.A., Emeritus

Associate Professors
Betty L. Chang, R.N., D.N.Sc.
Kathleen A. Dracup, R.N., D.N.Sc.
Jacqueline H. Flasken, R.N., Ph.D.
Phyllis A. Putnam, R.N., Ph.D.
Gwen M. van Servellen, R.N., Ph.D.
Donna F. Ver Steeg, R.N., Ph.D.
Agnes A. O'Leary, R.N., M.P.H., Emeritus

Assistant Professors
Loretta K. Brckhead, R.N., Ed.D.
Olive Y. Burner, R.N., Ph.D.
Anayis K. Derdiarian, R.N., D.N.Sc.
Jacqueline H. Flasken, R.N., Ph.D.
Vicky R. Bowden, R.N., M.N.Sc.
Linda L. Faber, R.N., Ph.D.
Linda Sarna, R.N., M.N.

Adjunct and Visiting Lecturers
Vicky R. Bowden, R.N., M.N.Sc., Visiting
John M. Clochesy, R.N., M.S., Visiting
Diane F. Cooper, R.N., M.N., Visiting
Linda L. Faber, R.N., Ph.D., Visiting
Mary E. Grech, R.N., M.S., Visiting
Mary J. Hoban, R.N., M.N., Visiting
Roxana R. Huelbcher, R.N., M.S., Visiting
Celine Marsden, R.N., M.N., Visiting
Debra J. Nash, R.N., M.S., Visiting
Leslie N. Ray, R.N., M.N., Visiting
Judith V. Roach, R.N., M.N., Visiting
Esther F. Seeley, R.N., Ph.D., Adjunct
Pamela A. Shuler, R.N., M.N Sc., Visiting
Irene M. Stuart, R.N., M.N., Visiting
Rose A. Vasta, R.N., Ph.D., Visiting
Inese L. Verzemnieks, R.N., M.S., Visiting
Mickie D. Welsh, R.N., Ph.D., Visiting

The UCLA School of Nursing gives direction to 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 Louis Factor Building, UCLA, Los Angeles, CA 90024 (825-7181).

History and Accreditation
The School of Nursing was authorized by The Regents of the University in 1949 as one of the professional schools of the UCLA Medical Center. This action paved the way for the development of an undergraduate basic program in nursing and made possible the establishment of a graduate program leading to the Master of Nursing degree. 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 both programs since 1954.

Degrees Offered
Bachelor of Science in Nursing (B.S.)
Master of Nursing (M.N.)

Bachelor of Science Degree
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.

The School of Nursing curriculum affords the opportunity to sit for the California Registered Nurse licensing examination at the conclusion of your junior year. You must maintain a minimum GPA of 3.0 each quarter and must petition the assistant dean to enroll beyond the four quarter courses usually permitted. Since many states do not reciprocally honor California nursing licenses obtained prior to completion of a baccalaureate degree, students who plan to follow this sequence should contact the assistant dean for Student Affairs before the beginning of the freshman year for more complete details.

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, diversity life experiences, and disadvantages. You must have completed a minimum of 84 quarter units with an overall grade-point average of 2.8 or better and have three letters of recommendation. Diversity 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 also given to social and economic disadvantage such as educational background, heavy work schedule during school, housing conditions, family responsibilities, and mastery of physical handicaps. 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 25 students each Fall Quarter. In addition to the regular U.C. Undergraduate Application Packet which must be filed with the Office of Undergraduate Admissions and Relations with Schools, 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 Louis Factor Building, UCLA, Los Angeles, CA 90024.

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 in Nursing is granted on fulfillment of the following requirements.

1. You must complete 45 required courses (180 quarter units) of college work and satisfy the general University requirements.

2. Of the required 45 courses, at least 21 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 25 courses (100 quarter units) of upper division coursework toward the degree, including Nursing 101, 104A, 104B, M105, 109, 120A through 120F, 184, 190A, 190B, 192, 193, 195, four electives, Public Health 100A, 180.

(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 a grade of C or better in the following courses: Nursing 101, M105, 109, 120A through 120F, 190A, 190B.

(6) You must have been enrolled in the School of Nursing during your final three quarters in residence; the last nine courses must be completed while so enrolled.

Study Lists: You may not enroll in more than four courses per quarter 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 with the Bachelor’s Degree

College 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 3.85; Magna cum laude, 3.65; Cum laude, 3.5. To be eligible for college honors, you must have completed at least 90 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 graduate program with the highest grade-point average in all nursing courses.

Master of Nursing Degree

The School of Nursing offers graduate study leading to the Master of Nursing (M.N.) degree. 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 deliberative 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

(1) You must have graduated 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. If you have completed other curricula (e.g., graduated from an international institution), you may be required to enroll in certain undergraduate nursing courses which generally may not be applied toward requirements for advanced degrees.

(2) You must have 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 Public Health 100A must be completed before entering the school.

(4) An upper division nursing research course, taken at an NLN-accredited institution and equivalent to Nursing 193, must be completed before entering the school.

(5) Professional and/or academic competence in nursing attested through three letters of recommendation is required.

(6) A satisfactory scholarship record is required.

(7) Since written and verbal communication skills are basic to the practice of nursing, it is essential that students read, write, and speak English well. International applicants from countries in which English is not the primary language and medium of instruction, whether licensed registered nurses in the United States or not, are required to pass the Test of English as a Foreign Language (TOEFL) with a score of 550 or better. Refer to "Proficiency in English" under "Graduate Admission" in Chapter 3 for further information.

(8) All international applicants who are not licensed registered nurses in the United States, prior to consideration for admission, are required to pass the Committee on Graduates of Foreign Nursing Schools (CGFNS) examination.

In addition to the Graduate Division application, you must also file the Application for Admission to Graduate Study in the School of Nursing, available through the Student Affairs Office, School of Nursing, 2-200 Louis Factor Building, UCLA, Los Angeles, CA 90024. Application deadlines are June 1 for Fall Quarter and December 30 for Spring Quarter. 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:

Maternal-Child Health: Maternity, pediatrics.

Medical-Surgical Nursing: Cardiopulmonary, general medical-surgical, nursing administration, oncology.

Primary Ambulatory Care / Family Nurse Practitioner: Family, gerontology, occupational health.

Psychiatric-Mental Health Nursing: Child mental health, community mental health, consultation liaison nursing, ethnic mental health, psychiatric nursing.

You may choose to add preparation in education or administration to your clinical requirement.

Course requirements for each specialty area are detailed below.

Degree Requirements

(1) A minimum of 10 courses (40 units) in the 100, 200, 400, and 500 series is required; eight of the courses (32 units) must be taken in the School of Nursing, with five (20 units) in the 200 and 400 series. Additional coursework is required to fulfill the requirements for certain areas of 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. A grade of B is required in graduate clinical nursing courses in order to advance to the next clinical course in a series.

(3) A minimum of three quarters of full-time enrollment (eight units per quarter) is required for academic residence.

(4) Successful completion of a comprehensive examination or a thesis is required.

Course Requirements

You must successfully complete a minimum of one course from each of the following areas:

(1) Research in nursing (Nursing 204).

(2) Nursing theory (Nursing 203, 210, 211, 212, M217, 221, 222, 223, 224, 225).

(3) Cultural diversity (Nursing M158, 196, M217 if not used to meet the nursing theory requirement, 250, 251, Anthropology 131, 134, 135A, 135B, 155, M234Q, M236P, 261, 262, M263Q, Asian American Studies 200A or 200B, Psychiatry 240 — student must petition to the School of Nursing before enrolling to receive credit, Public Health 174E, 270, M271, M276, M283G, Sociology 124, 151, or 155).

(4) Clinical practice (Nursing 401, 402A, 402B, 403, 405, 414, 415, 416, 417, 421A through 429C, 440A, 440B, 441A, 441B). Courses selected from clinical practice must be completed in accordance with the requirements for clinical courses listed under each specialization.

(5) Clinical specialization.

Additional course requirements vary according to specialty area listed below.

Maternal-Child Health

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 neonatal intensive care. This specialty requires a minimum of 10 courses, including Nursing 203, 204, one cultural diversity course, 212, 223, 422A, 422B, 422C.

Pediatric 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 children and families. Guided options include children and families experiencing acute/critical illness, chronic illness, developmental disabilities, neonatal adaptation, or oncology. This specialty requires a minimum of 10 courses, including Nursing 203, 204, one cultural diversity course, 212, 223, 421A, 421B, 421C.

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 clients whose health problems may be classified according to biological systems, pathology, acuity levels, medical treatment modalities, physical functions, or psychophysiological functions. Graduate students choose from existing clinical options (i.e., cardiopulmonary, general medical-surgical nursing, nursing administration, 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 is highly recommended before entering this option. Graduates are expected to function as cardiopulmonary nurse clinicians, teachers, consultants, or research associates. This option requires a total of 10 courses, including Nursing 204, 210 or 211, one cultural diversity course, 415, 423A, 423B, 423C.

General Medical-Surgical: The goal of this option is to prepare clinical specialists in general medical-surgical nursing. Students are encouraged to develop their own clinical focus in areas of acute chronic illness (e.g., critical care, trauma nursing, diabetes, neurological nursing, rehabilitation, geriatrics). At least two years of prior experience in medical-surgical nursing is highly recommended. This option requires a total of 10 courses, including Nursing 204, one theory course, one cultural diversity course, 423A, 423B, 423C, one elective course, and one course from 203, 401, or 403.

Nursing Administration: This option focuses on advanced clinical practice, 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 clinical and 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 quarters of full-time study, a summer session, and a three-month 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, Division of Health Services Management, and the Graduate School of Management. Nursing administration students may select medical-surgical nursing as their clinical specialization. This program requires a total of 16 courses, including Nursing 204, one theory course, one cultural diversity course, 423A (eight units), 423B (eight units), 478A-478B, and seven health services/financial management courses (Management 403, 408, Public Health 130, 131, 430, 431 or Management 412, 436).

Oncology: The comprehensive care of the cancer patient requires that nurses be prepared in theory and skills to minister to the patient's total needs—physical, psychological, emotional, social, and spiritual. This option is designed to prepare clinical nurse specialists for the interdisciplinary team responsibility for cancer prevention, treatment, and rehabilitation. In addition to clinical competence in preventive, detection, and rehabilitative phases of cancer care, emphasis is directed to the preparation of the clinician in research, teaching, administration, and consultation. This option requires a total of 11 courses, including Nursing 203, 204, one cultural diversity course, 401, 416, 417, 423A, 423B, 423C.

Primary Ambulatory Care/Family Nurse Practitioner Specialty: This specialty prepares family nurse practitioners to take a leadership role in the care of individuals throughout the lifespan. 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.

Gerontology: 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. Interested students should request the fact sheet for this option.

Occupational Health: This option integrates principles of occupational health assessment and care with primary ambulatory care of the adult. Practitioners evaluate the individual as seen within the work setting as well as within the family group. Primary focus and emphasis is on health status assessment, health promotion, illness/accident 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. Interested students should request the fact sheet for this option.

Psychiatric-Mental Health Nursing Specialty: The primary intent of this specialization is the preparation of clinicians who can function in leadership, educational, research, practice, and consultative roles in mental health settings. 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 encompasses two subspecialties: community mental health (nurse therapist and consultant to health agencies) and psychiatric nursing (nurse therapist who serves individuals, groups, and families with acute or chronic mental health problems). Options within the subspecialties include child mental health (needs and problems of various age groups of children and their families), consultation liaison nursing (needs and problems of clients and consultants in general medical inpatient and outpatient settings), and ethnic mental health (needs and problems of selected ethnic groups).

Community Mental Health Subspecialty requires Nursing 204, one theory course, one cultural diversity course, 405, 424A, 424B, 440A-440B, 441A-441B.

Psychiatric Nursing Subspecialty requires Nursing 204, one theory course, one cultural diversity course, 405, 424A, 424B, 424C, one elective course.

Child Mental Health Option requires courses listed under the psychiatric nursing subspecialty plus Nursing 234, or courses listed under the community mental health subspecialty plus Nursing 234.

Consultation Liaison Nursing Option requires Nursing 204, one theory course, one cultural diversity course, 403, 405, 424A, 424B, 440A-440B, 442.
Ethnic mental health option requires Nursing 204, one theory course, 280, 403, 405, 424A, 424B, 440A-440B, 441A-441B, five cognate courses, a seminar in cultural concepts.

**Thesis Plan**

If you choose the thesis plan, you normally select a thesis committee by the beginning of your third quarter or following completion of Nursing 204 and 205A or 205B. You are expected to complete the thesis within the normal five- to seven-quarter time period. Completed theses should be filed approximately two weeks before the awarding of the degree.

**Comprehensive Examination Plan**

The comprehensive examination is given in written form and is scheduled each quarter. You are eligible to take the examination during the quarter 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.

**Upper Division Courses**

101. Introduction to the Art and Science of Nursing (8 units). Lecture, four hours; discussion, two hours; laboratory, 12 hours; autotutorial laboratory/seminars, variable. An introduction to nursing theory and practice. Content includes the following modules: nursing process, pharmacology, interpersonal and technical skills. Methodology includes laboratory, lectures, discussion, seminars, autotutorial laboratory, and clinical application.

Ms. Roach and the Staff

104A. The Behavior of Man in Health and Illness. An examination of the health-illness continuum from the framework of social and biological sciences. Content includes role theory, developmental theory, transcultural communication theory, and other theories relevant to nursing practice.

Ms. Vasta

104B. The Behavior of Man in Health and Illness. Prerequisite: course 104A. An examination of the health-illness continuum from the framework of illness as a stressor and the possible responses to such stress. Content includes anxiety, pain, cognitive disturbances, loss, and other responses relevant to nursing practice.

Ms. Vasta

M105. Human Physiology. (Same as Physiology M105.) Lecture, four hours; discussion, one hour. Prerequisite: nursing student standing or consent of instructor. Required of third-year nursing students. Lecture and discussion, with emphasis on a correlational approach to anatomy and physiology of the human body.

Ms. Seraydarian

109. Communication in Health Care. Lecture, two hours; laboratory, three hours. Prerequisite for non-nursing majors: 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. Top.

120A. Clinical Nursing. Lecture, four hours; laboratory, 24 hours. Prerequisites: courses 101, M105, 109. Clinical application of nursing theory in community situations: acute care, convalescent, and ambulatory. Theoretical content includes pathophysiology, pharmacology, and treatment modalities. Application of the theoretical concepts of growth and development related to the nursing care of the child and his family.

Ms. Bowden (five weeks)

120B. Clinical Nursing. Lecture, four hours; laboratory, 24 hours. Prerequisites: courses 101, M105, 109. Clinical application of nursing theory in community situations: acute care, convalescent, and ambulatory. Theoretical content includes pathophysiology, pharmacology, and treatment modalities. Application of the theoretical concepts of reproduction to the nursing care of the family.

Ms. Roach (five weeks)

120C. Clinical Nursing. Lecture, four hours; laboratory, 24 hours. Prerequisites: courses 101, M105, 109. Clinical application of nursing theory in community situations: acute care, convalescent, and ambulatory. Theoretical content includes pathophysiology, pharmacology, and treatment modalities. Application of the theoretical content related to the nursing care of the patient undergoing medical interventions.

Ms. Grech (five weeks)

120E. Clinical Nursing. Lecture, four hours; laboratory, 24 hours. Prerequisites: courses 101, M105, 109. Clinical application of nursing theory in community situations: acute care, convalescent, and ambulatory. Theoretical content includes pathophysiology, pharmacology, and treatment modalities. Application of mental health concepts related to the nursing care of individuals, groups, or communities.

Ms. Vasta (five weeks)


M109. Health in Culture and Society. (Same as Anthropology M168.) Prerequisite: upper division standing. An examination of the theories and methods of medical anthropology in relation to cross-cultural health systems, role networks, attitude and behavior of the participants. Emphasis on interaction networks in health care systems.

184. Evolution and Dynamics of the Nursing Profession. A study of the evolution of nursing, focusing on historical, ethical, moral, legal, and institutional ramifications of nursing practice. In addition, the rights, obligations, and societal and institutional expectations of the professional nurse.

Ms. Ver Steeg

188. Seminar in Physiology (2 units). Prerequisite: course M105 or equivalent. Student presentation of selected topics in physiology based on recent monographs, review articles, and original research papers. Topics designed to amplify and extend information presented in course M105 lectures. May be repeated for credit.

Ms. Seraydarian

189. Human Sexuality. Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. Lectures, discussions, and case presentations considering human sexuality and related social, psychological, and medical problems. An interdisciplinary approach encompassing anatomic, physiologic, psychologic, and social aspects of heterosexual and homosexual relationships, including development of gender identity, intercourse, pregnancy, abortion, contraception, and venereal disease.

Ms. Reeder

190A. Selected Area of Clinical Concentration (6 units). Lecture, two hours, laboratory, 20 hours. Prerequisites: courses 101, 104A, 104B, 120A through 120F, 190A in the area of student’s choice.

190B. Selected Area of Clinical Concentration (6 units). Lecture, two hours; laboratory, 20 hours. Prerequisites: courses 101, 104A, 104B, 120A through 120F, 190A. Beginning concentration in a clinical area of student’s choice.

192. Physical Assessment of the Adult. Discussion, three hours; laboratory, three hours; individual study, three hours minimum. Prerequisites: courses 101, M105, 109. Designed to provide in-depth review and synthesis of the physical assessment skills and knowledge introduced in prerequisite and concurrent nursing courses. Individual study, using audiovisual aids in the laboratory and the required text, is mandatory and is supplemented by one hour of discussion per week. Emphasis is placed on the reading and application of health history taking, (2) performing a comprehensive physical examination, (3) identifying deviations from the usual or anticipated anatomical and organ conditions, and (4) analyzing and reporting collected data.

Ms. Stuart and the Staff

193. Introduction to Research. An introduction to planning a research project based on a simple question. Rules for definition of terms, alternative methods of writing purposes, selecting a sample, choosing a data collection instrument, and deciding on data analysis techniques. Content includes protection of human rights, reading research reports, and writing a research proposal.

194. Computer Programs in Nursing Education and Health Care. (Formerly numbered 198A.) Lecture, discussion, four hours. An introductory course in the evaluation and review of computer programs in nursing education and health care settings. Examination of programs in view of existing criteria in education and requirements for meeting people’s health care needs. P/N grading.

Ms. Chang

195. Principles of Change and Change Agent Roles. Lecture, two hours; discussion, two hours. Topics and methods of change and their application to nursing. Principles of leadership, teaching-learning, health delivery systems, organization of nursing care, and patient advocacy. Mr. Clochesy

196. Health Care Problems of Minority Group Members. Prerequisite: Sociology 1. Description and discussion of the special health care problems that members of minority groups face which may be related to socioeconomic status as well as ethnic background and subcultural differences.

Ms. Tien

199. Special Studies in Nursing (2 to 16 units). Prerequisite: senior standing or consent of instructor. Individual study of a problem in the field of nursing. May be repeated for credit, but only four units may be applied toward the degree requirements. P/NP or letter grading.

**Graduate Courses**

Research in Nursing, Nursing Theory, and Cultural Diversity

203. Theoretical Frameworks for Nursing Practice. Comparative study of selected conceptual models of nursing and the recipient of nursing, with particular emphasis on the regulatory model, the adaptation model, the supplementary model, and the complementary model.

Ms. Seraydarian

204. Research in Nursing: An Advanced Course. Prerequisite: course 193 or equivalent upper division 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 the interrelationship of theoretical frameworks, design, sample selection, data collection instruments, and data analysis techniques. Content discussed in terms of clinical nursing research problems.

Ms. Vredevoe and the Staff

205A. Qualitative Research Methods in Nursing. Prerequisite: course 204. Emphasis on nursing research designs utilizing the field method approach, ethnomet hodology, and/or inductive methods.
205B. Quantitative Research Methods in Nursing. Prerequisite: course 204. Emphasis on nursing research designs requiring statistical analysis of data. Ms. Vredevoe

210. Respiratory Physiology as It Relates to Nursing. Lecture, three hours; discussion, one hour; seminars. Prerequisite: upper division course in human physiology. An advanced treatment of the topic presented in lectures and seminars, with emphasis on current research. Application of knowledge to nursing problems. Ms. Seraydarian

211. Cardiovascular Physiology as It Relates to Nursing. Lecture, three hours; discussion, one hour; seminars. Prerequisite: upper division course in human physiology. An advanced treatment of the topic presented in lectures and seminars, with emphasis on current research. Application of knowledge to nursing problems. Ms. Seraydarian

212. Discontinuities in Family Health during the Reproductive Years. Lecture, two hours; discussion, one hour. An overview of selected problems with health connotations that are potentially disruptive to the family during childbearing years. Selected problems examined in depth. Pertinent variables affecting the family’s definition of the situation, resources, strategies for coping, and utilization of professional services; their relevance for nursing practice. Ms. Koniak and the Staff

M217. Medical Anthropology. (Same as Anthropology M265.) Lecture, three hours. Prerequisite: course M125 or consent of instructor. Any of the topics covered in course M158 are selected each quarter for intensive literature review and independent projects. May be repeated for credit.

221. Theoretical Frameworks for Developmental Problems, Middle and Later Years. Aspects of life span development relevant to understanding health needs in middle and later years. Changes in biological, cognitive, and psychosocial processes; implications for prevention and rehabilitative care. Ms. Putnam

222. The Concept of Grief and Loss. Lecture, three hours; laboratory, two to four hours. Prerequisite or corequisite: clinical nursing course. The concepts and theories of grief and loss, with particular emphasis on the loss of a significant other. Discussions about death and the dying person, with the intent of assisting the care giver to deal more effectively with a person and/or family involved in a life-threatening experience. Ms. van Servellen and the Staff

223. 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 the critique of pertinent literature. Ms. Nash, Ms. Verzemnieks

224. Problems in Patient Motivation. An exploration of the phenomena which may occur when a person assumes the role of a sick patient. Ms. Topf

225. Problems in Environmental Management. The prevention and treatment of nursing problems related to conditions of the psychophysical and social environment. Ms. Tien

226. Seminar: Nursing in Other Cultures. Prerequisite: consent of instructor. Discussion of anthropological principles which affect nursing care in a particular cultural environment. Individual research projects based on the medical problems found in such an environment and the projected nursing interventions relative to those findings. Ms. Tien

227. Seminar in the Integration of Cultural Concepts and Mental Health Nursing (2 units). Seminar, two and one-half hours (eight weeks). Prerequisites: course 424B, a minimum of two cultural diversity cognate courses, consent of instructor. Corequisites: course 403. Discussion of the concepts of culture, language, life-style, and health practices which influence the practice of primary care among Asian/Pacific, black, Hispanic/Latino, and Native American people. Ms. Tien
Clinical Practice

401. Nursing Assessment and Intervention. Lecture, two hours; laboratory, four to eight hours. Prerequisite or corequisite: course 203. Instruction and experience in the systematic assessment of patients for the dynamics and group therapy, knowledge to apply these in both the assessment and evaluation of major modes of interpretive practice. Ms. Derdiarian

402A-402B. Primary Diagnosis for Nurse Practitioners. Lecture, four hours; laboratory, four hours; demonstration/practice, two hours. Prerequisites: successful completion of anatomy and physiology pretest, consent of instructor. Collection, analysis, and reporting of data used by the nurse practitioner in identification of patient problems. Development of the basic technique of history taking, physical examination, laboratory, and other diagnostic methodology. Pathology and pathophysiology integrated in a systems approach. Ms. Stuart and the Staff

403. Physical Assessment for Clinical Practice. Prerequisite: consent of instructor. An introductory study of the basic techniques of history taking and physical examination which are used in clinical practice as part of the total nursing assessment process, including theory, demonstration, practice, and physical assessment methodology. Ms. Stuart and the Staff

404. Comprehensive Group Theory. Lecture, two hours; laboratory, two hours. An in-depth study of group dynamics and group therapy, applicable to any health service area, with the emphasis on the study and application of group theory and practice relevant to nursing. Students gain in-depth knowledge of group dynamics and group theory. Development of the ability to assess the group process of psychotherapy, with specific emphasis on diagnosis and treatment of clients. Ms. Verzemnieks and the Staff

405. Assessment in Psychiatric Nursing. Lecture, two hours; laboratory, six to eight hours. A preparatory course for advanced clinical practice. A critical examination of the concepts and strategies which affect assessment of psychological behavior. Ms. Odum and the Staff

M410A. Nursing Care of the Developmentally Disabled. (Same as Psychiatry M472A.) Lecture, one hour; discussion, one to two hours; laboratory, 10 hours minimum. Prerequisite: consent of instructor. Study of the handicapping conditions of childhood and their effects on the individual and the 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 the implementation of intervention strategies. Series of three courses integrates didactic material with clinical experience. Ms. Betz (P)

M410B. Nursing Care of the Developmentally Disabled. (Same as Psychiatry M472B.) Lecture, one hour; discussion, one to two hours; laboratory, 10 hours minimum. Prerequisite: course M410A and/or consent of instructor. Study of the philosophical and conceptual models affecting care delivery for the developmentally disabled. Emphasis on intervention strategies necessary for primary, secondary, and tertiary prevention. Ms. Betz (W)

M410C. Nursing Care of the Developmentally Disabled. (Same as Psychiatry M472C.) Lecture, one hour; discussion, one to two hours; laboratory, 10 hours minimum. Prerequisite: course M410B and/or consent of instructor. An in-depth study in the assessment, planning, and delivery of health care to the developmentally disabled in a variety of settings. Emphasis on the expanded role of the nurse. Ms. Betz (Sp)

414. Current Perspectives in Respiratory and Cardiovascular Nursing (2 units). Lecture, one hour; discussion, one hour; exploration of selected problems, trends, and issues in respiratory and cardiovascular pharmacology, with emphasis on their significance for the clinical nurse specialist. Ms. Cooper

415. Assessment in Respiratory and Cardiovascular Nursing. Introduction to the basic methods of assessing respiratory and cardiovascular function in health and illness, with emphasis on the application in clinical nursing practice. Ms. Dracup

416. Oncology and Treatment of Cancer. Lecture, two hours; discussion, one hour; laboratory, eight to 10 hours. Prerequisite: consent of instructor. Basic knowledge, techniques of oncologic nursing. Emphasis on assessment of special physical and psychosocial problems of patients with diagnoses of cancer in a specific site. Provides students with theoretical and technical skills necessary for the interventions of these problems. Ms. Betz (W)

417. Systematic Approach to Oncologic Nursing. Lecture, one hour; discussion, one hour; laboratory, eight to 10 hours. Prerequisites: courses 416, consent of instructor. Nursing management of persons with various types of malignancy, with emphasis on the assessment of special physical and psychosocial problems of patients with diagnoses of cancer in a specific site. Provides students with theoretical and technical skills necessary for the interventions of these problems. Ms. Betz (W)

421A. Clinical Nursing Care of Children. Discussion, two hours; laboratory, 16 to 20 hours. Prerequisites: courses 203, 223. Application of a theoretical model and the nursing process to a specific, identified patient population in a psychiatric setting with special emphasis on assessment and diagnosis. Content covers each aspect of the nursing process. Ms. Verzemnieks and the Staff

421B. Advanced Clinical Nursing Care of Children (6 units). Discussion, three hours; laboratory, 20 to 30 hours. Prerequisite: course 421A. The role of the clinical specialist in pediatric nursing, with emphasis on the compassionate role. Students identify a selected patient population for whom they plan and implement the nursing process from assessment through evaluation. Content includes theoretical and practical issues related to the clinical specialist role. Ms. Verzemnieks and the Staff

421C. Clinical Specialization in Nursing of Children (8 units). Discussion, three hours; laboratory, 20 to 30 hours. Prerequisite: course 421B. Required for the pediatric clinical nursing specialist. The practitioner role is continued in this course to foster consolidation of knowledge and skills. Emphasis on the consultation, staff development, research, and patient advocacy dimensions of the clinical nurse specialist role. Ms. Verzemnieks and the Staff

422A. Clinical Maternity Nursing. Discussion, three hours; laboratory, 16 to 20 hours. Prerequisites: one theory course, consent of instructor. Emphasis on developing the patient’s knowledge and skills necessary for the development of the nursing process. Emphasis on the continuity of care. Ms. Ludington and the Staff

422B. Advanced Clinical Maternity Nursing (8 units). Discussion, three hours; laboratory, 20 to 30 hours. Prerequisite: course 422A. Knowledge and clinical expertise refined and extended, with emphasis on high-risk conditions in the reproductive process. Emphasis on the prescriptive, intervention, and evaluative phases of the nursing process and on teaching, counseling skills, and collegial relations. Ms. Koniak and the Staff

422C. Clinical Specialization in Maternity Nursing (8 units). Discussion, three hours; laboratory, 20 to 30 hours. Prerequisite: course 422B. Further development of clinical expertise in areas of the high-risk and/or normal conditions encountered during the reproductive process. Emphasis on the phases of the nursing process. Emphasis on coordination of care, patient and family education, counseling, and consultation. Ms. Koniak

423A. Clinical Medical-Surgical Nursing (8 units). Lecture, three hours; laboratory, 12 hours. Prerequisites: course 204, one theory course. An advanced course in the theory and practice of the nursing care of medical-surgical adults. Major emphasis on the introduction of assessment and diagnosis of nursing problems within the UCLA conceptual framework for nursing practice. Focus on the assessment of physiological and psychological changes in clients as they move on the health-illness continuum. Ms. Nyamathi and the Staff

423B. Advanced Clinical Medical-Surgical Nursing (2 to 8 units). Lecture, two hours; seminar, 90 minutes; laboratory, 15 to 30 hours. Prerequisite: course 423A; for nonmedical-surgical specialization students, consent of instructor. Emphasis on the medical/ surgical adult. Continued refinement of the nursing process and extension of professional knowledge and skills with a selected patient population. Focus on the psychosocial aspects of nursing problems of medical-surgical patients. Students select a specific patient population for concentration in the course: (1) cardiologypulmonary, (2) general medical-surgical, (3) oncology. Ms. Gonzalez and the Staff

423C. Clinical Specialization in Medical-Surgical Nursing (2 to 8 units). Lecture, two hours; seminar, 90 minutes; laboratory, 15 to 30 hours. Prerequisite: course 423B; for nonmedical-surgical specialization students: consent of instructor (may enroll for two units). Continued refinement of the nursing process and extension of professional knowledge and skills. Emphasis on the specific aspects of the role: practitioner, educator, consultant, researcher. Students select a specific patient population for concentration in the course: (1) cardiologypulmonary, (2) general medicalsurgical, (3) oncology. Ms. Omery and the Staff

424A. Clinical Psychiatric Nursing. Discussion, three hours; laboratory, eight to 10 hours. Prerequisites: courses 405, consent of instructor. Focus on the psychosocial aspects of nursing problems of medical-surgical patients. Prerequisites: courses 424A, consent of instructor. Learning and extension of the process of psychother-apy, with emphasis on prevalent psychiatric health issues. Ms. van Servellen and the Staff

424B. Advanced Clinical Psychiatric Nursing (8 units). Discussion, three hours; laboratory, 20 hours. Prerequisites: course 424A, consent of instructor. Emphasis on the psychosocial aspects of nursing problems of medical-surgical patients. Prerequisites: courses 424A, consent of instructor. Ms. van Servellen and the Staff

424C. Clinical Specialization in Psychiatric Nursing (8 units). Seminar, two hours; laboratory, 24 hours. Prerequisites: course 424B, consent of instructor. Required for the psychiatric nursing specialization. Supervised internship. Students select the setting and population. Ms. van Servellen and the Staff

425A. Advanced Clinical Gerontological Nursing. (Not the same as course 425A prior to Winter Quarter 1983.) Lecture, three hours; discussion, one hour; laboratory, eight to 10 hours. Prerequisites: one graduate level course in nursing theory. 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 rehabilitation of the chronically ill aged. Ms. McBride, Ms. Stuart
425B. Clinical Specialization in Gerontological Nursing (8 units). (Formerly numbered 425C.) 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. Ms. McBride, Ms. Stuart.

429A-429B. Preceptorship in Primary Ambulatory Care Nursing (8 units each). Lecture, three hours; discussion, three hours; laboratory, 16 hours minimum. Prerequisites: courses 402A-402B, consent of instructor. Theory and clinical practice in nursing management and evaluation of health problems in a selected ambulatory population. Emphasis on health maintenance. Attention to the developmental and cognitive needs of clients in relation to family, social, and cultural structures.

429C. Advanced Preceptorship in Primary Ambulatory Care Nursing (8 units). Lecture, three hours; discussion, two hours; laboratory, 24 hours minimum. Prerequisites: courses 429A-429B, consent of instructor. Required of students who want to meet the requirements for preparation as a nurse practitioner as established by the California Board of Registered Nursing. Emphasis on the refinement and extension of assessment, management, and evaluation skills, family health care, and community health concepts. Placements provide the opportunity for an in-depth focus on a specific group of health problems. Ms. Murata and the Staff.


441A-441B. Clinical Specialization in Community Organization. Discussion, three hours; clinical, 10 hours. Prerequisites: course 441B, consent of instructor. Corequisites: courses 440A-440B. The process of community mental health assessment and program evaluation and planning for health services. Emphasis on health advocacy, prevention of mental illness, and planned change concepts. In Progress grading. Ms. McBride, Ms. Stuart.

442. Liaison Nursing. Lecture, three hours; laboratory, 10 hours. Prerequisites: courses 440A, 440B. Behavior of groups of individuals studied from an intersystem framework. Students focus on the interactions of the health care providers and clients in general hospitals, clinics, and community health agencies. Attention to the variables influencing the health care providers' assessments and interventions concerning the clients' behavioral problem(s). This framework utilized to evaluate the stability and direction of the organization as these are causally related to the system's effectiveness in the delivery of quality health care. Examination of the interrelatedness of such variables as human services, sociopolitical and cultural life-style factors of the system. Ms. McBride, Ms. Stuart.

Functional Preparation

375. Teaching Apprentice Practicum (1 to 8 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the 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.

473. Generic Consultation (4 to 8 units). Discussion, three hours; laboratory, 10 to 20 hours. Prerequisites: introductory and intermediate clinical practices, one course in group dynamics and process, or equivalent. The study and application of consultation theory and practice relevant to nursing. Emphasis on the refinement of knowledge and skills necessary to establish a nursing role as an interdependent clinical nursing consultant. Concepts based on those theories from the following areas: group dynamics, learning, communication, change, and nursing process. Ms. van Servellen and the Staff.

475. Human Relations in Administration. A systematic study of the principles of human relations in administration, with emphasis on their application to the field of nursing. 478A-478B. Seminar in Nursing Administration. Prerequisite: consent of instructor. Analysis of current issues and trends in health care systems, with emphasis on integrating and applying management theories to the practice of nursing administration. Extensive discussion of key financial and professional factors affecting delivery of nursing services. Ms. Flaskerud.

Special Studies

596. Directed Individual Studies for Graduate Students (4 to 8 units). Prerequisite: consent of instructor. Opportunity for graduate students in nursing to pursue special research interests. May be repeated for credit, but only four units may be applied toward the M.N. degree requirements. S/U grading.

597. Individual Study for Comprehensive Examination (4 to 8 units). May be repeated once for credit, but only four units may be applied toward the M.N. degree requirements. S/U grading.

598. Research for Thesis (4 to 8 units). Prerequisite: consent of instructor. May be repeated for credit, but only four units may be applied toward the M.N. degree requirements. S/U grading.
Public health is concerned with understanding, preventing, and controlling disease, and with promoting health in populations. Its goal is to ensure that the protection and improvement of the health of the public is accomplished by the most effective means consistent with equity for all individuals.

The mission of the UCLA School of Public Health is to develop, integrate, and apply pertinent knowledge from the biological, physical, and social sciences to enhance community health. In this context health is defined as a positive condition requiring not only the control of disease but also the presence of sufficient physical and mental vigor to promote well-being and improve the quality of life. To fulfill this mission the school (1) educates future public health professionals, (2) conducts research to protect and improve health and health services, and (3) contributes knowledge, expertise, and service to the community.

Seven areas of study are offered: behavioral sciences and health education, concerned with the study and implementation of behavior which prevents disease and enhances health; biostatistics, which develops statistical and analytic techniques for public health use; environmental and occupational health sciences, which elucidates health hazards in the general environment and in the workplace; epidemiology, concerned with the nature, extent, and distribution of disease and health in populations; health services, concerned with the organization, quality, and distribution of health care; nutritional sciences, concerned with identifying essential components of diet and promoting good nutritional practices; and population and family health, which identifies health problems of and promotes health in high-risk groups such as women, children, and the poor.

Students are prepared for careers in the public and private sectors, in health agencies, hospitals, industry, and voluntary organizations, and for careers in research and teaching.

Photo: Maternal and child health — assessment of primary health care, Belize, Central America.
Emeritus Professors

Ruth Boak, Ph.D., M.D.
Lester Breslow, M.D., M.P.H.
John M. Chapman, M.D., M.P.H.
Withl J. Dixon, Ph.D.
Olive Jean Dunn, Ph.D.
Carl E. Hopkins, Ph.D., M.P.H.
Raymond J. Jessen, Ph.D.
Edward B. Johns, Ed.D.
Alfred H. Katz, D.S.W., M.A.
Walph W. McKe, Ph.D.
James F. Mead, Ph.D.
Edward L. Rada, Ph.D.
Milan L. Roemer, M.D., M.P.H.
John F. Schachter, Ph.D.
Frank F. Tallman, M.D.

Associate Professors

Carol S. Aneshensel, Ph.D., Acting (Population and Family Health)
Linda B. Bourque, Ph.D. (Population and Family Health)
E. Richard Brown, Ph.D. (Behavioral Sciences and Health Education)
Albert Chang, M.D., M.P.H. (Population and Family Health)
Shan Cretin, Ph.D., M.P.H. (Health Services)
William G. Cumberland, Ph.D. (Biostatistics)
Climis A. Davos, Ph.D. (Environmental and Occupational Health Sciences)
Curtis D. Eckert, Ph.D., Acting (Nutritional Sciences)
John R. Frones, Ph.D., Acting (Environmental and Occupational Health Sciences)
Michael S. Goldstein, Ph.D. (Behavioral Sciences and Health Education)
Sander Greenland, Dr.P.H. (Environmental and Occupational Health Sciences)
Isabelle F. Hunt, Dr.P.H. (Nutritional Sciences)
Hai Morgenstern, Ph.D. (Epidemiology)
Talbot R. Pa, Ph.D. (Environmental and Occupational Health Sciences)
Susan C. Scrimshaw, Ph.D. (Population and Family Health)
Judith M. Siegel, Ph.D., M.S.Hyg. (Behavioral Sciences and Health Education)
Jane L. Valentine, Ph.D. (Environmental and Occupational Health Sciences)
Barbara R. Visscher, M.D., Dr.P.H. (Epidemiology)

Assistant Professors

Rina Alcalay, Ph.D. (Behavioral Sciences and Health Education)
Shoshanna Churin, Dr.P.H. (Health Services)
Joseph S. Coyne, Ph.D. (Health Services)
Pierre-Olivier Droz, Ph.D. (Environmental and Occupational Health Sciences)
Virginia F. Flack, Ph.D. (Biostatistics)
Robert W. Hale, Dr.P.H. (Epidemiology)
Michael R. Jones, Ph.D. (Nutritional Sciences)
Marlene M. Lugg, Dr.P.H. (Health Services)
Douglas M. Mackay, Ph.D. (Environmental and Occupational Health Sciences)
Glenn A. Meineck, Ph.D. (Health Services)
Donald E. Morisky, Sc.D., M.S.P.H. (Behavioral Sciences and Health Education)
Gary A. Richwald, M.D., M.P.H. (Population and Family Health)
Michael G. Ross, M.D., M.P.H., in Residence
Jeremy M.G. Taylor, Ph.D., in Residence (Biostatistics)
Robert O. Valdez, Ph.D., in Residence
Michael A. Voitjecky, Ph.D., M.P.H. (Behavioral Sciences and Health Education)

Lecturers

Jean L. Mickey, Ph.D. (Biostatistics)
Florence C. McGucken, M.S., Emeritus

Adjunct Professors

Ellen Albro, M.D., M.P.H. (Health Services)
Linda Beckman, Ph.D., M.S. (Behavioral Sciences and Health Education)
Edith M. Carlisle, Ph.D. (Nutritional Sciences)
Arthur Chung, M.D.
Brian E. Henderson, M.D. (Epidemiology)
Leona M. Libby, Ph.D. (Environmental and Occupational Health Sciences)
Thomas Mack, M.D., M.P.H. (Epidemiology)
Joseph P. Newhouse, Ph.D. (Health Services)
John M. Peters, M.D., M.P.H., Sc.D.
Ruth J. Roemer, J.D.
John E. Ware, Ph.D. (Health Services)

Adjunct Associate Professors

Davida Coady, M.D., M.P.H. (Epidemiology)
Edward J. Faeder, Ph.D. (Environmental and Occupational Health Sciences)
Arlene Fink, Ph.D. (Health Services)
Raymond D. Goodman, M.D., M.P.H. (Health Services)
Richard L. Hough, Ph.D. (Behavioral Sciences and Health Education)
Jacqueline B. Koscoroff, Ph.D. (Health Sciences)
Jeffrey Romain, M.D., M.P.H. (Population and Family Health)
Susan M. Preston-Martin, Ph.D., M.P.H. (Epidemiology)
Gary W. Spivey, M.D., M.P.H. (Epidemiology)
Forest Tennant, M.D., Dr.P.H. (Epidemiology)

Adjunct Assistant Professors

David R. Boone, Ph.D. (Behavioral Sciences and Health Education)
Allison R. Davies, Ph.D. (Health Services)
Daniel Ershoff, Dr.P.H. (Behavioral Sciences and Health Education)
James Greenwood, Ph.D., M.P.H. (Infectious and Tropical Diseases)
Wilbert Jordan, M.D., M.P.H. (Health Services)
Laura M. Lake, Ph.D. (Environmental and Occupational Health Sciences)
Alfred C. Marcus, Ph.D. (Behavioral Sciences and Health Education)
Edward J. O'Neill, M.D., M.P.H. (Environmental and Occupational Health Sciences)
Jose Quiroga, M.D.
Lawrence S. Rubenstein, Ph.D. (Health Services)
James W. Slaye, Dr.P.H. (Biostatistics)
Bernard M. Siegel, M.D. (Health Services)
Robert M. Slocane, M.S. (Health Services)
Bart B. Sokolow, D.Env. (Environmental and Occupational Health Sciences)
Howard M. Staniolff, M.D., M.P.H. (Epidemiology)
Marc Strassburg, Dr.P.H. (Epidemiology)
Jeffrey W. Wales, Ph.D. (Health Services)
Fred W. Wasser, Dr.P.H. (Health Services)
Gary S. Whitted, Ph.D. (Health Services)
Degrees Offered
Biostatistics ............ M.S., Ph.D.
Environmental Science and
Engineering ............... D.Env.
Preventive Medicine and Public
Health .................... M.S.*
Public Health ............. M.P.H., M.S.,
Dr.P.H., Ph.D.

*Not accepting new students at this time.

Requirements for Graduate Degrees

Admission
Application forms and the Announcement of the UCLA School of Public Health, as well as descriptive brochures and applications for the Environmental Science and Engineering Program, may be obtained by writing to the Office of Student Affairs, School of Public Health, 16071 Public Health, UCLA, Los Angeles, CA 90024. Both the School of Public Health Application for Admission to Graduate Status and the Graduate Division application 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 January 14, 1987, for Fall Quarter 1987 admission. Applications received after the deadline have considerably reduced opportunities for admission and financial aid.

Applicants must meet the University minimum requirement of an acceptable bachelor's degree with a B average in upper division coursework and/or prior graduate study. Exceptionally qualified applicants may be considered on an individual basis. Except for the Division of Population and Family Health, 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 division of the Department of Public Health in which you wish to study. If you need help in deciding on a division, you should speak to the staff in the Office of Student Affairs.

Applicants to the School of Public Health must perform satisfactorily on a recent (within the last five years) Graduate Record Examination (GRE), Medical College Admission Test (MCAT), or Dental Admission Test (DAT) Aptitude Test, which may be accepted in lieu of the MCAT or DAT scores are accepted only for applicants already holding M.D. or D.D.S. degrees.) Applicants at the master's level require a minimum combined (verbal and quantitative) score of 1,100. Applicants at the doctoral level need a minimum combined (verbal and quantitative) score of 1,200. The analytical section is not required. The Biostatistics Division has different criteria for evaluating performance on aptitude tests for its master's and doctoral degrees.

Refer to the UCLA Application for Graduate Admission, Fellowship and Financial Aid for the Test of English as a Foreign Language (TOEFL) requirement for international applicants. For more information on the proficiency in English requirements for international graduate students, refer to "Graduate Admissions" in Chapter 3.

No screening examination is required for admission; however, specified courses are required by the Biostatistics, Environmental and Occupational Health Sciences, Health Services, and Nutritional Sciences Divisions (see below). If your undergraduate coursework has been deficient in breadth of fundamental training, you must take specified undergraduate courses after admission.

Master's Applicants
Your prior program of study should include adequate preparation in mathematics, physical sciences, biological sciences, and social sciences, and typically include 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.

Specific Concentration Requirements
(1) Students concentrating in environmental and occupational health sciences should have a bachelor's (or master's) degree in chemistry, physics, biology, engineering, or other appropriate field. Coursework should include three quarters of general chemistry (including quantitative analysis) and two quarters of organic chemistry and/or biochemistry, mathematics through calculus, three quarters of biological sciences, and three quarters of physics. Substitutions for these requirements will be considered for applicants with an otherwise superior academic background.

(2) Students whose field of concentration is nutritional sciences should have a bachelor's degree in biological sciences or related areas, with coursework including three quarters of general chemistry (including quantitative analysis), three quarters of organic chemistry and/or biochemistry, mathematics through calculus.
Areas of Specialization

Areas of specialization and typical course plans, in addition to mandatory courses, are listed below.

Behavioral Sciences and Health Education

Public Health 182, 482 (eight units), and five courses (20 units) from 282, 287, 295A, 481, and 181 or 484 are required. In addition, two to three elective courses from the list of specialty areas are required. Individual and experimental courses may not be applied toward the required course units. Additional courses may be elected, in consultation with your faculty advisor, from within the department or in other schools/colleges at UCLA. Normally two years or six quarters are needed to complete the course requirements. Candidates with prior doctoral degree or advanced preparation in a related field may complete an M.P.H. degree in one year. In addition, it is possible for students to elect an additional area of concentration in another division.

Biostatistics

Required courses include Public Health 100A, 100B, 100C, and 100D, or 101A, 101B, and 101C, 200A; 401E and 401F or 401G; 402A, 402B (satisfies the field training requirement); three courses from 403, 404, 405, 406. Courses 211A and 211B are recommended. Elective courses should be selected in public health, biomathematics, 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.

Environmental and Occupational Health Sciences

Required courses include Public Health 150, 153 (required for students who have not taken a course in microbiology), 154, 156A or 156B, 253A, 255 (may be repeated for credit), 400, 450, 459. Environmental Science and Engineering 411 (may be repeated for credit). Elective courses should be selected in your area of specialization and in public health, engineering and applied science, chemistry, biology, management, architecture and urban planning, and medicine.

After, or simultaneous with, fulfillment of the core (divisional and schoolwide) requirements, you take courses with emphasis on water quality; environmental management; air pollution; environmental epidemiology; environmental sciences and engineering; industrial hygiene; or environmental toxicology.

Epidemiology

Infectious and Tropical Diseases: Required courses include Public Health 100B, 210, 211A, 211B, 212H, 216A, 216B, 218A, 218B, 220A, 220B, 222 (must be taken each quarter), 400 (for predoctoral students), 596 (for postdoctoral students). Students holding a doctorate in an appropriate biomedical science may petition for waiver of course 400. You must submit a report on a project related to infectious and tropical diseases.

Methodology/Chronic Diseases: Required courses include Public Health 100B, 210, 211A, 211B, 400 (for predoctoral students), 596 (for postdoctoral students), two or four units in behavioral sciences, and two additional courses from 211C, 211D, 212E, 212G, 212I, 212J, 212K, 213, 215A, 215B, 217, 221, 223, 225, 226, 227, 410A, 410B, 411, 414. (Physicians and other postdoctoral students in an appropriate biomedical science may petition for waiver of course 400.) You must submit a report demonstrating competence in epidemiologic methodology.

Health Services

Note: The Division of Health Services is examining the curriculum with a view to its revision. Information regarding requirements for graduation may be subject to change.

Required core courses include Public Health 132, 230A-230B (instead of 130), 238; students in the one-year program may select course 148 instead of 238.

Health Services Management: Management of organizations that deliver personal health care services, including hospitals, mental health and long-term care facilities, clinics, HMOs, and other health service providers. Admission to the program requires one course in accounting and one in microeconomics; prior coursework in management theory, economics, and statistics is highly recommended. Required courses include Public Health 131, 400, 430, 431, 432, 433, 436, 437, 596, Management 403, 408. Elective courses are selected in consultation with your faculty adviser.

Students are admitted only in Fall Quarter. After your first year, and depending on the completion of coursework, you are placed in an administrative residency for seven to nine and one-half months. Residencies are offered by various types of local health care facilities; students receive a stipend of $1,200 to $1,600 per month.

A special two-year concentration in health information systems is offered for students interested in the design, implementation, management, and evaluation of data systems in a wide range of health and health-related organizations. A summer internship is required.

Health Services Organization: An M.P.H. is available as a one-year program for students with prior doctoral degrees. Division core courses are required. Additional courses are determined on an individual basis. No summer internship is required.

Nutritional Sciences

Emphasis is on community nutrition. Required courses include Chemistry 152 or Biological Chemistry 101A and 101B, Public Health 165...
or 261A, 260E, 260F, 260G, 260H, 262 or 263
(may be repeated for credit), 400, 460, 461, 463A, 463B. Public Health 162, 167, 264E, 264F, 462 are recommended. Electives should be selected from Public Health 100B, 100C, 165A, 166A, 166B, 181, 270, Biology 177, Psychiatry M184.

Of the courses listed above, at least six graduate courses (at least two must be in the 400 series) and at least one seminar course (262, 263) are required.

A minimum of 56 units is required. You must take two seminars during your course of study. If residence is extended beyond four quarters, more than two seminars are required.

Population and Family Health
Emphasis is on population, family health, family planning, reproductive and women’s health, maternal and child health, and international health (including nutrition). Two tracks are available — domestic (U.S.A.) and international (primary health care). You are required to complete at least 16 units (for health professionals) or 20 units (for generalists) of divisional courses offered in selected tracks, plus Public Health 125, 171A, 400, 596. Elective courses are selected in consultation with your faculty adviser.

Students without a professional health degree are required to complete at least 60 units for the M.P.H. degree; students with a professional degree may graduate with a minimum of 48 units.

Comprehensive Examination Plan
You must pass two comprehensive examinations, one in the area of specialization, and a centrally administered written examination in the general field of public health. If you fail either examination, you may be reexamined once.

The schoolwide core course comprehensive examination is administered twice each academic year, usually the first Saturday in May and November. The examination in the major field is administered by your division.

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.

Interdivisional International Health
The school offers several options for international or domestic students interested in international health. Faculty in all divisions 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 in cross-cultural settings.

If you are interested, specify the division 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 interdivisional 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 Division of Population and Family Health.

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, UCLA African Studies Center, and/or the Office of Student Affairs, 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 School of Public Health, Division of Health Services, and the 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 and who wish in-depth professional preparation for such a career. The program reflects the combined interest of employers, faculty, and students who have recognized the increasing challenges facing managers in the health care industry and the need for individuals who are skilled in dealing with these challenges. Students should request all application materials from the M.B.A. Admissions Office, Graduate School of Management.

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 public health practice and preventive medicine teaching and research. Completion of the program can lead to board eligibility in public health and general preventive medicine — a specialty recognized by the American Board of Preventive Medicine.

The residency currently consists of at least two years of academic training and supervised field training in preventive medicine. The first year is comprised of formal studies for the Master of Public Health (generally in either epidemiology or health services). Other areas may be considered on an individual basis. Application must be made simultaneously for both the residency and admission to the School of Public Health for the M.P.H.

The field training year is individually organized for each resident's particular interests and needs. A variety of opportunities is available at UCLA and in the Los Angeles area, including close working relationships with the Los Angeles County Department of Health Services and the Jonsson Comprehensive Cancer Center. 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 year. For further information, contact the Office of Student Affairs, UCLA School of Public Health.

Master of Science in Public Health
The Master of Science program provides research orientation within the general field of public health. It includes the preparation of a thesis or major written report.
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. Public Health 597 may not be applied toward the degree requirements. No more than 18 full courses may be required for the degree.

Mandatory core courses include Public Health 100A, 100B, and 112 (114 for epidemiology 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.

Areas of Specialization
Areas of specialization and typical course plans, in addition to mandatory courses, are listed below.

Behavioral Sciences and Health Education
Public Health 181, 182, 281, and four to six divisional core courses (selected from an approved list) are usually required. Electives, selected in consultation with an adviser, must include the Public Health 283 series and research methods courses. Normal program length is six quarters.

Environmental and Occupational Health Sciences
Required courses usually include Public Health 150, 153 (required for students who have not taken a course in microbiology), 154, 156A or 156B, 253A, 255 (may be repeated for credit), 258, 459, 598 (a maximum of one course may be applied toward the minimum total course requirement), Environmental Science and Engineering 411 (may be repeated for credit), one course in biological chemistry (a specific course may be listed in the specialty track area). Elective courses should be selected in your area of specialization and in public health, biological chemistry, physical sciences, engineering and applied science, chemistry, biology, microbiology, law, and pharmacology.

At least five of the approximately 13 courses must be at the graduate level (200 or 500 series). In addition, you must complete a laboratory project and thesis.

After, or simultaneous with, fulfillment of the core (divisional and schoolwide) requirements, you take courses with emphasis on water quality; environmental management; air pollution; environmental epidemiology; environmental sciences and engineering; industrial hygiene; or environmental toxicology.

Students specializing in environmental epidemiology should discuss specific course requirements with the Division of Environmental and Occupational Health Sciences and the Division of Epidemiology.

Epidemiology
Infectious and Tropical Diseases: Required courses usually include Public Health 210, 211A, 211B, 212H, 216A, 216B, 218A, 218B, 220A, 220B, 222 (must be taken each quarter). Course 130 (for students planning to enter the Dr.P.H. program or to practice epidemiology in a health department) is recommended. Electives should be selected from courses 116, 214, 219, and other relevant courses in public health and biomedical sciences.

Methodology/Chronic Diseases: Required courses usually include Public Health 210, 211A, 211B, 221, plus one full course in each of demography, biostatistics, data management, and topic specific epidemiology (courses 116, 212D, 212E, 212G, 212H, 212L, 212J, 212K, 213, 214, 215A, 215B, 225, 226, or others). Course 130 (for students planning to enter the Dr.P.H. program or to practice epidemiology in a health department), 410A, 410B are recommended. Relevant elective courses should be selected in public health and biomedical sciences.

Health Services
Note: The Division of Health Services is examining the curriculum with a view to its revision. Information regarding requirements for graduation may be subject to change.

Required core courses include Public Health 132, 230A-230B, 238. Emphasis is on health planning, health policy analysis, and health services research for clinicians.

Planning: Public Health 134, 138, 243, 248, 403, 444B, one course from the field of health financing, law, or public sector approved by your adviser, one evaluation course, three management courses, and a summer internship are usually required. Courses 100C, 100D, 131, 232, 233, 235, 239, 240, 247, 281, 287, 430, 438, 440A, 446, 447D, 447E, 447F are recommended.

Policy Analysis: Public Health 134, 138, 233, 243, 403, one course from the field of health financing, law, or public sector approved by your adviser, one evaluation course, two management courses, and a summer internship are usually required. Courses 100C, 131, 180, 232, 233, 239, 240, 247, 281, 430, 437, 438, 440A, 447D, 447E, 447F are recommended.


Electives, selected in consultation with your adviser, should be chosen from recommended courses and others. A summer field placement (minimum 10 weeks) is required following the first three quarters of study. The equivalent of 18 full courses and six quarters in residence are required for completion of the M.S. degree.

Nutritional Sciences
Emphasis is on nutritional biochemistry. Required courses usually include Biological Chemistry 101A or 201A, 101B or 201B, Public Health 260E, 260F, 260G, 260H, 261A, 261B, and 262 and 596 or 598 (may be repeated for credit). Public Health 165, 264E, 264F are recommended. Elective courses should be selected from Physiology 100, Public Health 100C, 166A, 166B, 167, 181, 461, 462, Biology 177, Biological Chemistry M261.

You must complete a thesis. A minimum of 25 units is required; five of the courses listed above must be at the graduate level (200 or 500 series). It is expected that after the first quarter you will take a seminar each quarter.

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 three 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 Biostatistics

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.

Areas of Specialization
Areas of specialization and typical course plans are listed below.
Biostatistics

Unless previously taken, the following courses must be included in the degree program: Public Health 101A, 101B, 101C, M101D, 200A-200B-200C, 204E, 402A, 402B; any two courses from M201E, 201F, 201G, 201H, 201J, M201K, 201M; Mathematics 150A-150B-150C (in exceptional circumstances, Mathematics 152A-152B and additional directed reading may be substituted).

Other courses in biostatistics or mathematical statistics, or in related areas such as biology, physiology, public health, management, or mathematics, may be selected with your adviser’s consent.

A written report and written comprehensive examination covering the above course material are required.

Biostatistical Health Data Management

Unless previously taken, the following courses must be included in the degree program: Program in Computing I, Public Health 101A, 101B, 101C, M101D, 200A-200B-200C, 203A, 203B, 403, 404 or 405, Mathematics 150A-150B-150C (in exceptional circumstances, Mathematics 152A-152B and additional directed reading may be substituted). One public health course in a division other than Biostatistics is selected with your adviser’s consent.

Other courses in biostatistics or mathematical statistics, or in related areas such as biology, physiology, public health, management, or mathematics, are selected with your adviser’s consent.

A written report and written comprehensive examination covering the above course material are required.

Comprehensive Examination Plan

The thesis plan is not used. The written comprehensive examination is on your major field only. It is taken during the Spring Quarter of the academic year of your Public Health 200A-200B-200C sequence. Normally no more than one reexamination after failure is allowed.

Master of Science in Preventive Medicine and Public Health

The program is not admitting new students at this time.

Doctor of Environmental Science and Engineering

The program leading to the D.Env degree is administered and housed in the School of Public Health. Information on the program follows the public health course listings later in this chapter.

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, the 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 the 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 superior performance in graduate work, and at least a B in each of the mandatory core courses; (4) a positive recommendation by a division of the Department of Public Health; (5) approval by the policy admissions committee and the department chair. Screening or evaluation examinations may be required by each division.

Course Requirements

The course requirements in the major field depend on the division 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 divisions other than your major division.

The major division requires an additional area of concentration which may be either inside or outside the school. In divisions 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.

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 division are required. In addition, six full courses (four must be at the 200 or 400 level) in at least two divisions other than your major division are required for breadth; four of these must be in only one other division. Two quarters of research experience prior to beginning the dissertation are required, as is participation in the divisional doctoral seminar. Elective courses should be selected in consultation with your adviser.

Biostatistics

The Dr.P.H. in Biostatistics requires a research orientation for which the coursework for the M.S. in Biostatistics is more appropriate than the coursework for the M.P.H.

A written screening examination of all students entering the doctoral program is required and must be successfully completed before the end of your first year in the program (if not taken prior to entering). Courses covered by this and other examinations are determined in consultation with your adviser and the division faculty. All registered doctoral students enroll in the biostatistics consulting laboratory for one quarter each year.

Beyond the introductory program, the following courses, if not already taken, should be included: Public Health 200B-200C, any four courses from the 201 and 207 series, 203A, M205A-M205B-M205C, 401E through 401G (any two courses), 403, one course from 404, 405, Mathematics 150A-150B-150C. Public Health 402B is required and 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 divisions other than your major division are required for breadth. The major division 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, biostatistics, demography, and epidemiology, and computer data processing, and other appropriate areas.

Environmental and Occupational Health Sciences

Recommended courses are determined in consultation with your adviser. In addition, six full courses (four must be at the 200 or 400 level) in at least two divisions other than your major division are required for breadth. The major division requires an additional area of concentration which may be either inside or outside the school.

Epidemiology

The recommended program includes additional courses in biostatistics, demography, and epidemiology beyond those required for the M.P.H.; courses or directed group study in specialized areas of infectious and chronic disease epidemiology or application of epidemiology to health planning, management, and/or policy; laboratory or clinical studies in medical, health, or biological sciences.

In addition, six full courses (four must be at the 200 or 400 level) in at least two divisions other than your major division are required for
breadth (you may petition to include up to two 100-level courses). The major division requires an additional area of concentration which may be either inside or outside the school (e.g., biostatistics, biology, microbiology and immunology, neuroscience).

Health Services
Note: The Division of Health Services is examining the curriculum with a view to its revision. Information regarding requirements for graduation may be subject to change.

From 48 to 72 quarter units beyond the master's degree are required. About one-third is to be in the substantive area of structure and functioning of health services, one-third in skills and tools required for health services management and policy analysis, and one-third in elective courses to meet individual needs and interests. In addition, if the master's degree did not include it, you must spend three to nine months in a supervised residency or practicum experience in one or more health-related organizations.

In addition, six full courses (four must be at the 200 or 400 level) in at least two divisions other than your major division are required for breadth. The major division requires an additional area of concentration which may be either inside or outside the school (e.g., economics, political science, sociology, management).

Nutritional Sciences
Recommended courses include Biological Chemistry 101A or 201A, 101B or 201B, Public Health 260E, 260F, 260G, 260H, 261A, 262 or 263 (may be repeated for credit), 265 (may be repeated for credit), 400, 460, 461, 463A, 463B, and 495, 596, and 599 (may be repeated for credit). Conversational Spanish is also recommended.

In addition, six full courses (four must be at the 200 or 400 level) in at least two divisions other than your major division are required for breadth. The major division requires an additional area of concentration which may be either inside or outside the school (e.g., biology, biostatistics).

Population and Family Health
Course content for the major field includes courses needed for the divisional M.P.H., the divisional doctoral seminar, and two advanced courses in research methodology. Beyond the master's degree requirements, a minimum of 48 units (four quarters with an average of 12 units each) is required. Of these, at least 20 units must be in this division, in addition to the divisional doctoral seminar.

In addition, six full courses (four must be at the 200 or 400 level) in at least two divisions other than your major division are required for breadth (you may petition to include up to two 100-level courses). The major division requires an additional area of concentration which may be either inside or outside the school.

Qualifying Examinations
Before advancement to candidacy, you must pass written examinations in the major field, prepared and administered by the guidance committee or by the faculty of the division. 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 administrates 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.

Ph.D. in Public Health
The Ph.D. is the highest research degree in public health for the student who desires in-depth knowledge in the area. Depth of knowledge and research skills are stressed. 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.

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 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 a division of the Department of Public Health; (5) approval by the policy admissions committee and the department chair. Screening examinations may be required by each division.

In the Division of Behavioral Sciences and Health Education, you must satisfy the divisional core requirements for the M.P.H. or M.S. in Public Health (depending on your background) at a level acceptable for the doctoral program. Coursework may be waived by examination if equivalent courses have been taken elsewhere.

Major Fields or Subdisciplines
Behavioral sciences and health education, environmental and occupational health sciences, epidemiology, health services, and nutritional sciences.

Course Requirements
The courses needed to pass the written examination in your major field depend on the division 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 division 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.

Ph.D. in Biostatistics
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.

Course Requirements
There are no specific course requirements. However, your program of study must be approved by the Division of Biostatistics 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, physiology, psychology, zoology, or public health. You are encouraged to participate in the biostatistics consulting laboratory for one quarter each year. Recommendation for the degree is based on your attainments rather than on the completion of specified courses.

Screening/Qualifying Examinations
Biostatistics requires a written screening examination of all students entering the doctoral program. The examination must be successfully completed before the end of the first year in the program (if not taken before entering the program).

Written qualifying examinations in biostatistics and mathematical statistics and an examination in your selected third field are taken before advancement to candidacy.
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 division in the case of written examinations or by your committee in the case of oral examination. If you do not take the examinations at the designated time, you forfeit your right to reexamination.

**Final Oral Examination**
A final oral examination is required.

**Lower Division Courses**

18. Principles of Healthful Living. Analysis of health care issues as related to the health care consumer and the health care delivery system. Identification of health needs and clarification of personal responsibilities for health and health care. 4 units.


**Upper Division Courses**

100A. Introduction to Biostatistics. Lecture, three hours; laboratory/quiz, two hours. Prerequisites: upper division standing; one course in biological or physical science. Students who have completed courses in statistics may enroll only with consent of instructor. Not open for credit to students with credit for course 101A. Introduction to methods and concepts of statistical analysis. Sampling situations, with special attention to those occurring in the biological sciences. Topics include distributions, tests of hypotheses, estimation, types of error, significance and confidence levels. 4 units.

100B. Introduction to Biostatistics. Lecture, three hours; laboratory/quiz, two hours. Prerequisites: course 100A or equivalent, consent of instructor. Not open for credit to students with credit for course 101B. Introduction to analysis of variance, linear regression, and correlation analysis. 4 units.

100C. Introduction to Biostatistics. Lecture, three hours; laboratory/quiz, two hours. Prerequisites: course 100B or equivalent, consent of instructor. Design of experiments, analysis of variance, multiple and polynomial regression analysis with biomedical applications. 4 units.

100D. Introduction to Biostatistics. Lecture, three hours; laboratory, two hours. Prerequisites: course 100B or equivalent, consent of instructor. 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. 4 units.

101A. Basic Biostatistics. Lecture, three hours; quiz, one hour. Prerequisite: Mathematics 31B or equivalent. Not open for credit to students with credit for course 100A. Basic concepts of statistical analysis applied to biological sciences. Topics include random variables, sampling distributions, parameter estimator, statistical inference. 4 units.

101B. Basic Biostatistics. Lecture, three hours; quiz; one hour. Prerequisite: course 101A. Not open for credit to students with credit for course 100B. Topics include elementary analysis of variance, simple linear regression and correlation, nonparametric methods, elements of sequential analysis. 4 units.

101C. Basic Biostatistics. Lecture, three hours; laboratory, two hours. Prerequisite: course 101B or equivalent. Not open for credit to students with credit for course 100C or 100D. Introduction to multiple regression; topics relating to analysis of variance and experimental designs. 4 units.

101D. Introduction to Computational Statistics. (Same as Biomathematics M153.) Lecture, three hours; discussion, one hour. Prerequisite: Mathematics 150C or 152B or equivalent. Statistical analysis of data by means of package programs. Regression, analysis of variance, discriminant analysis, and analysis of categorical data. Emphasis on understanding the connections between statistical theory, numerical results, and analysis of real data. 4 units.

103. Statistics for Public Health. Lecture, three hours; laboratory, two hours. Prerequisites: upper division standing, one course in biological or physical science. Open to students in the M.P.H. and nursing programs. Introduction to sources of demographic and health information, methods of calculating and interpreting vital and health statistics, and elementary methods for statistical inference. 4 units.

110. Introduction to M.P.H. Social Science. Prerequisite: one course in history or other natural sciences. Recommended: one-year sequence in biology, physiology, or other biological science. An introduction to normal human physiology and disease processes. 4 units.

112. Principles of Epidemiology. Lecture, two hours; laboratory, four hours. Prerequisite: consent of instructor. Not open for credit to students with credit for course 114. Introduction to epidemiology, including factors governing health and disease in populations. 4 units.

114. Epidemiology I. Lecture, two hours; laboratory, four hours. Prerequisites: courses 100A (may be taken concurrently), 110, consent of instructor. Not open for credit to students with credit for course 112. Introduction to epidemiology, including factors governing health and disease in populations. 4 units.

115. Disease Problems of Socioeconomic and Political Impact in Latin America. (Same as Latin American Studies M155.) Lecture, six hours; discussion, six hours. Prerequisite: one upper division course in Latin American studies. Social, economic, and political impact of important disease problems in Latin American countries. Mr. Work 4 units.

116. Epidemiology of Nosocomial Infections (2 units). Prerequisite: course 112 or Microbiology 110A or equivalent, consent of instructor. Introduction to the epidemiology of hospital-acquired infections, their detection and control. 2 units.

125. Applied Social Science Methodology. Lecture, two hours; discussion, two hours; laboratory, one hour. Prerequisites: courses 100A or equivalent, consent of instructor. Applied procedures for conducting research in family health. A research design comprises one of the course requirements. 4 units.

130. Health Services Organization. Prerequisite: four units of social science structure and function of American health care system; issues and forces shaping its future. Mr. Fielding, Mr. Torrens 2 units each.

131. Structure and Function of Health Care Facilities. Lecture, two hours; discussion, two hours. Prerequisites: courses 114 or consent of instructor. Introduction to structure, organization, and function of health care facilities. 2 units.

132. Management Science for Health Planning and Administration. Lecture, three hours; laboratory, two hours. Prerequisites: courses 100A, either 403 or Management 404, or equivalent, consent of instructor. Introduction to the use of quantitative analyses to support managerial and operational decisions in health planning and administration. Use of mathematical models for structuring decisions, resource allocation, inventory control, task sequencing, scheduling and forecasting. Use of microcomputers. Mr. Valdez 2 units.

133. Interpersonal Dynamics in Health Services Management (2 units). Prerequisites: one undergraduate course in sociology or psychology, consent of instructor. An introduction to the application of behavioral science theory to understanding the interpersonal dynamics of health care facilities and their management. 2 units.

134. Introduction to Comprehensive Health Planning. Lecture, four hours; fieldwork, four hours. Prerequisite: one upper division course in sociological or biological science. Concepts underlying health planning, state of the art, and some relevant literature. Mr. Melnick 4 units.

135. Organization of Medical Practice (2 units). (Same as Medicine M158.) Prerequisites: courses 130, graduate standing in public health, medicine, or nursing. Education and certification of medical practitioners. Organization of medical practice: solo, group, HMO. Doctor-patient relationships, medical economics, professional liability, and medical malpractice. 2 units.

136A. Introduction to Health Services Research. Prerequisites or corequisites: courses 100A, 110, or equivalent, consent of instructor. Review of the field of health services research. Application of quantitative qualitative methods and the applications of conceptual-theoretical constructs (as well as methodologies) from social and behavioral sciences and epidemiology to studies of the working of the health system. Mr. Lewis 2 units.

136B-136C. Practices of Evaluation in Health Services: Theory and Methodology (2 units each). (Formerly numbered 136B.) Lecture, four hours; discussion, one hour. Prerequisites: course 136A or equivalent, consent of instructor. Introduction to health services evaluation. Examination and performance of specific evaluation procedures. Conducting of health services investigations, reporting results and methodologies. In Progressing. Ms. Fink, Ms. Kosecoff 4 units.

137. Managing Human Resources in Health Facilities and Programs. Prerequisites: one course in social sciences, consent of instructor. Didactic and experimental study of management of human resources in health-related organizations and programs. 4 units.

138. Politics of Health Care. Prerequisites: one course in social sciences, consent of instructor. Concepts and procedures for political analysis; national, state, and local politics in health care; examination of selected political aspects of health services. Mr. Goodman 4 units.

139. Quantitative Methods for Decision Making in Health Services. Prerequisites: courses 100A, 110, 130, consent of instructor. Decision theory and use of statistics in decision making. Decision theory includes decision trees and sequential decision-making with uncertainty, utility theory, Bayes' theorem, and value of information. Statistical topics include communication with statistics, measures of association, regression, analysis of variance, and forecasting. 4 units.

140A-140B. Health Record Science. Lecture, two hours; laboratory, two hours. Prerequisites: Biology 5 or equivalent, consent of instructor. Course 140A is prerequisite to 140B. Principles and theories of systems and techniques used for organization, analysis, and maintenance of records and reports studied and evaluated according to their use in varied situations. 4 units.

141. Financial and Managerial Accounting for Health Services. Prerequisites: courses 130 or equivalent, consent of instructor. An introduction to financial and managerial accounting and its application to the health services industry. Mr. McLaughlin 2 units.

142. Integrating Medical and Fiscal Records in Health Institutions. Prerequisites: course 140A, Management 403, or equivalent, consent of instructor. The patient charge system from admission through collection. The interfacing of patient medical records and patient fiscal records, presented via a student project field. 2 units.
144. Decisions in Automating Data Systems in Ambulatory Patient Care Facilities. Lecture, two hours; discussion, two hours. Prerequisites: courses 130, 140A. Definition of the techniques used to propose, design, and evaluate the automation of data systems for patient care and operations of ambulatory care facilities. Practical experience through analysis of a case problem.

145. Society’s Response to Aging. Prerequisites: courses 130, 180, 183, or equivalent, consent of instructor. Examination of demographic, cultural, economic, social, and psychological characteristics of aging in America to family, economy, politics, health care, retirement, age stratification, death and dying. Mr. Wages

146. Introduction to Health Economics. Prerequisites or corequisites: courses 230A-230B or equivalent, consent of instructor. Presentation of the tools of economic analysis. Topics include introductory concepts of microeconomics, the theory of demand for health services, demand for health personnel, cost functions, and costs and benefits of health programs. Mr. Schweitzer

150. Environmental Health. Lecture, three hours; discussion, one hour. Prerequisites: Biology 5, Chemistry 11A, Mathematics 3A, Physics 3A or 6A. Broad coverage of environmental health, including airborne and waterborne pollutants; pollutants from urban industrial and agricultural wastes; pollution from pesticide chemicals, mining, and energy production; and concerted health and environmental policies. Mr. Das

152. Biological Effects of Air Pollution. Lecture, three hours; discussion, one hour. Prerequisites: Biology 5, Chemistry 11A, consent of instructor. Survey of biological effects and assessment methods of air contaminants present in urban, industrial, and occupational environments. Mr. Mustafa

153. Public Health and Environmental Microbiology. Lecture, three hours; laboratory, six hours. Prerequisites: Biology 7, Chemistry 25, or equivalent, consent of instructor. Basic principles and laboratory procedures employed in the control of infectious elements to the community, including food and milk, water supply and waste disposal, soil and environmental pollutants. Mr. Mah

154. Environmental Management. Lecture, four hours; discussion, one hour. Prerequisites: Chemistry 43, Chemistry 100, Political Science 142 or 143, or equivalent, consent of instructor. Introduction to foundations and principles of environmental management, decision making, and evaluation of environmental policies and programs. Mr. Das

155. Introduction to Environmental Health (2 units). Prerequisites: one college course in chemistry or biology or equivalent courses, consent of instructor. Not open to students specializing in nutrition. Principles of nutrition and occupational health. Mr. Hinds

156A. Therapeutic Nutrition (2 units). Prerequisites: courses 162, 163, or equivalent, consent of instructor. Recent findings in the field of diet and disease and modifications made in normal diet for pathological conditions. Ms. Carlisle

156B. Therapeutic Nutrition (2 units). Prerequisites: courses 162A, consent of instructor. Recent findings in the field of diet and disease and modifications made in normal diet for pathological conditions. Ms. Carlisle

157E. Properties and Measurement of Airborne Particles. Lecture, three hours; laboratory, two hours. Prerequisites: one year of chemistry, physics, and mathematics through calculus, consent of instructor. Basic theory and application of aerosol science systems, including sampling techniques, behavior, sampling, and measurement of aerosols and quantitative problems. Laboratory for industrial hygiene majors only; paper for others. Mr. Hinds

157F. Identification and Measurement of Gases and Vapors (2 units). Lecture, two hours; laboratory, two hours (every other week). Prerequisites: course 156A. Required of all industrial hygiene students in the Division of Environmental and Occupational Health Sciences. The theoretical and practical aspects of the industrial hygiene sampling of gases and vapors. Mr. Froines

160. Principles of Food and Nutrition (2 units). Prerequisites: one course in biology, chemistry, or health, consent of instructor. Not open for credit to students specializing in nutrition. Principles of nutrition and nutritional requirements for normal growth and development. Mr. Alfino-Slater

161. Nutrition and Health (2 units). Prerequisites: consent of instructor. Not open for credit to students specializing in nutrition. Basic and clinical nutrition theory and practice for students in health science curricula. Ms. Alfino-Slater, Mr. Jelliffe

162. Nutrition. Lecture, three hours, prerequisite: one college course in organic chemistry, Biology 7, or equivalent. Metabolic aspects of carbohydrates, fats, proteins, vitamins, and minerals. Digestion and absorption of nutrients, energy and protein requirements, mineral and vitamin metabolism. Mr. Eckert

163. Biologic Processes. Lecture, three hours. Prerequisites: one year of organic chemistry, Biology 7. Metabolism of carbohydrates, proteins, and other nitrogen compounds and lipids; role of hormones and enzymes in metabolism; physiological processes. Ms. Alfino-Slater

165. Clinical Nutrition Laboratory (2 units). Discussion, one hour; laboratory, four hours. Prerequisites: one course in quantitative analysis or equivalent, one year of organic chemistry. Biology 7, consent of instructor. Analytical procedures for determining the various constituents of blood and urine. Mr. Eckert

165A. Therapeutic Nutrition (2 units). Prerequisites: course 165, consent of instructor. Metabolism of lipids, carbohydrates, and proteins; role of hormones and enzymes in metabolism; physiological processes occurring in various organs. Ms. Alfino-Slater

170. Family Health and Biosocial Development. Lecture, two hours; discussion, two hours. Prerequisites: Psychology 130 or Physiology 100 or equivalent, consent of instructor. Biosocial factors related to normal human physical, intellectual, and emotional growth and development from a family and public health perspective. Mr. Katz

170E. Genetics and Public Health. (Formerly numbered 170A.) Lecture, three hours; discussion, one hour. Prerequisites: one course in biology, consent of instructor. The significance of genetic disease, biological basis of genetic disease and birth defects, services available in the areas of diagnosis, treatment, and prevention, and the legal, social, and ethical implications of genetic disease. Mr. Ali

171A. Family Health and Population: Principles and issues. Prerequisites: course 110 or equivalent, consent of instructor. Biosocial aspects of family formation, reproductive physiology and behavior, "at risk" aspects of pregnancy and childbirth, and primary women's health care services. Physical aspects of growth, physical, intellectual, and social development from infancy to older childhood and adolescence.


172. Introduction to Reproductive Health. Lecture, two hours; discussion, two hours. Prerequisites: course 110 or equivalent, consent of instructor. Reproductive physiology followed by consideration of normal pregnancy, family planning, male-specific and female-specific health problems, including health care and psychosocial considerations.

174E. Health, Disease, and Health Services in Latin America. Prerequisite: one upper division course in Latin American culture. Introduction to health, disease, and health services in Latin America, with emphasis on epidemiology, health administration, medical anthropology, and nutrition. Ms. Scrimshaw

174H. Public Health in the People's Republic of China (2 units). Lecture, four hours. Prerequisites: course 130 or equivalent or two upper division or graduate courses in social or behavioral sciences or medical sciences; consent of instructor. Historical overview of policies and implementation of public health in the People's Republic of China from 1949 to the present. Emphasis on relevance for public health in other developing countries. Mr. Neuman

176. Human Sexuality and Sexual Health. Lecture, three hours; discussion, one hour. Prerequisites: two courses in behavioral and/or life sciences, consent of instructor. Interdisciplinary review of sexual physiology and sexual behavior followed by consideration of pregnancy and its prevention, sexual dysfunction, and sex-transmitted disease. Psychosocial, cultural, political, and health care aspects.

176E. Family and Sexual Violence. Lecture, three hours; fieldwork. Prerequisite: course 130, consent of instructor. Examination of abuse of older abusers. The definitions, causes, outcomes of, and research on family and sexual violence, as well as the responses of the social service, medical, and criminal justice systems. Mr. Richwald

177A. Principles of Genetic Counseling (2 units). (Formerly numbered 177.) Prerequisites: course 170 or 171A, Biology 8. Theoretical basis, current research, and practical considerations and techniques of counseling, especially as practiced in genetic counseling settings. Mr. Katz

177B. Principles of Genetic Counseling (2 units). Prerequisite: course 177A. Counseling principles and techniques arising from such reproductive as prenatal diagnosis and genetic counseling. Mr. Katz

177C. Principles of Genetic Counseling (2 units). Prerequisites: courses 171A, 177A, consent of instructor. Evaluation of counseling process and outcome; clinical research; the counselor as a team worker; ethical and administrative issues. Mr. Katz

178. Legal Aspects of Family Health (2 units). Prerequisites: course 170, consent of instructor. Analysis and clarification of legal issues involving family health services, including family planning, sterilization, abortion, dental care for children, battered child laws, mental hospitalization, personnel and standards for care and implementation of sound health programs. Ms. Roemer
179A. Health Problems and Programs in Africa (2 units). Lecture, one hour; discussion, one hour. Prerequisites: one course from Public Health 110, History 175A-175Z, 176A, 176B, 177, 178A, 179A, 275, 276A. Anthropology M168, 171, 271, Political Science 156A, 2520E. Geography 122, 135, 189, 288, 289, or equivalent, consent of instructor. Consideration of traditional beliefs about health and disease and factors affecting health status in Africa, major health problems, and some programs proposed as remedies.

179B. African Health Sector Analysis Seminar (2 units). Prerequisite or corequisite: course 179A. Approach is that of a multidisciplinary team analyzing the health sector of a representative African country to determine needs and priorities for external aid.


181. Introduction to Social Research Methods in Health. Lecture, four hours; assignments, eight hours. Prerequisites: course 102A or equivalent, consent of instructor. Basic methods and techniques in designing and conducting health research using a variety of methods. Discussions of students' own research projects.

182. Behavioral Sciences and Health. Lecture, three hours. Prerequisite: one course in social sciences. Basic concepts in behavioral sciences pertinent to health and medical care; cultural and social class variations in health status; health and community relations; community decision making in public health. Mr. Winer

183. Community Health Education. Lecture, two hours; discussion, two hours. Prerequisites: one course in social sciences, consent of instructor. Problems of social, economic, and cultural origin as they apply to sound community organization in the public health field. Examination of health education activities of professional, voluntary, and official health agencies and analysis of their interrelationships.

184. Health and Consumer Economics. Lecture, three hours. Prerequisites: Economics 1 and 2, or 100, upper division or graduate standing. Impact of health problems and costs on individual and family income and expenditures, including productivity and dependency.

185. Economics of Health and Medical Care. Lecture, three hours. Prerequisites: Economics 1 and 2, or 100, upper division or graduate standing. Demand, supply, and price determinants in private and public sectors of health and medical care fields.

186. The World's Population and Food. Lecture, three hours. Prerequisites: Economics 1 and 2, or 100, upper division or graduate standing. World food sources; major food groups, human food requirements, and consumption; food in developing economies; international movement of foods; interrelations of foods, population, and economic progress.

187. Health Education for Teacher Credentials (2 units). Lecture, four hours; discussions, three hours. Prerequisite: the teacher education credential program. Required for the California State Teaching Credential. The teaching-learning process as applied to personal and community health. Topics include psychoactive drugs (alcohol, tobacco, and narcotics), human sex role development, nutrition, and community health resources. Mr. Linder

188. Community Mental Health. Prerequisite: one upper division course in psychology, sociology, or anthropology, consent of instructor. Concepts of mental health, mental illness, prevention of mental disorders, mental health in public health programs. Public health aspects of control of mental disorders. Epide- miology, program planning, and legal aspects of mental disorders.

189. Community Cancer Education. Lecture, two hours; discussion, one hour; fieldwork, one hour. Prerequisite: consent of instructor. Emphasis on community resources, counseling in student-generated community field study proposal and presentation. Ms. Brown.

199. Special Studies (2 to 4 units). Prerequisites: senior standing, consent of instructor and department chair (based on a written proposal outlining the course of study). Individual undergraduate guided study programs. Study to be structured by instructor and student at time of initial enrollment. Only four units may be taken each quarter.

Graduate Courses

200A-200B-200C. Biostatistics. Lecture, three hours; discussion, one hour. Prerequisites: course 100C, Mathematics 32B, 152B, or equivalent (certain prerequisites may be taken concurrently or waived with consent of instructor). Quantitative methods in public health, medicine, and biological sciences; statistical theory and application to problems in design and analysis of medical experiments and surveys.

201E. Special Topics: Statistical Methods for Categorical Data. (Same as Biostatistics M231.) Lecture, three hours; discussion, one hour. Prerequisites: course 100B or 101B, Mathematics 150C or 152B, or equivalent, consent of instructor. Statistical techniques for the analysis of categorical data; discussion and illustration of their applications and limitations.

201F. Special Topics: Distribution Free Methods. Lecture, three hours; discussion, one hour. Prerequisites: course 100D or 101B, Mathematics 150C or 152B, or consent of instructor. Theory and application of distribution free methods in biostatistics.

201G. Special Topics: Statistical Simulation Techniques. Lecture, three hours; discussion, one hour. Prerequisites: course 100C, Mathematics 150C or 152B, a course in computer programming, consent of instructor. Techniques for simulating important statistical distributions, with applications in biostatistics.

201H. Special Topics: Finite Population Sampling. Lecture, three hours; discussion, one hour. Prerequisites: course 100C, Mathematics 150C or 152B. Theory and methods for sampling finite populations and estimating population characteristics.

201J. Special Topics: Supplimental Topics. Lecture, three hours; discussion, one hour. Prerequisites: course 100C, consent of instructor. Topics in biostatistics not covered in other courses.

201K. Survival Analysis. (Same as Biostatistics M281.) Lecture, three hours; discussion, one hour. Prerequisites: course 100C and Mathematics 150C or 152B, or equivalent, consent of instructor. Statistical methods for the analysis of survival data.

201M. Introduction to Statistical Methods for Biological Assays. Prerequisites: course 100C and Mathematics 150C or 152B. Topics include standard statistical procedures for the estimation of relative potency, density of microorganisms, and density of radioactivity, models used for these procedures, and statistical considerations for designing such assays.

202A. Problems of Statistical Consultation. (Same as Biostatistics M282.) Lecture, two hours; discussion, one hour; laboratory, two hours. Prerequisite: graduate course in applied statistics. Textbook and original problems requiring special expertise in design and analysis. Use of computer packages to diagnose failure of assumptions, suitability of models, and alternative analyses.

202B. Statistical Analysis of Incomplete Data. (Same as Biostatistics M232.) Lecture, three hours; laboratory, one hour. Prerequisites: course 100B or 101B, Mathematics 150C or 152B, or equivalent, consent of instructor. Discussion of the statistical analysis of incomplete data sets, with material from the sample survey, econometric, biometric, psychometric, and general statistical literature. Topics include treatment of missing data in statistical packages, missing data in ANOVA and regression output, data transformation, weighting, likelihood-based methods, and nondeterministic nonresponse models. Emphasis on application of the methods to applied problems, as well as on the underlying theoretical development.

202G. Simultaneous Statistical Inference. (Same as Biostatistics M323.) Lecture, three hours; discussion, one hour. Prerequisites: courses 200C, M205A, Mathematics 150C. Methods and theorems of simultaneous statistical inference.

202H. Applied Bayesian Inference. (Same as Biostatistics M324.) Lecture, three hours; discussion, one hour. Prerequisites: courses 200C, M205A, and Mathematics 150C or consent of instructor. The Bayesian approach to statistical inference, with emphasis on biomedical applications and concepts rather than mathematical theory. Topics include large sample Bayes inference from likelihoods, noninformative and conjugate priors, empirical Bayes, Bayesian approaches to linear and nonlinear regression, model selection, Bayesian hypothesis testing, and numerical methods. S/U or letter grading.

203A. Data Base Management Systems. Lecture, three hours; laboratory, two hours. Prerequisites: courses 200A or equivalent, consent of instructor. Data base and data base models applied to medical and public health studies; design of data bases for efficient data retrieval and statistical analysis using package data base management and statistical package programs.

203B. Systems Analysis for Health Data. Lecture, three hours; laboratory, two hours. Prerequisites: course 203A, consent of instructor. 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.

204E. Seminar in Biostatistics (2 units). Prerequisites: course 200B, two courses from the M201E-201J series, consent of instructor. Current developments of methodology and problems in applications of biostatistics.

204F. Advanced Seminar in Biostatistics (2 units). Prerequisites: course 200C, consent of instructor. Current research in biostatistics. May be repeated for credit. S/U grading.

205A-205B-205C. Linear Statistical Models. (Same as Mathematics M279A-M279B-M279C.) Lecture, three hours; discussion, one hour. Prerequisites: courses 200C, M205A, Mathematics 150C or 152B, or equivalent. Topics include linear algebra applied to linear random nonresponse models. Emphasis on biomedical applications and concepts rather than mathematical theory. Topics include large sample Bayes inference from likelihoods, noninformative and conjugate priors, empirical Bayes, Bayesian approaches to linear and nonlinear regression, model selection, Bayesian hypothesis testing, and numerical methods. S/U or letter grading.

206A-206B. Multivariate Biostatistics. Lecture, three hours; discussion, one hour. Prerequisite: course 205A or equivalent. Multivariate analysis as used in biological and medical situations. Topics from component analysis, factor analysis, discriminant analysis, analysis of dispersion, canonical analysis.

207E. Advanced Topics: Stochastic Processes. Lecture, three hours. Prerequisites: upper division mathematics, including probability and mathematical analysis. Topics include stochastic processes applicable to medical and biological research.

207F. Advanced Topics: Mathematical Epidemiology. Lecture, three hours. Prerequisites: course 200C, or consent of instructor. Topics include mathematical analysis of stochastic models and problems involved in applying the theory.

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207A. Advanced Topics: Statistical Genetics. Lecture, three hours. Prerequisites: upper division mathematics, statistics, and probability. Introduction to statistical genetics.

207H. Statistical Methods for Research in Biological Assays. Prerequisite: course 201M. Topics include statistical methods developed for research for which the standard procedures do not apply.

M207J. Computational Statistics. (Same as Biomathematics 220B and Mathematics 220B.) Lecture, three hours. Prerequisites: Mathematics 115A, 150C, or equivalent. Introduction to theory and design of statistical programs; principles and methods of statistical analysis; the use of these methods in various fields of biological research. The emphasis is on the application of the methods to real data, with a focus on interpretation and presentation of results. The course is designed to provide a foundation for further study in statistical methods and to help students develop the skills necessary for the analysis of data in their own research.

207L. Advanced Topics: Recent Developments. Lecture, three hours; discussion, one hour; Prerequisite: course 200C. Advanced topics and developments in biostatistics not covered in the Public Health 201 or 207 series, or in other courses. Possible topics include time-series analysis, classification procedures, correspondence analysis, etc.

210. Principles of Infectious Disease Epidemiology. Lecture, three hours; discussion, one hour; Prerequisites: courses 100A or equivalent. An introduction to the study of infectious diseases, with a focus on the principles and methods of epidemiologic research. The course covers the basic concepts of infectious disease epidemiology, including sources of infection, transmission, and control. The emphasis is on the application of these concepts to real-world situations. The course is designed to provide a foundation for further study in infectious disease epidemiology and to help students develop the skills necessary for the analysis of data in their own research.

211A. Epidemiology I. Lecture, two hours; laboratory, four hours. Prerequisites: courses 100C or 100D and 211B, or equivalent, consent of instructor. An introduction to the methods and principles of epidemiology. The course covers the basic concepts of epidemiology, including sources of infection, transmission, and control. The emphasis is on the application of these concepts to real-world situations. The course is designed to provide a foundation for further study in infectious disease epidemiology and to help students develop the skills necessary for the analysis of data in their own research.

211B. Advanced Epidemiology. Lecture, two hours; laboratory, four hours. Prerequisites: course 211A, standing consent of instructor. A continuation of course 211A, with more emphasis on the application of epidemiologic principles. The course covers the basic concepts of epidemiology, including sources of infection, transmission, and control. The emphasis is on the application of these concepts to real-world situations. The course is designed to provide a foundation for further study in infectious disease epidemiology and to help students develop the skills necessary for the analysis of data in their own research.

211C. Advanced Epidemiologic Analysis. (Formerly numbered 286.) Lecture, two hours; laboratory, three hours. Prerequisites: courses 100A, 110, 112 or equivalent. An introduction to the methods and principles of epidemiologic research. The course covers the basic concepts of epidemiology, including sources of infection, transmission, and control. The emphasis is on the application of these concepts to real-world situations. The course is designed to provide a foundation for further study in infectious disease epidemiology and to help students develop the skills necessary for the analysis of data in their own research.

211D. AIDS, A Major Public Health Challenge (2 units). Lecture, 90 minutes; discussion, 90 minutes. Prerequisites: courses 100A, 110, 112 or 114, 130. Presentation and discussion of the Acquired Immunodeficiency Syndrome (AIDS), with emphasis on epidemiology, biology, immunology, clinical characteristics, psychosocial factors, and strategies for control. May be repeated for credit. S/U grading.

212E. Epidemiology of Cardiovascular Disease (2 units). Lecture, one hour; discussion, one hour. Prerequisites: course 211A, consent of instructor. Theoretical, practical, and controversial aspects of cardiovascular epidemiology in various populations.

212G. Epidemiology of Neurologic Disease (2 units). Prerequisites: course 211B or equivalent, consent of instructor. Epidemiologic characteristics of selected chronic neurologic diseases, with particular emphasis on Alzheimer’s disease and Parkinson’s disease.

212H. Epidemiology of Arthropod-Borne Disease. Prerequisites: course 211B, graduate standing. Epidemiologic aspects of disease carried by arthropods, emphasizing life cycle and ecology of vectors as related to epidemiology of viral, rickettsial, bacterial, protozoal, and helminthic diseases. Mr. Barr

212I. Epidemiology of Noninfectious Disorders. Lecture, three hours; discussion, two hours. Prerequisites: courses 100A, 110 (or equivalent), 112 (or equivalent), 155, consent of instructor. Pertinent epidemiologic methods for study of noninfectious trauma, including motor vehicle crashes, occupational injuries, and violence. Mr. Kraus

212J. Occupational Epidemiology. Lecture, two hours; discussion, two hours. Prerequisites: course 211A or equivalent, consent of instructor. Methodological concepts, sources, and limitations in epidemiological studies of occupational groups and environments. Mr. Kraus

212K. Epidemiology of Assault, Homicide, and Suicide (2 units). Lecture, two hours; discussion, one hour. Prerequisites: courses 100A, 110, 112 or equivalent. An introduction and evaluation of epidemiologic research approaches to the study of violent injury, including a description of incidence, study design, risk factor analysis, and control strategies. Mr. Kraus

212L. Environmental Epidemiology. Lecture, two hours; discussion, one hour; independent study, three hours. Prerequisites: courses 100B, 112 or 114, Chemistry 21, Physics 3C or equivalent, graduate standing. Concepts of methods and approaches in epidemiologic research for assessing the health impact of major types of environmental exposure. Mr. Spivey

214. Infectious and Tropical Disease Epidemiology (2 units). Lecture, three hours; discussion, three hours. Prerequisites: courses 100A, 112, or equivalent, consent of instructor. Epidemiology of major infectious and tropical diseases in developing countries, including those with direct or contact mode of spread and vector borne ones.

215A. Epidemiology of Cancer. Prerequisites: courses 100A, 112, consent of instructor. Etiologic concepts and mechanisms. Pathogenesis, diagnosis, classification, and approaches to the study of major neoplastic diseases. Mr. Haile

215B. Epidemiology of Cancer (2 units). Lecture, one hour; discussion, one hour. Prerequisites: course 211A, consent of instructor. Epidemiologic concepts and mechanisms. Pathogenesis, diagnosis, classification, and approaches to the study of major neoplastic diseases. Mr. Haile

216A. Ecology of Exotic Diseases. Lecture, two hours; discussion, six hours. Prerequisites: course 112, Microbiology C103A, C105B, or equivalent, consent of instructor. Geographical pathology and behavioral causes of exotic diseases. Mr. Ash

216E. Viral Diseases of Man. Lecture, two hours; laboratory, six hours. Prerequisites: course 216A or equivalent, consent of instructor. Viral and rickettsial diseases of man. Nomenclature, history, epidemiology, diagnosis, control, and prevention of these diseases, especially in tropical situations.

217. Prevalence Studies in Epidemiology. Lecture, two hours; discussion, one hour; laboratory, two hours; discussion, one hour. Two to twelve hours. Prerequisites: courses 100B, 211A or 181, or equivalent, consent of instructor. Design, testing, field use, analysis, and interpretation of data collection instruments to obtain prevalence estimates in epidemiologic studies of populations and samples. Design and administration of questionnaires, interviewing procedures, and the application of noninvasive objective measurements.

Ms. Bourque

218A. Protozoal Diseases of Man. Prerequisites: Microbiology 101 or Biology 105 or equivalent, consent of instructor. Protozoal diseases of public health importance involved in transmission and causation of human diseases. Mr. Barr

219. Arthropods of Medical Importance. Lecture, two hours; laboratory, six hours. Prerequisites: Biology 106 or equivalent, consent of instructor. An introduction to the biology and control of public health arthropods, with emphasis on those with direct or contact mode of spread and vector borne ones.

220A. Helminthic Diseases of Man. Prerequisites: Microbiology 101 or Biology 106 or equivalent, consent of instructor. May be taken concurrently with course 220B. Comprehensive overview of systematic, morphology, biology, host-parasite relationships, public health problems, and control of the nematodes, trematodes, cestodes, arthropods, and protozoa parasitic in man and animals. Mr. Ash

220B. Helminthic Diseases of Man (2 units). Prerequisite or corequisite: course 220A. Laboratory diagnosis and practical microscopic recognition of the nematodes, trematodes, cestodes, arthropods, and protozoa parasitic in man and animals. Pathology produced by these infections. Mr. Ash

221. Seminar in Epidemiology: Methodology (2 units). Prerequisites: courses 211A or equivalent, consent of instructor. Review of current epidemiologic research contained in recent medical literature. May be repeated for credit. S/U grading.

222. Seminar in Epidemiology: Infectious and Tropical Disease (2 units). Prerequisites: course 211A or equivalent, consent of instructor. Review of research on specific diseases of public health importance. May be repeated for credit. S/U grading.

223. Topics in Theoretical Epidemiology (2 units). Prerequisites: courses 100A and 100B and 100D (or Mathematics 129A), 211A, 211B, consent of instructor. Selected topics from current research areas in epidemiologic theory and quantitative methods. Topics selected from biologic models, epidemiologic methods, biostatistics, data analysis, and mathematical epidemiology. Problems, design issues, analysis issues, and founding. May be repeated for credit with consent of instructor. S/U grading.

224. Principles of Epidemiology II. Lecture, four hours; discussion, two hours. Prerequisites: courses 100A, 112, upper division biology course, or equivalent, consent of instructor. Material presented in course 112 examined in greater detail. Topics include measures of disease occurrence and criteria of causality; reliability and validity concerns; proper design, analysis, interpretation of experiments, and cohort and case control studies.


226. Genetic Epidemiology (2 units). Prerequisites: courses 100A, 112, upper division biology course, or equivalent, consent of instructor. Proper design, analysis, interpretation, and application of analytical methods used by genetic epidemiologists, including studies of familial prevalence, twins, migrants, genetic marker-disease associations, and disease or mutation analysis of genetic models. Mr. Haile
227. Public Health Research Using Available Data (2 units). Lecture, one hour; discussion, one hour. Prerequisites: courses 100A, 110, 112, and 410A or 403 or 217 or 405, or equivalent, consent of instructor. Presentations and discussions of the availability, concepts, content, and usefulness of already collected data, with emphasis on public health as such as National Center for Health Statistics surveys, vital statistics, censuses, etc.

Ms. Coulson

229. Advanced Seminar in Epidemiology (2 units). Prerequisites: course 211B, consent of instructor. Current research in epidemiology. May be repeated for credit. S/U grading.

230A-230B. Health Systems Organization and Financing. Lecture, four hours; discussion, two hours. Prerequisites: health services major; four upper division courses in two of the following: social science, political science, history, economics, anthropology, medicine or health science, law, management or organizational behavior, operations research, philosophy; consent of instructor. In-depth analysis of health services systems in the United States, using relevant theories, concepts, and models.

Ms. Myers and the Staff

231. Health Policy Seminar: Health Care Financing and Delivery. Lecture, two hours; discussion, two hours. Prerequisites: courses 100A, 100B, 230A-230B, 238, or equivalent, consent of instructor. Limited to doctoral students and M.S. or M.P.H. students with advanced degrees. Public policy concerning payment for medical care services and characteristics of market as regulatory mechanisms: demand for care, fee-for-service and prepaid payment systems, regulation of price and capital investment, private sector efforts to control health care costs. Mr. Newhouse and the Staff

232. Governmental Health Services and Trends. Prerequisites: course 132, two additional upper division social or behavioral sciences courses, consent of instructor. Systematic analysis of the interface between governmental, private sector and 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. Shonick

233. Health Policy Analysis. Lecture, two hours; discussion, two hours. Prerequisites: course 130 or equivalent, three courses in social sciences, consent of instructor. Conceptual and procedural tools for the analysis of health policy, emphasizing the role of analysis during the various phases of the life cycle of public policy.

234A-234B. Clinical Epidemiology (2 units each). Prerequisites or corequisites: courses 100A, 112, 136, 137A, consent of instructor. Introduction to special issues in clinical health sciences with an emphasis on research design and analysis of data. In Progress grading.

Mr. Greenfield

235. Law, Social Change, and Health Service Policy. Prerequisites: course 130, two upper division courses in political science or sociology or equivalent, consent of instructor. Legal issues affecting policy formulation for environmental, preventive, and curative health service programs.

Ms. Roemer

236. Quality Assessment and Assurance. Lecture, two hours; laboratory, two hours. Prerequisites: courses 130, 134, or equivalent, consent of instructor. General planning theory and health planning theory, methods, and experience with planning for personal health care resources for small geographic areas. Determining needs and estimating required utilization levels and health care resources. Survey of elements of different disciplines used in area wide health planning. Laboratory projects and exercises designed to implement studies of health planning theory and methods.

Mr. Schweitzer

237A-237B. Special Topics in Health Services Research Methodology. Lecture, one hour; discussion, three hours. Prerequisites: courses 100A, 100B, 100C, 130, or equivalent, consent of instructor. In-depth consideration of problems in the application of statistical and other quantitative methods in health services research. Critical evaluation of adequacy of study designs, appropriateness of analyses, and degree to which conclusions are supported by data. S/U grading.

Mr. Groth, Mr. Greenfield

238. Microeconomic Theory of the Health Sector. Prerequisites: courses 100A or equivalent, 232, Economic Theory 2, consent of instructor. Microeconomic aspects of the health care system, including health manpower substitution, choice of efficient modes of production, market efficiency and competition.

Mr. Schweitzer

239. Aging and Long-Term Care. Prerequisites: courses 130, 138, 182, or equivalent, consent of instructor. Long-term care of the critically ill elderly examined from a perspective of political and socioeconomic remediation: population aging and economic context, risk, policy options, and alternative forms of care such as nursing homes, home care, and care by informal support systems.

240. Health Care Issues in International Perspective. Prerequisites: two courses in health administration, two upper division courses in social sciences, or equivalent, consent of instructor. Analysis of crucial issues in health care; manpower policy, economic support, health facilities, patterns of health service delivery, regulation, planning, and other aspects of health care systems probed in the settings of European welfare states, developing nations, and socialist countries.

Mr. Roemer

241. Women, Health, and Aging: Policy Issues (2 or 4 units). Prerequisites: courses 100A, 100B, Economics 101A-101B or equivalent, consent of instructor. Lecture, three hours; discussion, one hour. Prerequisites: two upper division social science courses, two upper division biological science courses, or equivalent, consent of instructor. Examination of social and economic context of older women's aging, the major physical and psychological changes older women experience, the delivery of health services to this population, and the policies that respond to their health needs.

242. Issues in Health Planning. Discussion, three hours; other, three hours. Prerequisites: courses 181 or equivalent research course, 444B. In-depth presentation and analysis of current issues of importance to advanced students in health planning.

Ms. Myers

247. Research Topics in Health Economics. Prerequisites: courses 130, 238, 446 or equivalent, consent of instructor. Seminar in economic analysis of current health services issues. Critical examination of studies pertaining to health manpower, health care costs and controls, the diffusion of technology, and cost-benefit analysis of health programs.

Mr. Schweitzer

248. Small Area Planning for Resources for Personal Health Service. Lecture, three hours; laboratory, two hours. Prerequisites: courses 130, 134, or equivalent, consent of instructor. General planning theory and health planning theory, methods, and experience with planning for personal health care resources for small geographic areas. Determining needs and estimating required utilization levels and health care resources. Survey of elements of different disciplines used in area wide health planning. Laboratory projects and exercises designed to implement studies of health planning theory and methods.

Mr. Shonick

250. Advanced Environmental Health. Lecture, three hours. Prerequisites: course 150 or equivalent, consent of instructor. Theoretical considerations and supporting data involved in scientific establishment and justification of environmental health standards and regulations, with particular reference to specific health factors. Mr. Valentine

251. Chemical Behavior of Aquatic Systems. Lecture, three hours. Prerequisites: course 150, Chemistry 11A, Mathematics 3A, 3B, consent of instructor. Chemical and biological interactions of dissolved, uptake, and water treatment systems. Topics include thermodynamics of natural waters, acids and bases, carbon dioxide cycle, solubility reactions, oxidation and reduction, plus applied problems.

Mr. Valentine

252. Environmental Microbiology. Lecture, three hours. Prerequisites: courses 150, 153, or equivalent, consent of instructor. Basic concepts of eutrophication, indicator organisms, aquatic microbes; assessment of biological treatment practices in water reuse and/or purification.

Mr. Mah

253A. Environmental Toxicology. Lecture, three hours; discussion, one hour. Prerequisites: Chemistry 152, Biological Chemistry 101A-101B, consent of instructor. Essentials of toxicology, dose response, physical, chemical, or biological agents that adversely affect man and environmental quality. Mr. Mustafa

253B. Environmental Toxicology: Trace Contaminants. Lecture, three hours; discussion, one hour. Prerequisite: course 253A. Essentials of toxicology in relation to trace contaminants.

Mr. Froines

254. Environmental Decision Systems Analysis. Lecture, two hours; discussion, one hour. Prerequisites: courses 154, 250, Mathematics 3C, or equivalent, consent of instructor. Techniques and models of systems analysis and concepts of general system theory as applied to comprehensive study, planning, evaluation, and management of environmental systems. Experimentation with relevant computer programs.

Mr. Davo

255. Seminar in Environmental Health Sciences (2 units). Prerequisites: courses 150, 156A, consent of instructor. Prerequisites or corequisites: courses 100A, 112, 130, 134, or equivalent, consent of instructor. May be repeated for credit. S/U grading.

256. Seminar in Health Effects of Environmental Contaminants (2 units). Prerequisites: Biological Chemistry 101A-101B or equivalent, consent of instructor. Emphasis on health effects of air, water, environmental pollutants on man and review of research literature. May be repeated for credit.

257. Control of Airborne Contaminants in Industries. Lecture, two hours; laboratory, two hours. Prerequisites: courses 156A, 157E, consent of instructor. Intended for industrial hygiene majors. Principles and applications of control technology to industrial environments, including general and local exhaust ventilation, air cleaning equipment, and respiratory protection.

Mr. Hinds

258. Instrumental Methods in Environmental Sciences. Lecture, two hours; laboratory, six hours. Prerequisites: courses 150, 153, 156, Chemistry 25, consent of instructor. Laboratory techniques and instrumentation used in the preparation and analysis of biological, environmental, and occupational samples.

Mr. Panagua


Mr. Droz

260E. Advanced Nutrition: Vitamins. Lecture, three hours; discussion, one hour. Prerequisites: Biologic Chemistry 101A-101B-101C or equivalent, consent of instructor. Comprehensive treatment of vitamin nutrition and metabolic-nutrient interactions.

Ms. Swendseid

260F. Advanced Nutrition: Proteins. Lecture, three hours; discussion, one hour. Prerequisites: Biological Chemistry 101A-101B-101C or equivalent, consent of instructor. Comprehensive treatment of protein nutrition and metabolic-nutrient interactions.

Mr. Jones

260G. Advanced Nutrition: Lipids. Lecture, three hours; discussion, one hour. Prerequisites: Biological Chemistry 101A-101B-101C or equivalent, consent of instructor. Comprehensive treatment of lipid nutrition and metabolic-nutrient interactions.

Ms. Afifi-Slater


Ms. Carlisle
261A. Laboratory Instrumentation and Methods. Lecture, two hours; laboratory, six hours. Prerequisites: course 105 and Chemistry 25 or Biological Chemistry 171A, consent of instructor. Biochemical techniques and instru-
tment used in environmental and nutritional sci-
ciences, including absorption, atomic absorption and
fluorescence spectroscopy, gas chromatography,
HPLC, electrophoresis, radiolabelling, and cen-
trifugation. Mr. Panaqua

261B. Advanced Laboratory Techniques in Nutri-
tional Science. Lecture, one hour; laboratory, six
hours. Prerequisites: course 261A, consent of in-
cstructor. Current biochemical methods emphasizing
design of nutritional experiments. Mr. Eckert

262. Seminar in Nutrition (2 units). Prerequisites:
courses 162, 167, one course in the 260 series. Re-
view of current literature in nutritional science. Em-
phasis on methodology and data evaluation. May be
repeated for credit.

263. Seminar in Public Health Nutrition (2 units).
Prerequisites: courses 162, 167, one nutrition course
in the 200 or 400 series. Review of literature in select-
ed areas of public health nutrition. May be repeated
for credit.

264E. Clinical Nutrition Problems (2 units). Prere-
quisites: one or more nutrition courses in the 200
series, and Biological Chemistry 101A-101B-101C or
201A-201B. Nutritional methodology, malnutri-
tions in various disease states such as gastrointesti-
nal disorders, renal disease, and liver disease.
Ms. Alfin-Slater, Mr. Kopple, Ms. Swendseid

264F. Clinical Nutrition Problems (2 units). Prere-
quisites: one or more nutrition courses in the 200 se-
ries, and Biological Chemistry 101A-101B-101C or
201A-201B. Nutrition and nutrient-metabolic interac-
tions in various disease states such as cardiovascu-
lar disease, diabetes, and obesity.
Ms. Alfin-Slater, Mr. Kopple, Ms. Swendseid

265. Doctoral Research Seminar in Nutritional Sci-
cences (2 units). Prerequisites: at least one course
in the 260 series, doctoral standing, consent of
instructor. Limited to doctoral students. Presenta-
tion of research projects. Emphasis on data evalua-
tion. May be repeated for credit. S/U grading.

270. Maternal and Child Nutrition. Prerequisites:
courses 110, 161, 170, or equivalent, consent of in-
structor. Nutrition of mothers, infants, and children in
countries at various socioeconomic develop-
ment; measures for prevention and treatment of pro-
tein-calorie malnutrition; relationship between nutri-
tion and mental development; impact of ecological,
socioeconomic, and cultural factors on nutrition, nu-
trition education, and service.
Mr. Jelliffe, Ms. Neumann

M271. Medical Anthropology. (Formerly numbered 271.) (Same as Anthropology M266.) Prerequisites:
courses 110, 112, one upper division course in psy-
chology, sociology, or anthropology, or equivalent,
consent of instructor. Cross-cultural aspects of hu-
man behavior as they relate to perception, treatment,
iccence, and prevalence of disease and illness.
Mr. Scrimshaw

272. Seminar on Current Issues in Maternal and
Child Health (2 units). Prerequisites: courses 110 or
equivalent, 171A, 171B, consent of instructor. New
knowledge and approaches in selected areas of child
health and societal problems of children and young
age, and children, including early development, day
care, and genetic counseling.
Mr. A. Chang

M273. Qualitative Research Methodology. (For-
merly numbered 273.) (Same as Anthropology M264.) Discussion, three hours; laboratory, one hour.

M274A-M274B. Population Policy and Fertility. (Same as Sociology M287A-M287B.) Lecture, three hours;
discussion, one hour. Prerequisites: courses 100A, 112, 170E, 256, consent of instructor. Relationship be-
 tween sociological, cultural, and psychosocial factors
on fertility; implications for development with student
research reports. May not be repeated for credit.
Ms. Blake

275. Human Lactation: Biological and Public
Health Significance (2 units). Prerequisites: courses
112, 270, or equivalent, consent of instructor. Bio-
logical and economic aspects of human lactation
in industrialized and developing countries.
Mr. Jelliffe

M276. Culture and Human Reproduction. (Form-
early numbered 476.) (Same as Anthropology M266.) Lecture, two hours; discussion, two hours. Prere-
quisites: courses 110, 112, 172, 474, or equivalent,
consent of instructor. Exploration of human behavior in
relation to biological and cultural factors in repro-
duction. Emphasis on life-styles and other socioenviron-
mental factors associated with chronic diseases.
Ms. Siegel

284. Ecology of Mental Health. Lecture, two hours.
Prerequisites: courses 100A, 112 or 182 or equivalent.
Prerequisites: courses 100A, 112 or 182 or equivalent.
Analysis of occurrence and distribution of mental dis-
orders. Emphasis on life-styles and other socioenviron-
mental factors associated with chronic diseases.
Ms. Siegel

287. Community Problems in Mental Disorders. Lecture, two hours. Prerequisites: four units in psychology
or sociology, or equivalent. Consent of instructor. Re-
view of research concerning mental illness, and psycho-
therapy, both curative and preventive, within a public health context. Implica-
tions for social policy and planning.
Mr. Goldstein

288. Seminar in Behavioral Sciences and Health
(2 to 4 units). Lecture, two hours. Prerequisites: courses 283E, M283F, M283G, or equivalent, consent
of instructor. Recent significant contributions of behav-
ioral sciences to understanding health and ill-
ness, with selected topics. May be repeated for credit.
S/U grading.
Mr. Berkanovic, Mr. Morsy

289. Current Problems in Health Education. Lecture,
two hours. Prerequisites: courses 283E, M283F, M283G, or equivalent, consent of instructor. Recent sig-
nificant contributions of behavioral sciences to under-
standing health and illness, with selected topics. May be repeated for credit.
S/U grading.
Mr. Brown

290. Seminar in Community Health Education (2
units). Prerequisites: courses 288, 481. In-depth anal-
ysis of health education as a profession as it relates to
the professional practitioner.
291. Advanced Topics in Health Survey Research Methods. (Formerly numbered 292.) Lecture, two hours; discussion, two hours. Prerequisites: courses 101B or equivalent, consent of instructor. Special topics in health survey research methods. Design of special purpose surveys; recent interviewing techniques, diaries and memory aids; measurement error, including response bias; ethical considerations; data confidentiality and integrity; data management, design and analysis of longitudinal or panel studies. S/U grading (nondivision majors only).

292. Alcohol and Drug Abuse: Social Policy Perspective. (Formerly numbered 292.) Lecture, three hours. Prerequisite: consent of instructor. Alternative models of alcohol and other drug addictions examined in terms of their desirability, response validity; telephone interviewing; obtaining data on sensitive issues; ethics and confidentiality of survey research data. Mr. Goldstein

293. Alcoholism and Drug Abuse among Women. (Formerly numbered M293.) Prerequisite: consent of instructor. Discussion of the psychosocial aspects of abuse of alcohol and other drugs among women. Topics include etiology, prevention, treatment, hormonal influences, and the role of the family. Emphasis on current theoretical perspectives and research findings. Ms. Beckman

294. Introduction to Occupational Health Education. Lecture, one hour; discussion; two hours; outside assignment, one hour. Prerequisites: course 156A, two courses in sociology, psychology, or education, consent of instructor in applied health and safety 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. Vojecky

295A. Advanced Community Health Education. (Formerly numbered 296.) Lecture, two hours; discussion, two hours. Prerequisites: course 182, three upper division courses in social science or public health, consent of instructor. Before planning the educational program one must assess the behaviors and factors influencing the health problem. Conceptual, theoretical, and evaluative skills developed and applied in constructing a community-based educational program. Mr. Morrisky

295B. Research in Community and Patient Health Education. (Formerly numbered 296.) Lecture, two hours; discussion, two hours. Prerequisites: courses 156A, 294, two courses in psychology or sociology, consent of instructor. Discussion of current social and behavioral research, issues, and perspectives on work and health. Mr. Vojecky

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: undergraduate or graduate teaching assistantship. A teaching apprenticeship under the active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University shall not be substituted for any departmental enrollment requirements. May be repeated for credit. S/U grading.

400. Field Studies in Public Health (2 or 4 units). Prerequisite: consent of instructor. Field observation and participation in community organizations or departments of 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 the M.S. minimum course requirements. Course units may be applied toward a 44-unit minimum total required for the M.P.H. degree.

401E. Statistical Methods in Medical Studies (2 units). Prerequisites: course 100C or 100D or Mathematics 150C or 150B or equivalent, graduate standing in public health or related field. Design and analysis of biomedical studies. S/U grading (nondivision majors only).

410F. Statistical Methods for Longitudinal Data. Lecture, three hours. Prerequisites: courses 100C or 100D or Mathematics 150C or 152B or equivalent, 112, consent of instructor. Design and analysis of longitudinal or panel studies. S/U grading (nondivision majors only).

410G. Statistical Methods for Case-Control Studies. Lecture, three hours. Prerequisites: courses 100C and 100D, or 101C. Statistical designs, sampling statistics, and analytic models of case-control studies, their choice from selected articles, monographs, or reports.

420A. Principles of Biostatistical Consulting (2 units). Lecture, one hour; discussion, one hour. Prerequisite: course 101B. Topics in health data management, design and maintenance of large data bases on tapes or disks; computing tools and techniques facilitating data retrieval for statistical analysis, tabulation and report generation useful to biostatisticians, health planners, and other health professionals.

430. Computer Management of Health Data. Lecture, three hours; laboratory, two hours. Prerequisites: at least one statistics course, two courses in research methodology, Program in Computing 1 or equivalent, consent of instructor. Conceptual, theoretical, and evaluative skills developed and applied in constructing a community-based educational program. Mr. Morrisky

431. Managerial Processes in Health Service Organizations. Lecture, one hour; laboratory, three hours. Prerequisites: courses 100A, 112 or 114, 211A, or equivalent, consent of instructor. Managerial skills and behaviors applied to organizations as stressed as applications are presented. Mr. Kraus

434. Quantitative Methods in Health Services Management. Prerequisite: course 139. Quantitative methods for managerial decision making. Deterministic and stochastic analyses of problems in resource allocation, inventory control, task sequencing, patient and facility scheduling, demand forecasting, and cost-benefit analysis.

411. Research Resources in Epidemiology (2 units). Lecture, one hour; discussion, one hour. Prerequisites: courses 100B, 211B, consent of instructor. Instruction and practical experience in the use of varied bibliographic aids and sources of information, building of reference files, and presentation of research findings for publication.

Ms. Coulson, Mr. Spivey

412. Administration of Preventive and Medical Clinics (2 units). Lecture, one hour; discussion, one hour; field trips. Prerequisites: courses 112, 130, or equivalent, consent of instructor. Development of preventive and ambulatory health services in the clinic. Epidemiologic, administrative, and financial aspects of communicable disease, substance abuse, mental health, prenatal care, family planning, cardiovascular disease, cancer, chronic diseases, and degenerative diseases. Mr. Tennant

413. Preventive Medicine in Public Health Practice. Lecture, two hours; discussion, two hours. Prerequisites: courses 100A, 110, 112, 130, or equivalent. Application of the principles of preventive medicine in public health practice, focusing on the risk indicator approach (exercise, alcohol, stress, etc.), identification of program settings, delivery of program, problems, and issues. Mr. Fielding

414. Practical Epidemiologic Investigations. Lecture, one hour; laboratory, three hours. Prerequisites: courses 100A, 112 or 114, 211A, or equivalent, consent of instructor. Alternatives in the search for causal relationships in epidemiologic investigations presented through problem sets based on actual outbreaks. Data collection, analysis, and written presentation of findings.

Ms. Straussburg, and the Staff

415. Epidemiology for Developing Countries. (Not the same as course 415 prior to Fall Quarter 1986.) Prerequisites: courses 100A, 112 or equivalent, two courses in biological sciences or equivalent, consent of instructor. Uses of epidemiology for assessing the burden of illness, establishing program priorities, and developing disease intervention or prevention strategies.

430. Health Service Organization and Management Theory. Prerequisites: course 131, two upper division courses in social science or equivalent, consent of instructor. Application of contemporary organization and management theory to systems that provide personal health care services. Environmental characteristics of the health care delivery system and the role of health care facilities scheduling, demand forecasting, and staff characteristics. Mr. Kraus

431. Managerial Processes in Health Service Organizations. Lecture, one hour; laboratory, three hours. Prerequisites: course 430, consent of instructor. Managerial skills and behaviors applied to components of organizations at several levels: individual, interpersonal, group, intergroup, system, and interorganizational. Unique features of health service organizations are stressed as applications are presented.

432. Integrative Seminar in Health Services Management. Prerequisite: course 431. Residents and preceptors are responsible for presenting cases of actual administrative problems for solution by teams of students and faculty.

433. Health Service Organization Policy and Strategy. Lecture, three hours; discussion, one hour. Prerequisites: courses 131, 400 (at least six units), 430, or equivalent, consent of instructor. Conceptual, analytical, and technical aspects of policy and strategy formulation in health service organizations. Special attention to structure and dynamics of competitive market, corporate-level strategic planning and marketing, managerial ethics and values, organization theory.

434. Quantitative Methods in Health Services Management. Prerequisite: course 139. Quantitative methods for managerial decision making. Deterministic and stochastic analyses of problems in resource allocation, inventory control, task sequencing, patient and facility scheduling, demand forecasting, and cost-benefit analysis.

Ms. Coulson
435. Manpower Management in Health Services Organizations (2 units). Prerequisites: course 131 or equivalent, consent of instructor. Introduction to personnel management and labor relations as they apply to health care facilities.

436. Financial Management of Health Service Organizations. Prerequisites: courses 131, 141, 430, or equivalent, consent of instructor. Application of financial management and accounting principles to health care facilities, including unique financial characteristics of health care facilities, third-party reimbursement, cost finding and rate setting, operational and capital budgeting, auditing, and risk management.

Mr. Coyne

437. The Legal Environment of Health Services Management (2 units). Prerequisites: course 131 or equivalent, consent of instructor. General survey of legal aspects of health services management, including government, agency, informed consent, medical malpractice, contracts, negligence, and case law relating to health facility operations.

Mr. Liset

438. Issues and Problems of Local Health Administration (2 units). Prerequisites: courses 110, 130, one additional health services course, consent of instructor. Analysis of organizational issues currently faced by local health departments in increasing scope and quality of services: exploration and administrative problems of interagency relationships.

Ms. Akkon

439. Dental Care Administration (2 units). Prerequisites or corequisites: courses 100A, 112, or equivalent, consent of instructor. General survey of several specific dental health policy issues: manpower, relationship of treatment to disease, national health program strategies, and evaluation mechanisms.

Mr. Schoen

440A. Health Information Systems: Observation and Measurement. Lecture, two hours; laboratory, three hours. Prerequisites: courses 140A-140B or equivalent, consent of instructor. Principles of and systems relating to organization and management of a health facility's health information systems.

Ms. Lugg

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 management. Prerequisites: course 130 or equivalent, consent of instructor. Introduction to principles of medical auditing; analysis of medical and health services.

Ms. Lugg

442. Principles and Practices of Medical Care Audit (2 units). Prerequisites: courses 100A, 112, 130, or equivalent, consent of instructor. Office and computer systems used in evaluating health care professional providers' performance in hospital and ambulatory settings. Health information systems and data available for medical audits.

Mr. Goodman

443D. Advanced Hospital Financial Management Simulation. Lecture, one hour; discussion, one hour; laboratory, two hours. Prerequisites: courses 130, 141, 436, consent of instructor. Practical aspects of hospital management decisions in a changing environment with particular attention to economic projections, demand patterns, investment programs, and health care regulations.

Mr. Coyne

443E. Advanced Hospital Financial Management Seminar. Prerequisites: courses 130, 131, 141, 436, or equivalent, consent of instructor. Hospital financial management, including reimbursement management, capital financing, and capital investment analysis, discussed and analyzed with respect to students' individual residency sites.

Mr. Coyne

444A. Information Processing for Health Planners. Prerequisites: courses 100A or 101A, 134, consent of instructor. Information theory presented as framework for understanding data analysis. Computer used to implement data analysis results with previously presented information systems concepts.

444B. Applied Methodology in Health Planning. Lecture, three hours; fieldwork, four hours. Prerequisites: courses 130, 141, consents of 444A, 444B; 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. Melnick

445A-445B. Practicum in Health Planning and Policy. Field placement. Prerequisites: courses 100A, 100B, 130 (may be taken concurrently), 233, 248, or equivalent, consent of instructor. Required of all M.S. health planning and policy students. Preparation of one-week work experience undertaken during summer between first and second year. In Progress and S/U grading.

446. Financing Health Care. Prerequisites: course 130. Economics 1, 2, or equivalent, consent of instructor. Patterns of health care financing by consumers, providers, third-party intermediaries; trends in health service use; expenditures, national health insurance, and international comparisons of health financing systems.

Mr. Wasserman

447D. Management of Health Maintenance Organizations. Lecture, three hours. Prerequisites: courses 130, 134, or equivalent, consent of instructor. Alternative approaches to fee-for-service for providing, procuring, and delivering of health care services, and relating these approaches to the national health policy.

Mr. Wasserman

447E. Health Insurance Principles and Programs. Prerequisites: courses 130, 232, one additional health services course, 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 various scopes of coverage and benefits and their implications for public and private medical care developments.

Mr. Shonick


Mr. Schoen

448. Special Populations: Health Service Policy Issues. (Not the same as course 448 prior to Spring Quarter, 1989.) Prerequisites: courses 130, 131, 200B, 230B, 232, or equivalent, consent of instructor. Limited to doctoral students or M.S. and M.P.H. students with advanced degrees. A doctoral-level seminar which focuses on health services for selected priority population groups, integrating the scientific, organizational, economic, ethical, and political evidence as a basis for public policy. Different populations may be selected for attention each year.

Ms. Myres

449. Health Policy Issues for Dental Professionals (2 units). (Same as Dentistry M442.) Prerequisites: courses 103, 112, 130, or equivalent, consent of instructor. Current public health policy issues in dental health, including cost, financing, role of government in quantity and quality of care. Ms. Jones

449D. Case Studies in Dental Practice (2 units). (Same as Dentistry M453A.) Provides students with a practice methodology for evaluation of dental care settings. Didactic and field experience, providing a foundation for evaluation of programs.

Mr. Marcus

449E. Introduction to Health Care (2 units). (Same as Dentistry M441C.) Description and analysis of the American dental care system from historical, ethical and legal perspectives. Assessment of how dentistry fits within the general provision of health care services in America, with comparisons to dental care provisions in other countries.

Mr. Freed

450. Environmental Measurements. Lecture, two hours; laboratory, four hours. Prerequisites: courses 150 or 261A, 261B, instrumental methods for labatory or fieldwork. 10 hours. Prerequisites: courses 400 (may be taken concurrently), 460, 461, 463A, consent of instructor. Students analyze a public health nutrition problem and conduct and evaluate the public health nutrition practicum.

Ms. Hunt, Mr. Jones

451. Water Quality and Health. Lecture, three hours: discussion, one hour. Prerequisites: courses 150, 250, 450, or equivalent, consent of instructor. An introduction to water quality, with coverage of hydrology, water chemistry, and various chemical contaminants that may affect human health. Various treatment methods and health implications.

Ms. Valentine

452. Environmental Hygiene and Appropriate Technologies (2 units). Prerequisites: courses 112, 150, 254, consent of instructor. Environmental sanitation of water supplies in rural and developing areas. Review of water quality problems and solutions for the nonurban, developing community. Technical, socioeconomic, and cultural problems associated with maintenance and delivery of high water quality.

Mr. Day

453. Environmental Policy Decision Making. Lecture, four hours, discussion, one hour. Prerequisite: courses 150, 254, consent of instructor. Focus on modeling and processes involved in 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 methodology.

Mr. Day

454. Environmental Hygiene Practices (2 units). Prerequisites: courses 112, 150, 154, 450. Field principles and practices of environmental sanitation as applicable to the sanitary inspection. Topics include theory, code enforcement, and inspection procedures for applicable environmental topic areas.

Mr. Gomez

455. Critical Review of the Scientific Basis of Occupational Standards. Prerequisites: courses 100A, 112, 156A, 156B. Designed to provide students with familiarity with the scientific basis for the association of selected occupational exposures with disease. Special emphasis on critical evaluation of the literature. Attention specifically to the interface of science and regulatory standards.

Mr. Wegman

460. Principles of Public Health Nutrition. Prerequisites: courses 100A, 130 (may be taken concurrently), 262 or 263, consent of instructor. Survey of methods of evaluating and improving nutritional status of develop population groups.

Ms. Hunt

461. Computer Use in Dietary Assessment. Lecture, two hours; laboratory, six hours. Prerequisites: courses 100A, 112, (may be taken concurrently). 162, 168, 172. Consent of instructor. Students analyze a public health nutrition problem and conduct and evaluate computer analysis of nutrient intake data for the purpose of nutritional assessment of population groups.

Ms. Murphy

462. Nutritional Assessment: Laboratory Assays (2 units). Lecture, one hour; laboratory, three hours. Prerequisites: courses 162, 165, 167, or equivalent, one course in the 260 series. Biochemical methods for evaluating nutritional status of individuals or population groups. Techniques for measuring vitamin, mineral, and protein requirements.

Ms. Swendsen

463A. Preparation for Practicum in Public Health Nutrition (2 units). Discussion, one hour; laboratory or fieldwork, five hours. Prerequisites: courses 112, 165, 460 (may be taken concurrently). 168, 169, 172. Consent of instructor. Students analyze a public health nutrition problem and prepare to conduct and evaluate the public health nutrition practicum.

Ms. Hunt, Mr. Jones

463B. Practicum in Public Health Nutrition. (Formerly numbered 463B). Discussion, two hours; laboratory or fieldwork, 10 hours. Prerequisites: courses 400 (may be taken concurrently), 460, 461, 463A, consent of instructor. Students analyze a public health nutrition problem and conduct and evaluate the public health nutrition practicum.

Ms. Hunt, Mr. Jones
470A. International Health Agencies and Programs. Prerequisites: three upper division or graduate courses in social, health, or behavioral sciences, consent of instructor. Historical development and functions of international health organizations. Key problems and trends in international health. Bilateral programs, nongovernmental organizations, international agencies, foundations, and other disseminating information, money, and services. Mr. Neumann.

470B. Advanced Issues in International Health. Lecture, two hours; discussion, two hours. Prerequisites: courses 470A or equivalent, consent of instructor. In-depth focus on major health care issues confronting recipient less-developed countries and donors of technical and financial assistance. Mr. Neumann.

471A. Women's Health: Principles, Programs, and Policies. (Not the same as course 471A prior to Fall Quarter 1985.) Prerequisites: courses 100A, 110, 130 or equivalent, 171A, consent of instructor. In-depth consideration of health services, programs, and consent of instructor. Major health problems of women's health care. Subjects include health status of women, endocrinological issues, chronic diseases, cancer, surgery in women, psychosocial and life-style issues, and women's health care. Mr. Richwald.

471B. Perinatal Health Care: Principles, Programs, and Policies. (Not the same as course 471B prior to Winter Quarter 1986.) Prerequisites: courses 100A, 110, 130 or equivalent, 171A, consent of instructor. Comprehensive examination of perinatal care including epidural anesthesia, labor, and delivery. Mr. Richwald.

471C. Family Planning: Public Health Principles, Programs, and Policies. Prerequisites: courses 100A, 110, 130 or equivalent, 171A, consent of instructor. A critical review of public health issues in the areas of family planning, abortion, and adoption service. Health care problems, delivery of services, and public programs. Mr. Richwald.

472A. Maternal and Child Health in Developing Areas. Prerequisites: courses 270, 470A, or equivalent, 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 developing countries and international maternal and child health care, including perinatal epidemiology, outcome measures, public programs, controversies surrounding new technology, regionalization, organization of services at all levels, state, and national levels, and medical-legal issues. Mr. Richwald.

472B. Recent Developments in Maternal and Child Health in Disadvantaged Countries (2 units). Prerequisites: courses 171A, 171B, 270, 472A, or equivalent, consent of instructor. Analytic in-depth study of recent advances and trends in the field of international maternal and child health, with special reference to developing countries. Mr. Jelliffe.

472D. Overseas Refugee Health Programs (2 units). Lecture, one hour; discussion, one hour. Prerequisites: courses 110, 112, 270 or 472A, or equivalent, consent of instructor. Comprehensive overview of the health problems of overseas refugee situations and of programs designed to deal with these special circumstances. Mr. Jelliffe.

473A. Handicapped Children: The Public Health Concern (2 units). Prerequisites: courses 110, 130, 170, or equivalent, consent of instructor. Etiology, prevalence, social consequences, and remedial programs for the major handicapping conditions in children, both congenital and obtained. Emphasis on current research, and program developments. Mr. Katz.

473D. Child Health in the United States of America. Lecture, three hours; discussion, one hour; field trips, three hours. Prerequisites: courses 110, 112, 130, 170, or equivalent, consent of instructor. Examination of the health problems affecting infants, children, and adolescents in the United States and evaluation of alternative approaches, services, and policies aimed at ameliorating these problems. Mr. Chang.

473E. Adolescent Health: Major Issues and Problems (2 units). Lecture, two hours; field trips, 21 hours. Prerequisites: courses 110, 112, 171A, 171B, 172, or equivalent, consent of instructor. Overview of adolescent growth and development, significant physical and psychological issues, issues in health services delivery, and laws affecting youth and the juvenile offender. Mr. Jelliffe and the Staff.

473F. Research Seminar in Community Child Health Services (2 units). Discussion, one hour; laboratory, one hour; field trips, two hours. Prerequisites: courses 100A, 125, 130, 171A, 171B, or equivalent, 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 pediatric care areas. Emphasis on collaborative research and consultation skills, with participation of local health department personnel.

473G. Health Services in Child Day Care. Lecture, two hours; discussion, two hours; one field trip, three hours. Prerequisites: courses 110, 112, 130, 170, or equivalent, consent of instructor. Assessment of needs, planning, and development of health and nutrition services for young children in day care and child-related child development programs. Mr. Chang.

473H. Child Health Policy. Lecture, three hours; discussion, one hour. Prerequisites: courses 130 or equivalent, 171A, 172, 473D, consent of instructor. Analysis of the development and characteristics of child health programs and policies; issues related to health services for children examined according to chronological development of child; relationship of health programs to programs of nutrition, day care, education, and welfare; strategies for achieving change and the policies of developing a child health policy. Mr. Roemer.

474. Self-Care and Self-Help in Community Health. Lecture, two hours; discussion, two hours. Prerequisites: courses 112, 130, fieldwork internship, or equivalent, consent of instructor. Review of background, principles, concepts, programs, and research concerning the emerging field of self-care in health.

475. Planning and Development of Family Health Programs. Lecture, two hours; discussion, two hours. Prerequisites: courses 100A, 125 or 470A, 170, 270, or equivalent, consent of instructor. Theory, guidelines, and evaluation in planning and implementing health family/health planning projects in the United States and in developing countries. Phases include community needs identification; goal setting; budget and worth development; funding; staffing; evaluation design; data and cost analysis; and project presentation. Mr. Neumann.

476D. Analysis of Family Health and Fertility Data. Lecture, three hours; laboratory, two hours; assignments, 12 hours. Prerequisites: courses 100B, 125 or 181, 217, or equivalent, consent of instructor. Analysis and interpretation of large-scale data sets, case studies, and experimental data in the area of applied family health and fertility. Computer used as a tool in the management and analysis of the data necessary for interpreting and preparing research articles. Mr. Bourde.

477. Assessment of Family Nutrition. Prerequisite: course 270. 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. Jelliffe, Ms. Neumann.

478. Cytogenetics Practicum (1 unit). Prerequisites: courses 100A, 112, 170E, consent of instructor.

479. Nutrition Programmes and Policies for Families in the Third World. Lecture, two hours; discussion, two hours. Prerequisites: course 472A or equivalent, consent of instructor. Programs and policies to improve the nutrition of families in Third World countries, including special reference to mothers and young children. Ms. Jelliffe.

479D. Nutrition Education and Training: Third World Considerations (2 units). Lecture, one hour; student participation, one hour. Prerequisites: course 472A or equivalent, consent of instructors, 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.

480. Health Education in Clinical Settings. Lecture, two hours; discussion, two hours. Prerequisites: courses 130, 183, 280, 282, consent of instructor. Analysis and application of a variety of techniques in health education pertaining to hospitals, clinics, and patient education. Observation and discussion of clinical activities in the medical center in relation to health education curriculum development. Ms. Li.

481. Administrative Relationships in Health Education. Lecture, two hours; discussion, two hours. Prerequisites: courses 130, 183, 280, consent of instructor. Study of administration concepts; relationships between health education settings and the community; the responsibility and authority for health education in organizations and other groups. Ms. Li.

482. Practicum in Health Education (4 or 8 units). Discussion, two hours; fieldwork, six or 18 hours. Prerequisites: courses 182, 280, 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. Richards.

483. Social Interventions for Health Promotion and Evaluation. Lecture, two hours; discussion, two hours. Prerequisites: course 100A, three courses in social sciences, or equivalent, consent of instructor. An introduction to the principles of program evaluation as they are applied to public health programs in the community. Mr. Karanovic, Mr. Vojticky.

484. Benefit-Cost Evaluation of Health Programs. Lecture, two hours; discussion, two hours. Prerequisites: courses 100A, 112, Economics 102, or equivalent, consent of instructor. Cost-benefit and cost-effectiveness principles and techniques employed to evaluate public health programs and projects. Mr. Ali.

485. Death, Suicide, and Homicide: A Public Health Perspective. Lecture, three hours; field trips, outside readings, and reports, one hour. Prerequisites: courses 100A or 103, 112, 182, 183, or equivalent, consent of instructor. Identification and discussion of the role of public health in suicide and homicide prevention, and death and dying. Lectures range from vital statistics to the role of the behavioral scientist in prevention, intervention, and postvention of suicide and homicide. Ms. Allen.
Field studies in India.
487. Health Applications of Community Organization Seminar, three hours; fieldwork, four hours. Prerequisites: courses 182, 183, 287, at least one other public health course, or equivalent, consent of instructor. Application of community organization methods to health problems and health education programs, including community-based needs assessment, planning and developing community-based projects, and evaluation. Emphasis on organizational and process skills; class fieldwork project.

Mr. Brown

488. Consumer Health Behavior Lecture, three hours. Prerequisites: course 182, at least three courses in anthropology, psychology, or sociology, consent of instructor. Discussion and demonstration of the role of economics and economic incentives and disincentives in altering consumer health behavior.

490. Professional Writing for Public Health (2 units) Prerequisite: consent of instructor. Practice in writing reports, grant proposals, abstracts, andarticle-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. May not be applied toward any degree requirements. S/U grading.

Mr. Bjork

495. Teacher Preparation in Public Health (2 units) Prerequisites: 18 units of cognate courses in area of specialization, consent of department chair. May not be applied toward the 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. Course is used to record enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. No more than eight units may be applied toward the master's degree minimum total course requirement. May not be applied toward the 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. Course is used to record enrollment of UCLA students in courses taken at the University of Hawaii, Manoa, as part of the UCLA/UH Western Consortium Exchange Program. Only the equivalent of eight quarter units taken at UH may be applied toward the degree. Extra units may be applied toward division requirements by petition to the Public Health Student Affairs Office. UH letter-graded courses appear on the UCLA transcript with the letter grades, while UH Cr/NCR-graded courses appear as S/U grades. Grade points from these courses are not counted in the UCLA grade-point average.

506. 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 the M.P.H. and M.S. minimum total course requirement. May be repeated for credit.

507. 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 requirements. May be repeated for credit. S/U grading.

508. Master's Thesis Research (2 to 8 units) Prerequisite: consent of instructor. Only four units may be applied toward the M.P.H. and M.S. minimum total course requirement; may not be applied toward the minimum graduate course requirement. May be repeated for credit. S/U grading.

509. Doctoral Dissertation Research (2 to 8 units) Prerequisite: consent of instructor. May not be applied toward any degree requirements. May be repeated for credit. S/U grading.

Environmental Science and Engineering (Interdepartmental)

46-081 Public Health, (213) 206-1278

Professors
Orson L. Anderson, Ph.D. (Earth and Space Sciences)
Donald Carlisle, Ph.D. (Earth and Space Sciences)
David J. Chapman, Ph.D. (Biophysics)
Christopher S. Foote, Ph.D. (Chemistry)
William H. Glaze, Ph.D. (Public Health), Director
Malcolm S. Gordon, Ph.D. (Biology)
William E. Kasterlen, Ph.D. (Mechanical, Aerospace, and Naval Engineering)
Robert A. Mah, Ph.D. (Public Health)
Richard L. Pinne, Ph.D. (Civil Engineering)
David H. Wegman, M.D. (Public Health)
Morton G. Wurtele, Ph.D. (Atmospheric Sciences)
Jeffrey I. Zink, Ph.D. (Chemistry)

Associate Professors
Talbot R. Page, Ph.D. (Public Health)
Michael K. Stenstrom, Ph.D. (Civil Engineering)

Assistant Professors
Douglas Mackay, Ph.D. (Public Health)
Derek C. Montague, Ph.D. (Atmospheric Sciences)

Lecturer
Paul M. Menfield, Ph.D. (Earth and Space Sciences)

Adjunct Professor
Leona M. Libby, Ph.D.

Adjunct Assistant Professors
Laura M. Lake, Ph.D.
Bart B. Sokolow, D.Env.

Adjunct Lecturer
Robert G. Lindberg, Ph.D. (Public Health)

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 program in environmental science and engineering, 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 environment-related projects.

No undergraduate major is offered; however, studies can be arranged along several routes. Students with majors in the natural sciences, geography/ecosystems, 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 interdepartmental committee. Your overall academic record, including Graduate Record Examination (GRE) scores, 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.

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 year of introductory biology with laboratory; (2) one year of general chemistry with laboratory, including analytical methods, and one quarter 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. Conditional admission is given to students who are otherwise qualified.
Subject to available funds, the program offers fellowships 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.

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, health risks of toxic substances, and environmental problems common to the United States and Mexico. Also, you may slant your work toward greater emphasis either on the science engineering side or on the science policy side of your specialty.

Course Requirements
A minimum of 15 courses after admission to the program is required, including three core courses offered by the program faculty. At least three breadth courses, in addition to the core courses, must be at the graduate level. Breadth courses from the following categories are selected in consultation with your faculty adviser. Exact requirements depend on your previous training.

Environmental Science: Five courses, including environmental chemistry; environmental biology, microbiology, and ecology (two courses); environmental geology; and atmospheric sciences.

Environmental Engineering and Technology: Seven courses, including hydrology; advanced statistics, computer science, or applied mathematics; engineering (three courses), and toxicology or epidemiology.

Social Sciences/Law: Three courses, including one in environmental law.

Electives: Three courses, of which individual instruction and research may be used to satisfy all or part of the requirement.

Core Courses: You must complete three four-unit core courses, offered by the program faculty, with grades of B or better. The courses cover critical issues and methods in environmental science, engineering, and policy. Successful completion of each core course is prerequisite for advancement to the problems course sequence.

Seminar: You are required to enroll in Environmental Science and Engineering 411 each quarter you are in residence.

Problems Course: Before proceeding to the problems course sequence, you must have completed a minimum of 12 breadth courses and the three core 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 and may be met by completing three consecutive quarters (eight units per quarter) on a single theme, or as a minimum, at least two consecutive quarters devoted to a single theme plus one quarter of participation or activity approved by the faculty. Enrollment in more than one problems course per quarter 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 and selected topics in classical and contemporary subjects in the program's areas of interest. A reading list is provided.

When you have completed all other course requirements and are in the final quarter of the problems course, 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 your responsibility and must be approved by the doctoral committee, the interdepartmental committee, and the dean of the Graduate Division. Supervision during the field training experience is by your doctoral committee. During the internship, you must register for eight units of a 599 course in each academic-year quarter.

Dissertation and 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 return to UCLA to present an open seminar. The final oral examination includes the problems course, internship experience, and a defense of your dissertation.

If the seminar and all other elements of your performance 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 chair. Primarily intended for students enrolled in the 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 chair. 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 chair. Multidisciplinary technical and socioeconomic analysis and prognosis of significant current environmental problems.

400D. Environmental Science and Engineering Problems Course (6 units). Prerequisite: successful completion of course 400C and of an internship approved by the department chair, and graduate dean. 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 the environmental science and engineering doctoral program. Development of analytical or experimental skills essential to the solution of environmental problems studied within courses 400A, 400B, 400C, and 400D.

411. Environmental Science and Engineering Seminar (2 units). Prerequisite: consent of instructor. Required of graduate students in environmental science and engineering each quarter in residence. Current topics in 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, program chair, and graduate dean, and host campus instructor, department chair, and graduate dean. Course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596. Directed Individual or Tutorial Studies (2 to 8 units). Prerequisite: consent of instructor and program chair. Supervised investigation of advanced environmental problems. S/U grading.
Nondiscrimination

The University of California, in compliance with Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, and the Age Discrimination Act of 1975, does not discriminate on the basis of race, color, national origin, religion, sex, handicap, or age in any of its policies, procedures, or practices. Nor does the University discriminate on the basis of sexual orientation. This nondiscrimination policy covers admission and access to, and treatment and employment in, University programs and activities, including but not limited to academic admissions, financial aid, educational services, and student employment.

Inquiries regarding the University’s equal opportunity policies may be directed to the Campus Counsel, 2241 Murphy Hall, UCLA, Los Angeles, CA 90024.

Students may complain of any action which they believe discriminates against them on the ground of race, color, national origin, religion, sex, sexual orientation, or handicap and may contact the Dean of Students Office, 2224 Murphy Hall, for further information and procedures.

Residence for Tuition Purposes

Students who have not been residents of California for more than one year immediately prior to the residence determination date for each term in which they propose to attend the University are charged, along with other fees, a nonresident tuition fee. 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 the establishment of legal residence for tuition purposes at the University of California are governed by the California Education Code and by Standing Orders of The Regents of the University of California. Under these rules residence for tuition purposes can be established by adult citizens or by certain classes of aliens. There are also particular rules applicable to the residence classification of minors (under 18) in that such residence is generally regarded as being derived from the parent or parents with whom the minor last resided.

Who Is a Resident?

In order to be classified a resident for tuition purposes, an adult, other than an adult alien present in the U.S. under the terms of a nonimmigrant status which precludes the adult alien from remaining permanently in the U.S., must have established his or her residence in California for more than one year immediately preceding the residence determination date for the term during which he or she proposes to attend the University and relinquished any prior residence. An individual must couple physical presence within this state for one year with objective evidence that such presence is consistent with intent to make California his or her permanent home and, if these steps are delayed, the one-year durational period will be extended until both presence and intent have been demonstrated for one full year. Indeed, physical presence within the state solely for educational purposes does not constitute the establishment of California residence under state law, regardless of the length of stay. A woman’s residence shall not be derivative from that of her husband or vice versa.

Establishing the Requisite Intent to Become a California Resident

Relevant evidence which can be relied on to demonstrate one’s intent to make California the permanent residence includes registering to vote and voting in California elections; designating California as the permanent address on all school, employment, and military records; obtaining a California driver’s license or if a nonresident, a California identification card; obtaining California vehicle registration; paying California income taxes as a resident, including income earned outside California from the date residence is established; establishing an abode where one’s permanent belongings are kept within California; licensing for professional practice in California; and the absence of this evidence in other states during any period for which residence in California is asserted. Documentary evidence may be required. All relevant evidence will be considered in the classification determination.

Salary and Employment Information, University of California

<table>
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<th>FIELD OF STUDY</th>
<th>DEGREE LEVEL OF GRADUATES</th>
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<th>DEFINITE JOB COMMITMENT²</th>
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¹Source: A national survey of a representative group of colleges conducted by the College Placement Council, representing the 80 percent range of offers for December 1985 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.

²Source: The Job Market for UCLA’s 1985 Graduates. Percentages are based only on those students with bachelor’s degrees who began working full time immediately after graduation.
General Rules Applying to Minors
The residence of the parent with whom an unmarried minor (under age 18) child lives is the residence of the unmarried minor child. The residence of an unmarried minor who has a parent living cannot be changed by his or her own act, by the appointment of a legal guardian, or by relinquishing a parent's right of control. When the minor lives with neither parent, residence is that of the parent with whom the student lived last. The minor may establish residence when both parents are deceased and a legal guardian has not been appointed. Where the residence of the minor is derived, the California residence of the parent from whom it is derived must satisfy the one-year durational requirement.

Specific Rules Applying to Minors
(1) Divorced or Separated Parent Situations — The student must move to California to live with the California resident parent while still a minor (before the 18th birthday) in order to receive derivative California resident status. Otherwise, he or she will be treated like any other adult coming to California to establish legal residence.

(2) Parent of Minor Moves from California — A student who remains in the state after his or her parent, who was domiciled in California for at least one year immediately prior to leaving and has, during the student's minority and within one year immediately prior to the residence determination date, established residence elsewhere, shall be entitled to resident classification. This exception continues until the student has attained the age of majority and has resided in the state the minimum time necessary to become a resident so long as, once enrolled, he or she maintains continuous attendance at an institution.

(3) Self-Support — Nonresident students who are U.S. citizens or eligible aliens, who are minors or 18 years of age, and who have demonstrated the intent to make California their permanent home, and can evidence that they have been self-supporting and actually present within California for the entire year immediately prior to the residence determination date, shall be entitled to resident classification. This exception continues while the student remains a minor and has resided in California the minimum time necessary to become a resident. The student must petition for this exemption each term he or she is eligible.

(4) Two-Year Care and Control — Students who are U.S. citizens or eligible aliens shall be entitled to resident classification if immediately prior to the residence determination date, they have lived with and been under the continuous direct care and control of any adult or adults other than a parent for not less than two years, provided that the adult or adults having such control have been California residents during the year immediately prior to the residence determination date. This exception continues until the student has attained the age of majority and has resided in the state the minimum time necessary to become a resident, so long as continuous attendance is maintained at an institution.

Exemptions from Nonresident Tuition
(1) Member of the Military — A student who is a member of the United States military stationed in California on active duty, except a member of the military assigned for educational purposes to a state-supported institution of higher education, may be exempt from the nonresident tuition fees until he or she has resided in the state the minimum time necessary to become a resident. The student must petition for this exemption each term he or she is eligible.

(2) Spouse or Other Dependents of Military Personnel — Exemption from payment of the nonresident tuition fee is available to a spouse or to a natural or adopted child or stepchild who is a dependent of a member of the United States military stationed in California on active duty. Such exemption shall be maintained until the student has resided in California the minimum time necessary to become a resident. The student must petition for this exemption each term he or she is eligible. If a student is enrolled in an institution and the member of the military (a) is transferred on military orders to a place outside this state and continues to serve in the Armed Forces or (b) retires from active duty immediately after having served in California on active duty, the student shall retain this exemption under conditions set forth above.

(3) Child or Spouse of Faculty Member or Member of UC Management Program — To the extent that funds are available, the unmarried, dependent child under age 21 or the spouse of either a member of the University faculty who is a member of the Academic Senate or a member of the UC Management Program may be eligible for a waiver. Confirmation of the faculty member's membership in the Academic Senate or the manager's membership in the UC Management Program shall be secured each term before this waiver is granted.

(4) Child of University Employee — To the extent that funds are available, the unmarried, dependent child under 21 of a full-time University employee whose assignment is outside California (e.g., Los Alamos Scientific Laboratory) and who has been employed by the University for more than one year may be entitled to a waiver of the nonresident fee. The parent's employment status with the University shall be ascertained each term that the student requests the waiver.

(5) Children of Deceased Public Law Enforcement or Fire Suppression Employees — Children of deceased public law enforcement or fire suppression employees who were California residents and who were killed in the course of fire suppression duties or law enforcement duties may be entitled to an exemption of the nonresident fees.

Maintaining Residence During a Temporary Absence
A student's temporary absence from the state for business or educational purposes will not necessarily constitute loss of California residence unless the student has acted inconsistently with the claim of continued California residence during his or her absence. The burden is on the student to show retention of California residence during an absence from the state. Steps a student (or parent of a minor student) should take to retain California resident status for tuition purposes include:

(1) Continue to use a California permanent address in all records — educational, employment, etc.

(2) Satisfy California resident income tax obligations. Individuals claiming permanent California residence are liable for payment of income taxes on their total income from the date they establish California residence. This includes income earned in another state or country.

(3) Retain California voter's registration, voting by absentee ballot.

(4) Maintain California driver's license and vehicle registration. If it is necessary to change the driver's license and/or vehicle registration while temporarily residing in another state, these must be changed back to California within 10 days of the driver's license and within one year or when registration expires (whichever comes first) for vehicle registration.

Reclassification Petitions
Students MUST PETITION IN PERSON at the Registrar's Office for a change of classification from nonresident to resident status. All changes of status must be initiated prior to the late registration period for the term of attendance for which the student seeks reclassification.

California law requires that financial independence be included among the factors considered for students classified as nonresidents and seeking reclassification as residents. Financial independence will not be considered for graduate students who are teaching assistants, research assistants, or teaching associates employed on a 0.49 or more time basis for the term for which reclassification is sought. For detailed information regarding reclassification, contact the Campus Residence Deputy in 1134 Murphy Hall (825-3447).

Time Limitation on Providing Documentation
If additional documentation is required for either an initial residence classification or reclassification but is not readily accessible, the student will be allowed a period of time no later than the end of the applicable term to provide such documentation.
Incorrect Classification

All students classified incorrectly as residents are subject to recalculation and to payment of all nonresident fees not paid. If incorrect classification results from false or concealed facts by the student, the student is 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 CAMPUS RESIDENCE DEPUTY, Office of the Registrar, 1134 Murphy Hall, 405 Hilgard Avenue, Los Angeles, CA 90024 (625-3447) or to the Legal Analyst-Residence Matters, 590 University Hall, Berkeley, CA 94720. NO OTHER UNIVERSITY PERSONNEL ARE AUTHORIZED TO SUPPLY INFORMATION RELATIVE TO RESIDENCE REQUIREMENTS FOR TUITION PURPOSES. The student is cautioned that this summation is NOT a complete explanation of the law regarding residence. A copy of the regulations adopted by The Regents of the University of California is available for inspection in the Registrar's Office, 1134 Murphy Hall. Please note that changes may be made in the residence requirements between the publication date of this statement and the relevant residence determination date. Any student, following a final decision on residence classification by the Residence Deputy, may make a written appeal to the Legal Analyst within 90 days of the notification of the final decision by the Residence Deputy.

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 a student is a legal resident for tuition purposes. Registration cannot be processed without this information. The Registrar's Office on campus maintains the requested information. The student has the right to inspect University records containing the residence information requested on the form.

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 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.

Student Grievance Procedures

Grounds for student grievance are the application of nonacademic criteria such as considerations of race, politics, religion, sex, or evaluation of student work by criteria not directly reflective of performance related to course requirements. Students having such a grievance should talk to the instructor of the course, the department chair, the dean or divisional dean of the college or school, and the vice chancellor — faculty relations, in that sequence.

If the dispute is not resolved through these discussions, a grievance may be filed with the Charges Committee of the Academic Senate (3125 Murphy Hall). If it is determined that probable cause exists for violation of the faculty code of conduct, the grievance is then brought to the Committee on Privilege and Tenure.

If an instructor in charge of a course has been determined by the Committee on Privilege and Tenure to have assigned a grade on any basis other than academic grounds, that committee shall inform the divisional Academic Senate chair. Within a period of two weeks after notification, guided by the Committee on Committees, the divisional Senate chair shall establish an ad hoc committee to determine whether the grade shall be changed. The ad hoc committee shall consist of at least three members, with at least one member a representative of the department involved. The ad hoc committee will obtain whatever records are available and use these records to make a final decision concerning the grade. If the records are not adequate, then the committee may assign a grade of Pass, or allow the student to repeat the course without penalty. The ad hoc committee will report to the divisional chair, who shall report the change of grade to the Registrar. In order to protect the student, the grade shall be changed, if warranted, within four weeks following the formation of the ad hoc committee.

Correction of Grades

All grades, except DR, I, and IP, are final when filed by an instructor in the end-of-term course report. However, the Registrar 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 division 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.

Undergraduate Final Examinations

No student shall be excused from assigned final examinations except as provided below.

The instructor in charge of an undergraduate course shall be 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 methods 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 shall not exceed three hours' duration and shall be given only at the times and places established by the department chair and the Registrar.

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 quarter of instruction, during which period students shall have access to their examinations.
Student Conduct: Violation of University Policies

Students are subject to disciplinary action for several types of misconduct, including dishonesty such as cheating, plagiarism, or knowingly furnishing false information to the University; forgery or other misuse of University documents, keys, or identifications; theft or damage to property; unauthorized entry to University properties; disruption of teaching, research, administration, disciplinary procedures, or other University activities; physical abuse or threats of violence; disorderly conduct; disturbing the peace; the use, possession, or sale of narcotic or illegal drugs on campus 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), UCLA Student Conduct Code of Procedures, and UCLA Activity Guidelines. Copies of these booklets are available in the Dean of Students Office, 2224 Murphy Hall, or the Center for Student Programming, 161 Kerckhoff Hall.

In addition, the Dean of Students 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.

Disclosure of Student Records

Pursuant to the Federal Family Educational Rights and Privacy Act of 1974, the California Education Code as amended in 1976, 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 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 the University of disclosures of personally identifiable information from their student records, except as provided by the Federal and State Laws and the University Policies; (4) to seek correction of their student records through a request to amend the records and subsequently through a hearing; and (5) to file complaints with the Department of Education regarding alleged violations of the rights accorded them by the Federal Act.

The University may publish, without the student's prior consent, items in the category of "public information," which are name, address, telephone number, date and place of birth, major field of study, dates of attendance, degrees and honors received, the most recent previous educational institution attended, participation in officially recognized activities (including but not limited to intercollegiate athletics), and the name, weight, and height of participants on intercollegiate athletic teams. Students who do not wish all or part of the items of "public information" disclosed may, with respect to address and telephone number, so indicate on the UCLA Address/Data portion of the Registration Form, and with respect to the other items of information, by filling out a Decline to Release Public Information form available in the Registrar's Office, 1105 Murphy Hall.

Student records which are the subject of the Federal and State Laws and the University Policies may be maintained in a wide variety of offices. Students are referred to the UCLA Campus and CHS Directory which lists all the offices which may maintain student records, together with their campus address, telephone number, and unit head. Students have the right to inspect their student records in any such office subject to the terms of the appropriate Federal and State Laws and the University Policies.

A copy of the Federal and State Laws, the University Policies, and the UCLA Campus and CHS Directory may be inspected in the office of the Records Management Coordinator, Business Enterprises Administration Building, 270 De Neve Drive. Information concerning these matters and students' hearing rights is also available there.
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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 64 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 the publication of the 1985-86 UCLA General Catalog.)

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School of Engineering and Applied Science
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*S. Charles Lee Chair in Architecture and Urban Design
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School of Management
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California Chair in Real Estate and Land Economics
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Warren C. Cordner Chair in Money and Financial Markets
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IBM Chair in Computers and Information Systems
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Times Mirror Chair in Management Strategy and Policy
Arthur Young Chair in Accounting

School of Medicine
Louis D. Beaumont Chair in Surgery
Bowyer Professorship of Medical Oncology
Judson Braun Chair in Biological Psychiatry
Joseph Campbell Chair in Child Psychiatry
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Castera Chair in Cardiology
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Della Martin Chair in Psychiatry
James H. Nicholson Chair in Pediatric Cardiology
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<table>
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<th>Department/Major</th>
<th>Counselor/Adviser</th>
<th>Address</th>
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<td>Aerospace Studies</td>
<td>Sally A. Cohen, Staff</td>
<td>208 Men's Gym</td>
<td>51743</td>
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<td>African Area Studies (Graduate)</td>
<td>Richard L. Folks, Faculty</td>
<td>212 Men's Gym</td>
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<td>John A. Distefano, Staff</td>
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<td>Teshome H. Gabriel, Faculty</td>
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<td>Phyllis Jergenson, Staff (G)</td>
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<td>Dance</td>
<td>Allegra Snyder, Faculty (G)</td>
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<td>Wendy Urfing, Staff (UG)</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 Wilshire Boulevard; right on Westwood Plaza.

**By Bus:**
- Schedule information is available by calling the following numbers:
  - Jiver City Municipal Bus Line: 202-5731 or 559-8310
  - Southern California Rapid Transit District: 626-4455
  - Santa Monica Municipal Bus Line: 451-5445
### CAMPUS LEGEND

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<tr>
<td>Architecture</td>
<td>C6</td>
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<td>Auxiliary Enterprises Administration Building</td>
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<td>Belt Library, Dickson Art Center</td>
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<tr>
<td>Boelter Hall</td>
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<td>Botanical Gardens</td>
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<td>Brain Research Institute</td>
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<td>Marion Davies Children's Center</td>
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<tr>
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<td>University Elementary School</td>
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<td>University Extension Building</td>
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<td>University Nursery School</td>
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<td>University Research Library</td>
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<td>Wooden Recreation and Sports Center</td>
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### Parking Structures and Lots

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<tr>
<td>I3</td>
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Parking Structures and Lots:

- Hilgard-Sunset (3)
- Hilgard-Westholme (2)
- Sunset-Westwood (5)
- Westwood-Circle Drive (9)
- Gayley-Landfair (14)
- Gayley-Strathmore (8)
- Medical Visitors (CHS)
- James West Center (6)
- Wooden Center (4)
- Parking Lot 1
- Parking Lot 32
## Correspondence Directory

University of California, Los Angeles, CA 90024  
Main campus telephone: (213) 825-4321

<table>
<thead>
<tr>
<th>Office</th>
<th>Location</th>
<th>Telephone</th>
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<tbody>
<tr>
<td>Academic Advancement Program</td>
<td>1209 Campbell Hall</td>
<td>825-1481</td>
</tr>
<tr>
<td>Accounting Services — Student Services</td>
<td>2333 Murphy Hall</td>
<td>825-5067</td>
</tr>
<tr>
<td>Admissions</td>
<td></td>
<td></td>
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<tr>
<td>Undergraduate</td>
<td>1147 Murphy Hall</td>
<td>825-3101</td>
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<tr>
<td>Graduate</td>
<td>1247 Murphy Hall</td>
<td>825-1711</td>
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<tr>
<td>Alumni Association</td>
<td>James West Center</td>
<td>825-3901</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</td>
<td>2224 Murphy Hall</td>
<td>825-3871</td>
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<tr>
<td>Financial Aid Office</td>
<td>A107 Murphy Hall</td>
<td>206-0432</td>
</tr>
<tr>
<td>Graduate Division</td>
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<tr>
<td>Affirmative Affairs Office</td>
<td>1242 Murphy Hall</td>
<td>825-2780</td>
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<tr>
<td>Fellowship and Assistantship Section</td>
<td>1228 Murphy Hall</td>
<td>825-3521</td>
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<tr>
<td>Student and Academic Affairs Section</td>
<td>1225 Murphy Hall</td>
<td>825-4226</td>
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<tr>
<td>Housing Office</td>
<td>100 Sproul Hall</td>
<td>825-4491</td>
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<tr>
<td>International Student Center</td>
<td>1023 Hilgard Avenue</td>
<td>825-3384, 208-4587</td>
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<tr>
<td>International Students and Scholars, Office of</td>
<td>105 Men’s Gym</td>
<td>825-1681</td>
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<tr>
<td>Libraries</td>
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<tr>
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<td>University Research Library</td>
<td>URL Building, North Campus</td>
<td>825-1201</td>
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<td>Ombudsman</td>
<td>274 Kinsey Hall</td>
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<td>Parking Service</td>
<td>280 GS 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>
<td>1134 Murphy Hall</td>
<td>825-1091</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>Students’ Store</td>
<td>B Level, Ackerman Union</td>
<td>825-7711</td>
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<tr>
<td>Summer Sessions</td>
<td>1254 Murphy Hall</td>
<td>825-8355</td>
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<td>University Extension</td>
<td>10995 Le Conte Avenue</td>
<td>825-9971</td>
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<tr>
<td>Visitors Center</td>
<td>1417 Peter V. Ueberroth Building</td>
<td>825-4338</td>
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