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
Development Studies
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
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
(see College of Letters and Science)
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
John E. Anderson 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

The aerial (helicopter) photographs on the cover and title page of this year's catalog provide a study in contrast.

On the cover: A dramatic view of the UCLA campus today. Looking northeast, the UCLA Medical Center dominates the foreground, with the Hollywood Hills and snow-capped San Gabriel Mountains against the blue sky. The northwest campus area, including Royce Hall, Pauley Pavilion, and the dormitories are visible on the back cover.

On the title page: The fledgling UCLA campus in 1929, with Royce, Haines, Kinsey, and Moore Halls and Powell Library forming a lonely little cluster amid the beanfields of Westwood.
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About This Catalog

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Director of Public Affairs
Publications: Hallie Masier
Principal Editor: Leann J. Hennig
Design: Robin Weisz, Juliet Beynon

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Please note
Every effort has been made to ensure the accuracy of the information presented in the UCLA General Catalog. However, all courses, course descriptions, instructor designations, curricular degree requirements, and fees described herein are subject to change or deletion without notice.

Other information about UCLA may be found in the announcements of the Schools of Architecture and Urban Planning, Dentistry, Education, Engineering and Applied Science, 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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## Calendar

<table>
<thead>
<tr>
<th>Event</th>
<th>Fall 1987</th>
<th>Winter 1988</th>
<th>Spring 1988</th>
</tr>
</thead>
<tbody>
<tr>
<td>First day to file undergraduate application with admissions officer, 1147 Murphy Hall (last day will depend on number of applications received)</td>
<td>November 1, 1986</td>
<td>July 1, 1987</td>
<td>October 1, 1987</td>
</tr>
<tr>
<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, 1987</td>
<td>October 1</td>
<td>December 31</td>
</tr>
<tr>
<td>Last day to file graduate petitions for change of major with Graduate Division, 1225 Murphy Hall</td>
<td>January 15</td>
<td>October 1</td>
<td>December 31</td>
</tr>
<tr>
<td>First day to obtain Student Parking Request forms at Campus Parking Service</td>
<td>May 1</td>
<td>October 5</td>
<td>January 11, 1988</td>
</tr>
<tr>
<td>Distribution of registration materials by letter groups for continuing students</td>
<td>June 1</td>
<td>October 26</td>
<td>February 1</td>
</tr>
<tr>
<td>Schedule of Classes goes on sale at Students' Store, Ackerman Union and North Campus Student Center</td>
<td>June 3</td>
<td>October 29</td>
<td>February 4</td>
</tr>
<tr>
<td>New and reentrant students eligible to register by mail should receive Registration Form at permanent address (weekly mailings)</td>
<td>June 19- August 21</td>
<td>October 30- November 20</td>
<td>January 29- February 19</td>
</tr>
<tr>
<td>Academic counseling for new students is available by appointment in college and school offices</td>
<td>July 1</td>
<td>Consult college or school</td>
<td>Consult college or school</td>
</tr>
<tr>
<td>*First mailing date for continuing student registration (fee payment)</td>
<td>July 1</td>
<td>October 5</td>
<td>February 11</td>
</tr>
<tr>
<td>Last day to submit Student Parking Request for campus parking permit</td>
<td>July 8 (1st run)</td>
<td>November 10</td>
<td>February 17</td>
</tr>
<tr>
<td>*First mailing date for continuing student enrollment in classes</td>
<td>July 15</td>
<td>November 5</td>
<td>February 11</td>
</tr>
<tr>
<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 Form by mail)</td>
<td>July 31</td>
<td>October 30</td>
<td>January 29</td>
</tr>
<tr>
<td>*First mailing date for new and reentrant student registration (fee payment) and enrollment in classes</td>
<td>August 5</td>
<td>November 5</td>
<td>February 11</td>
</tr>
<tr>
<td>Last day to file undergraduate application for readmission with Registrar, 1134 Murphy Hall (late applicants will pay a $50 late payment fee)</td>
<td>August 15</td>
<td>November 25</td>
<td>February 25</td>
</tr>
<tr>
<td>*Last mailing date for all students to enroll in classes</td>
<td>August 28</td>
<td>November 19</td>
<td>February 26</td>
</tr>
<tr>
<td>*Last mailing date for all students to register (pay fees)</td>
<td>September 4</td>
<td>December 11</td>
<td>March 4</td>
</tr>
<tr>
<td>Fee payments must be deposited in Cashier's Drop Slot, 1125 Murphy Hall</td>
<td>September 8-11</td>
<td>December 14-18</td>
<td>March 7-11</td>
</tr>
<tr>
<td>Mailing of Tentative Study List datamailer with results of enrollment processed by mail, and appointment for undergraduate enrollment in person</td>
<td>September 10</td>
<td>November 23</td>
<td>March 1</td>
</tr>
<tr>
<td>FEE PAYMENT DEADLINE</td>
<td>September 11</td>
<td>December 18</td>
<td>March 11</td>
</tr>
<tr>
<td>Registrar mails valid Reg Card datamailer</td>
<td>September 14</td>
<td>December 22</td>
<td>March 14</td>
</tr>
<tr>
<td>LATE registration in person with $50 fee, 8:30 a.m. to 5 p.m.</td>
<td>September 14- October 9</td>
<td>December 21-23, 29-30, January 4-15</td>
<td>March 14- April 8</td>
</tr>
</tbody>
</table>

### English as a Second Language Placement Examination (ESLPE)
- September 15, 22
- September 22

### Chemistry/Mathematics Preliminary Examination
- September 22
- September 22
- September 22

### Financial Aid check distribution
- September 22
- September 22
- September 22

### Issuing of UCLA Student I.D. Cards to new and reentering students begins
- September 22-23, 25
- September 22
- September 22

### Undergraduate enrollment in person by appointment
- September 23
- September 24

### French Placement Examination
- September 23

### Music Placement Examination
- September 23

### Spanish and Portuguese Placement Examination
- September 24
- September 24

### Subject A Placement Examination and Proficiency Examinations for English 3 Classes will be dropped if fee payment is not completed by 5 p.m.
- September 24
- September 25
- September 28

### INSTRUCTION BEGINS
- September 24
- September 25
- September 28

### Change in Study List without fee, 8:30 a.m. to 5 p.m.
- September 28-October 9

*Tentative dates; refer to Schedule of Classes for specific quarter.*
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 1988-89
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
Final Examinations
QUARTER ENDS
Unofficial copy of previous quarter’s grades available at Registrar’s Student Information, 1111 Murphy Hall
Commencement

<table>
<thead>
<tr>
<th>Fall 1987</th>
<th>Winter 1988</th>
<th>Spring 1988</th>
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</thead>
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<td>December 7-11</td>
<td>March 14-18</td>
<td>June 6-10</td>
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<tr>
<td>December 11</td>
<td>March 18</td>
<td>June 10</td>
</tr>
<tr>
<td>January 15, 1988</td>
<td>Consult department</td>
<td>Consult department</td>
</tr>
<tr>
<td>January 20</td>
<td>May 2</td>
<td>August 1</td>
</tr>
<tr>
<td>July 3</td>
<td>January 18</td>
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<td>September 7</td>
<td>February 15</td>
<td>May 30</td>
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<tr>
<td>November 26-27</td>
<td>March 21</td>
<td></td>
</tr>
<tr>
<td>December 24-25, 31</td>
<td>January 1</td>
<td></td>
</tr>
</tbody>
</table>

**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

From Little Acorns . . .
The year was 1880. With a population of 11,000, Los Angeles was a gaslit pueblo trying to convince the state to establish in Southern California a second 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: University of California at Los Angeles (the “at” became a comma in 1958).

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

The choice of Westwood, set squarely in the path of westward-moving Los Angeles, no doubt was an important factor in determining UCLA’s future growth. But in 1929, on the barren, chaparral-covered hills of Westwood, the four original buildings — Royce Hall, Powell Library, Haines and Kinsey Halls — formed a lonesome little cluster in the middle of 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.
Over 150 buildings on 411 acres house 13 colleges and schools and serve over 33,000 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, snowcapped mountains, and ski resorts are little more than an hour's drive.

The Ambience

The stately Tudor Gothic and Italian Romanesque architecture of the UCLA's 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. Contrasting campus moods range from the activity of Bruin Walk to the serenity of the Japanese Garden. Attend a rock concert on the lawn, or a classical recital in Schoenberg Hall. Contemplate a Rodin or a Lachaise in the Sculpture Garden, or participate in a political rally in Meyerhoff Park.

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

UCLA is a place for serious study in a vibrant, dynamic atmosphere. You must visit the campus to appreciate it. The Visitors Center, located in 1417 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 (625-8764) 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 29,500 students is equal to that at UC Berkeley, but the UCLA campus is enriched by an additional 3,700 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. Although large lecture groups in some introductory courses are not unheard of, 93 percent of all lower division lecture classes in 1985-86 had fewer than 200 students, and the University is making every effort to further reduce class size. Students in most lecture classes also enroll in discussion sections of about 25 students, and seminars and laboratory classes usually have fewer than 20 students. There is an overall ratio of one faculty member for approximately 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, John E. Anderson Graduate School of Management, School of Social Welfare and, in the health sciences, the Schools of Dentistry, Medicine, and Public Health.

Few universities in the world offer the extraordinary range and diversity of academic programs that students enjoy at UCLA. Undergraduates may earn a Bachelor of Arts or Bachelor of Science degree in one of 105 different disciplines; graduate students may earn one of 77 master's and 94 doctoral and professional degrees.

Academic programs undergo a continuing process of review and evaluation to maintain their excellence, and new programs are added as they are approved by The Regents. New for this fall, for example, is a doctoral program in the School of Nursing which will culminate in a Doctor of Nursing Science degree.

**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. In 1985-86 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 nearly $195 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 most students are from California, they come from all 50 states and more than 100 foreign countries to study at UCLA. International students number more than 1,900, making this one of the most popular American universities for students from abroad. And UCLA now enrolls the most ethnically mixed and culturally diverse undergraduate student population — both in total students and as a percentage of enrollment — of any major university in the United States. 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 150,000 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 members and certain administrative officers, determines the conditions for admission and granting of degrees, authorizes and supervises courses and curricula, and advises University administrators on budgets and faculty appointments and promotions. Individual divisions of the Universitywide Academic Senate determine academic policy for each campus. Students participate in policy-making at both campuswide and systemwide levels.
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 5,000 funded programs are in progress at a given time. One focus of these efforts is a group of "organized research units" (ORUs) which provide an interdisciplinary approach to the search for knowledge.

ORUs are study centers and research institutes consisting of faculty and students from various departments engaged in continuing research of particular subjects. They do not offer courses of instruction or degrees, although several work in conjunction with interdepartmental instruction programs which lead to bachelor's and/or advanced degrees. ORUs provide invaluable experience for students and faculty in 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 (73-369 BRI, 825-5051). It has the largest investigative program of its kind in the country, with more than 160 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 on the fourth through eighth floors of the Neuropsychiatric Institute and Hospital, provides laboratories and clinical facilities for research and training in mental retardation and related aspects of human development. Its interdisciplinary activities range from anthropological studies to molecular aspects of inherited metabolic diseases. Administrative offices are located in 58-258 NPI&H (825-0313).

The 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 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 MBL (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, programs for affiliated and visiting scholars, a Directory of UCLA Scholars, an ongoing faculty research seminar, and a public lecture series on Women, Culture, and Society. In collaboration with other UC campuses, women's studies programs, and community groups, the center seeks to address public policies affecting women's lives.

Physical Sciences and Engineering

The CRUMP INSTITUTE FOR MEDICAL ENGINEERING, located in the Taper Center (Veteran Avenue and Weyburn Drive), 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 regimens, 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. Administrative offices are located in 1320 Taper Center (825-4111).

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 PLASMA AND FUSION RESEARCH INSTITUTE, an ORU formed by The Regents in early 1987 and temporarily located in 6291 Boelter Hall (825-1613), is dedicated to research into plasma physics, fusion energy, and the application of plasmas in other, often unrelated, disciplines. Students, professional research staff, and faculty, generally working in groups, study basic laboratory plasmas, plasma-fusion confine-
ment experiments, fusion engineering and nuclear technology, computer simulations and the theory of plasmas, advanced plasma diagnostic development, laser-plasma interactions, and the use of plasma in applications ranging from particle accelerators to the processing of materials and surfaces used in microelectronics or for coatings.

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 Substances 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 and 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 research 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, 825-3686) 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 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 1101J 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 Southern California Social Survey. The institute is located in 9240 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 John E. Anderson Graduate School of Management forecasts short-run and long-run economic activity both regionally and nationally. 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. And a brand new Center for Chinese Studies is developing a major Chinese studies program as well as a graduate program in Chinese historical studies for UCLA students.

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 postdoctoral 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 2223 Campbell Hall (206-8652), coordinates the research activities of more than 100 faculty members studying the development of civilization in the early modern period. It is an extension of and includes the programs of UCLA’s 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 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
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 Memorial Library, and 16 specialized subject libraries. Collectively they contain nearly six million volumes and extensive holdings of government publications, pamphlets, manuscripts, maps, microforms, music scores, recordings, photographs, and slides. They regularly receive over 80,000 serial publications.

ORION, the library’s on-line information system, provides location and holdings information for materials acquired or cataloged since 1977, an increasing percentage of older materials, and current information for materials on order or in processing. ORION public access terminals are located in most campus libraries. ORION on Fiche, available in all campus libraries, is a quarterly microfiche list of information contained in the ORION data base. The main card catalog in the University Research Library lists older holdings in all campus libraries.

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.

University Research Library
The University Research Library on north campus is a modern six-story building designed primarily as a graduate research library serving the social sciences 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 Service, with some 1,086,000 microcopies of newspapers, books, and periodicals, has a variety of reading and copying equipment. During academic sessions library hours are weekdays 8 a.m. to 11 p.m. (6 p.m. Friday), Saturday 9 a.m. to 5 p.m., Sunday 1 to 10 p.m.

The Department of Special Collections in the Research Library contains rare books and pamphlets, the University Archives, early maps, and files of early California newspapers. Manuscript collections include the literary papers of Henry Miller and Anais Nin, as well as the private papers of Jack Benny, Charles Laughton, Carey McWilliams, King Vidor, and Nobel Peace Prize winner Dr. Ralph J. Bunche, a UCLA alumnus. Other significant holdings include the Sadleir Collection of nineteenth-century fiction, generally regarded as the finest of its kind, and the Ahmanon-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 are current English-language, nongovernmental pamphlets on public affairs representing a wide spectrum of political and social opinion, with strong emphasis on social welfare, economic, social, and political conditions, and industrial relations.

College Library
The College Library, located in the Powell Library Building, 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 are weekdays 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 Powell Library reading rooms, with study space for 1,100 students, are open daily until midnight. The Photographic Services office, housed in the Powell Library Building, provides a complete photographic reproduction service for duplicating books, periodicals, manuscripts, and maps.
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 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 425,000 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 geoscience, invertebrate paleontology, planetary and space science, and hydrology.

The 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 John E. Anderson 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 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. The University Elementary School Library contains contemporary materials for children from kindergarten through junior high school age.

Clark Memorial Library

Supplementing the University Library is the 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

The UCLA FILM AND TELEVISION ARCHIVE is a living resource equally respected by industry and scholars. Students use the collections to learn the finer points of production techniques and to study the careers of leading actors, directors, and other figures in the entertainment industry, many of whom also use the archive. The campus office is located in 1438 Melnitz Hall and is open Monday through Friday from 9 a.m. to 5 p.m. For information and/or viewing appointments, call 206-8013.

The Motion Picture Collection, with more than 30,000 films, is the country's largest collection 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 studio print libraries from Twentieth Century-Fox, Paramount Pictures, Warner Brothers, Columbia Studios, New World Pictures, Universal Studios, and Orion. Special collections document the careers of William Wyler, Hal Ashby, Tony Curtis, Rosalind Russell, Stanley Kramer, Cecil B. DeMille, Harold Lloyd, and other persons of prominence in the American film industry.

The Television Collection, operated jointly by the Academy of Television Arts and Sciences and UCLA, is the nation's largest university-based collection of television broadcast materials. Its 25,000 titles include kinoscopes, telefilms, and videotapes spanning television history from 1947 to the present, with emphasis on network news, drama, comedy, and variety programming.

Other archive collections include the Collection of Television Technology and Design, with over 300 historical television cameras and receivers dating from the 1930s, and a Radio Study Collection. Radio holdings include programs featuring Jack Benny, Bing Crosby, and Edward R. Murrow, as well as episodes from the Screen Directors Playhouse and Halmark Hall of Fame series.

Art Galleries and Museums

A tour of all the UCLA museums and art galleries will take you from one corner of campus to the other. In the course of three decades UCLA's WIGHT ART GALLERY COMPLEX has evolved into a multifaceted museum, responsive to the needs of the University and the general public. Part of the College of Fine Arts, the complex includes the Wight exhibition galleries, with 14,000 square feet of exhibition space in which to mount approximately 12 exhibitions per year, the Grunwald Center for the Graphic Arts, and the Murphy Sculpture Garden.

Located in Dickson Plaza on north campus, the Wight Art Gallery is open Tuesday 11 a.m. to 8 p.m., Wednesday through Friday 11 a.m. to 5 p.m., Saturday and Sunday 1 to 5 p.m. (closed Monday, major holidays, and July and August). Admission is free. Daily tours are offered by the UCLA Art Council docents; special group tours may be arranged by calling 825-3264. The administrative office is located in 1100 Gallery Building. For a schedule of exhibitions, call 825-9345.

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 thirteenth 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 Tuesday through Friday from 2 to 5 p.m. and by appointment.

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

The MUSEUM OF CULTURAL HISTORY is internationally known for the quality of its collections and exhibits. Its collections encompass the arts and material culture of much of the world, with particular emphasis on West and Central Africa, Oceania, and Latin America. The museum, located in 55A Haines Hall (825-4361), offers assistance with instruction and research and sponsors major exhibitions, lecture programs, and symposia. Gallery hours are Wednesday through Sunday noon to 5 p.m.
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 eight VAX 750 systems for the Program in 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 North-ern, 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 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 170,000 dried plant specimens. The administrative office is located in 124 Botany (825-3620).

The 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 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 gradu-
ate 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 100 Dodd Hall (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 weekdays from 8 a.m. to 6 p.m. and until 5 p.m. on Friday (825-9971).

**Education Abroad Program (EAP)**

Each year, more than 1,000 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 57 different campuses in 28 countries: Australia, Austria, Brazil, China, Costa Rica, Egypt, England, France, Germany, Hong Kong, Hungary, India, Ireland, Israel, Italy, Japan, Kenya, Korea, Mexico, Norway, Peru, Portugal, Scotland, Sierra Leone, Spain, Sweden, Taiwan, 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 (1) completed a minimum of 90 quarter units (junior standing) prior to departure, (2) at least a B average (3.0 GPA) overall at the time of application, and (3) the support of the UCLA EAP Selection Committee. Some 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 $5,717 to $9,082, but University financial aid is available. Applications must be filed several months in advance. For more information, contact the EAP Office in 28 Haines Hall (825-4889, 825-4995).

**Education at Home Program**

Students interested in early American history and culture have the opportunity to spend Winter Quarter 1988 “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 Susan Braddock at (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 assistant 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 colloquium 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 825-3686.

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

The colloquium sponsors presentations by leading experts in these fields, including faculty members from UCLA, other UC campuses, and other universities, and meets on alternate Fridays from 1 to 3 p.m. in 2270 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 for or follow up on them as soon as possible. If you plan to live off campus, arrive early to make your housing arrangements for the coming academic year. Some students even pay rent year-round to insure accommodations, and try to sublet during the summer months.

The UCLA Community Housing Office, 270 De Neve Drive, (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 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 (Hitch and Saxon Residential Suites) accommodate nearly 4,000 undergraduates. There is one residence hall, Hershey Hall, which houses some 335 graduate students. All on-campus housing is coed and within walking distance of 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 20 (May 19 for graduate students) for Fall Quarter 1987
- October 30 for Winter Quarter 1988
- January 29 for Spring Quarter 1988
- March 18, 1988 (May 20 for graduate students) for Fall Quarter 1988

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 1987-88 academic year (Fall, Winter, and Spring Quarters, excluding vacation periods) is $3,345 for residence halls and $3,945 for suites, plus a $21.45 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 1987-88, excluding utilities, are expected to range from $345 to $481 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

Over 300 shared apartments for single students in four off-campus facilities are maintained by the University. Three of the locations are within walking distance of campus and the fourth, 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 1986-87 varied between $525 and $900 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

Many of the 54 fraternities and sororities at UCLA own chapter houses on the west and east sides of campus respectively. You must be a member to live in the house and generally will be able to move in after your first year of active membership. Room, board, and dues are about the same as the monthly residence hall fee. During the summer break, most fraternities with chapter houses lease rooms to students, Greek or not. For more information, contact the Office of Fraternity and Sorority Relations, 118 Men’s Gym (825-6322).
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 $525 per month for efficiency units and $750 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. House sitting 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.

Transportation

There are several different means of transportation to and from campus other than using your car. Bus lines connect UCLA to Santa Monica, Culver City, Beverly Hills, and most of Los Angeles. Bicycles, mopeds, and motorcycles are all popular ways to get around other than using your car. Bus lines connect UCLA to Santa Monica, Culver City, Beverly Hills, and most of Los Angeles. Bicycles, mopeds, and motorcycles are all popular ways to get around other than using your car.

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 and/or the Office for Students with Disabilities. If you do not receive a permit, you must reapply every quarter to be reconsidered. For more information, call the Campus Parking Service at 825-8871.

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 Cooper-age 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. Hours are weekdays 8 a.m. to 12:30 a.m. (1:30 a.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 weekdays 7:30 a.m. to 11 p.m. (6 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. Hours are weekdays 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-fried 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. Hours are weekdays 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 weekdays 9 a.m. to 4 p.m. (3 p.m. Friday), 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. Hours are weekdays 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. Hours are weekdays 7 a.m. to 1 a.m., weekends 10 a.m. to midnight.

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

LU VALLE COMMONS, located adjacent to the Graduate School of Management, features deli food, hamburgers, and other grilled specialties. Hours are weekdays 7:30 a.m. to 7:30 p.m. (5:30 p.m. Friday), Saturday 10 a.m. to 5 p.m., Sunday noon to 5 p.m.

Within Lu Valle Commons is Jimmy’s Coffee House, featuring coffee, teas, and cheesecake. Hours are weekdays 7:30 a.m. to midnight, Saturday 10 a.m. to 10 p.m., Sunday 11 a.m. to 10 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, school and art supplies, calculators and other electronic items, UCLA insignia merchandise (Bearwear), men’s and women’s sportswear, groceries, health/beauty aids, and greeting cards. The University’s computer purchase program is administered through the Main Store — Macintosh, IBM, and Zenith computers are available to students, faculty, and staff at discounts up to 40 percent. Selected software is discounted as much as 75 percent. Hours during regular school sessions are weekdays 7:45 a.m. to 7:30 p.m. (6 p.m. Friday), Saturday 10 a.m. to 5 p.m., Sunday noon to 5 p.m.

The Health Sciences Store (13-126 CHS, 825-7721) specializes in books and supplies for students in dentistry, medicine, public health, and related areas. The Lu Valle Commons Students’ Store (just south of GSM, 825-7238) carries convenience items, magazines, and general books for the north campus area, as well as textbooks for selected graduate programs (law, management, architecture, urban planning, social welfare). The North Campus Shop (in the North Campus Student Center, 206-0751) is a small convenience store offering school supplies and snacks.

Job Opportunities on Campus

ASUCLA reserves over 1,800 part-time jobs for UCLA students in food service, the students’ stores, Graphic Services, and other departments. 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 weekdays 9 a.m. to 4 p.m.

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 weekdays 9 a.m. to 4 p.m.

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 weekdays 8:30 a.m. to 5:30 p.m. A satellite Graphic Services Center is located in Lu Valle Commons (825-7568).

A new addition to the Graphic Services Kerckhoff Hall office is the Macintosh and Laser Rental Service (206-8454). Macintosh computers are available for hourly rental; term papers, newsletters, and flyers may be output on a Laserwriter or Imagewriter printer. Weekend and evening hours are available during busy periods; call for the latest information.

Meeting Rooms

A variety of meeting rooms is 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. Hours are weekdays 8:30 a.m. to 6 p.m., Saturday 11 a.m. to 3 p.m.

Student Activities

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

In addition to its Services and Enterprises division, which is responsible for the services described above, ASUCLA includes the Undergraduate Students Association, the Graduate Students Association, and the Communications Board, which publishes the Daily Bruin and other campus student publications. Governed by a 10-member Board of Control, ASUCLA operates and manages Ackerman Union, Kerckhoff Hall, North Campus Student Center, and Lu Valle Commons.

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

Undergraduate Student Government — The Undergraduate Students Association (USA), 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.

Many student 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 UCLA Prison Coalition, providing tutoring 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 Pacific 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 — 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 (206-8512).

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 500 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 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 and estimates for services in the public events area and reserves most campus public assembly facilities, classrooms, and auditoriums. A CASO manager maintains office hours at the Center for Student Programming to assist students. 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 provide the security of friendship and academic support while encouraging personal development and expansion. Members have group and individual responsibilities related to their particular interests and talents, and all take part in the group’s programs and support networks. “Greeks” follow their founding principles of service, scholarship, and friendship. There is a place for anyone who will contribute to a group experience, and the cost to live in a chapter house is no more than living in a campus residence hall, although many members “live out.”

For information on joining the more than 5,000 other students in “greek” life, contact the Office of Fraternity and Sorority Relations, 118 Men’s Gym (825-6322).

Fraternities

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Billboards announcing candidates for 1987 undergraduate student government elections line Bruin Walk.
Sororities
Alpha Chi Omega
Alpha Delta Pi
Alpha Epsilon Phi
Alpha Kappa Alpha
Alpha Phi
Chi Alpha Delta
Chi Omega
Delta Delta Delta
Delta Gamma
Delta Sigma Theta
Delta Zeta
Gamma Phi Beta
Kappa Alpha Theta
Kappa Delta
Kappa Kappa Gamma
Phi Mu
Pi Beta Phi
Sigma Delta Tau
Sigma Gamma Rho
Sigma Kappa
Theta Kappa Phi
Zeta Phi Beta

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, Whoopi Goldberg, David Letterman, Joan Rivers, Bob Hope, Lily Tomlin, Bill Murray, and Bette Davis from the entertainment world; Jimmy Carter, Jesse Jackson, 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 Chicano and Latinx, 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.

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The UCLA yearbook, Bruin Life, is one of the largest student publication efforts on campus. Available each spring, it contains photographs and information on graduating seniors, athletic teams, 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. KCLA 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 ethnomusical program allows you to perform with various non-Western and ethnic groups. Campus choral organizations include a Concert Choir, Chamber Singers, Women's Chorus, Men's Glee Club, and the Collegiate Chorus which, with 120 members, is the largest of the groups.

The 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 Marcel Marceau, Isaac Stern to Cleo Laine, Pierre Boulez to 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 1985-86 the UCLA men's athletic program placed first in the national all-around excellence competition and has won the award seven times. The women's program placed fourth in polls conducted by the Santa Monica Evening Outlook and the Knoxville Journal and has won those awards several times. 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 51 NCAA men's championships — second highest in the nation — including 15 in tennis, 12 in volleyball, and 10 in basketball under the legendary John Wooden. In addition, the basketball team, led by Coach Walt Hazzard, won the 1987 Pacific-10 Conference Tournament, and the gymnastics, track and field, and volleyball teams won 1987 NCAA titles. 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 volleyball and golf 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 Pauley Pavilion, which seats 12,543 for UCLA basketball, volleyball, and gymnastics events. It was the site of the 1984 Summer Olympics gymnastics competition. Immediately adjacent, Drake Stadium is the home of UCLA track and field competitions and site of many outdoor events including Commencement. The Los Angeles Tennis Center, a 5,800-seat outdoor tennis stadium and clubhouse, was the site of the 1984 Olympic tennis competition. The refurbished Morgan Intercollegiate Athletics Center houses the UCLA Athletic Hall of Fame. Off-campus facilities include 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 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. Through 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 University Recreation Association in 2131 Wooden Center (825-3701).

RECREATION FACILITIES — UCLA students have several major facilities in which to practice and play. The Wooden Recreation and Sports Center is a comprehensive student activities building with several gymnasiums, 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-barbecue 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 department 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 or walk-in 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 weekdays are 8 a.m. to 5 p.m. 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 diagnosis, treatment, and 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 Medical 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 medical insurance, and it reserves the right to make the same requirement of all students.

A low-cost student Medical Insurance Plan (MIP) is available for purchase each quarter. You can enroll yourself in MIP by paying the additional medical insurance fee assessed on the UCLA Fee Statement portion of your quarterly Registration Form. There is no other enrollment form to complete; this is the only method available for enrolling yourself in MIP. For information regarding enrolling dependents in MIP and purchasing additional SuperCap coverage, call the SHS Insurance Office at 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 A3-062 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. Hours are weekdays 5 p.m. to 1 a.m., Saturday and Sunday 8 p.m. to 1 a.m. For more information, contact Clive D. Kennedy, Student Psychological Services, 4223 Math Sciences (825-4207).

Office of the Dean of Students
The Office of the Dean of Students, 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 Office of the Dean of Students also plays a role in administering campus discipline and applying the standards of citizenship which you are expected to follow at UCLA. Those standards involve complying with the policies and regulations governing this campus and being aware that 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 where possible, through mediation, those grievances (including sexual harassment). The office, located in 274 Kinsey Hall (825-7627), is independent in operation, and all matters are handled confidentially. Hours are weekdays 8 a.m. to 5 p.m.

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 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 5,100 international and immigrant students and 1,200 postdoctoral scholars. Together they provide a comprehensive orientation program for these students which helps them accomplish 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 trained to assist with questions about immigration, employment, government regulations, financial aid, cross-cultural adjustment, and personal matters.

The International Student Center, 1023 Hilgard Avenue (825-3384), 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
The Office for Students with Disabilities, A255 Murphy Hall (825-1501), provides services to students with permanent and temporary disabilities, including registration/enrollment assistance, special parking, fee deferments authorized by the California Department of Rehabilitation, readers, note takers, interpreters for the deaf, on-campus transportation, campus orientation, proctor and test-taking assistance, support group, and adaptive equipment. The office can also assist with arrangements for training and access to the Computer Program for the Disabled in Franz Hall.

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 Computing Microcomputer Laboratory, 2434 Franz Hall. For further information, call 825-6227.
Veterans’ and Social Security Services
Registrar’s Student Information, 1111 Murphy Hall, provides information for veterans and eligible dependents about V.A. educational benefits, tutorial assistance, the work-study program, and emergency loans; issues fee waivers to dependents of California veterans who are deceased or disabled because of service-connected injuries and who meet the income restrictions in Education Code Section 10652; and certifies student status for recipients of Social Security benefits.

Women’s Resource Center
The Women’s Resource Center, 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 five years. Fees range from $162 to $410 per month depending on the age of the child and amount of time enrolled in the program. The center is located in the northwest corner of campus between Veteran Avenue, Sunset Boulevard, and Bellagio Drive. The office is located in Bellagio Drive (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 the school one morning in every four that their child attends. The school, open weekdays 9 a.m. to noon and/or noon to 4 p.m., is located in the Family Student Housing Community Center. Fees range from $162 to $410 per month depending on the age of the child and amount of time enrolled in the program.

The University Parents Cooperative Nursery School offers a support- ive educational environment to children of the UCLA community aged three to five years. Hours are weekdays 8:30 a.m. to noon and/or noon to 4 p.m., 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
UCLA Police Department (24 hours) ............... 825-1491
Police Emergency (from campus phones) ............... dial 35
UCLA Emergency Medical Center (24 hours). ............... 825-2111
UCLA Escort Service (dusk to 1 a.m.). ............... 825-1493
Helpline (weekdays 5 p.m. to 1 a.m., weekends 8 p.m. to 1 a.m.) ............... 825-HELP
Crime Information (5 p.m. to 7 a.m.) ............... 825-7661

UCLA Alumni Association
For more than 50 years, in addition to supporting UCLA’s commitment to excellence in education, research, and community service, the UCLA Alumni Association has provided its members with the opportunity for intellectual, cultural, and social enrichment. With nearly 47,000 members, it ranks among the six largest dues-paying alumni groups in the country. Additionally, students, graduates, parents, faculty, staff, and University Extension students may join one of approximately 130 regional clubs, professional and school organizations, and support and honorary groups. Alumni participate in the many general interest programs as well.

The Alumni Association supports student events such as the Chancellor’s Freshman and Graduate Receptions and Mardi Gras, and through its Advisory and Scholarship Program, awards merit scholarships to freshmen and continuing students each year. Its Student Alumni Association sponsors UCLA’s Homecoming festivities and Spring Sing and holds “Dinners for Twelve Strangers,” which bring together students, alumni, and faculty. Parents’ Day and Bruin Survival Kits are also part of this program. 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 West Center, 325 Westwood Plaza (825-3901).
Undergraduate Study
Undergraduate Admission

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 of courses outlined later in this chapter. In addition, you should give careful thought to the general field of study, if 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 is based on your demonstrated overall preparation. Those applicants with the strongest preparation are offered admission.

Many elements are considered in the selection process, but the primary ones are (1) academic preparation — quality, level, and content of coursework, (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 mathematics and foreign language 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 Undergraduate Admissions Office. One application is used to apply to all UC campuses. You may apply to one UC campus for the initial $35 application fee; for each additional campus you select, you must pay an extra $20 fee per campus. Checks or money orders should be made payable to The Regents of the University of California. 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.

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. In addition you must submit official results of the Scholastic Aptitude Test (SAT) or American College Test (ACT) and three achievement tests; request that test results be sent directly to UCLA when you take each test.

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

<table>
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<th>The filing periods for applications are as follows:</th>
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<tr>
<td><strong>Winter Quarter 1988:</strong></td>
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<tr>
<td>File November 1-30, 1987 (Freshmen and transfers only)</td>
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<tr>
<td>File October 1-31, 1987 (Junior-level transfers only)</td>
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<tr>
<td><strong>Spring Quarter 1988:</strong></td>
</tr>
<tr>
<td>File July 1-31, 1987 (Junior-level transfers only)</td>
</tr>
<tr>
<td><strong>Fall Quarter 1988:</strong></td>
</tr>
<tr>
<td>File November 1-30, 1987 (Freshmen and transfers only)</td>
</tr>
</tbody>
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(Applications for admission to Fall Quarter 1987 would have had to be filed during November 1986.)

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 $100 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 minimum undergraduate admission requirements. The requirements are based on two principles: (1) the best indicator of success at the University is a record of high grades in previous schoolwork and (2) the completion of certain academic courses in high school prepares you to begin University work and choose a general field of study.

Fulfilling the minimum admission requirements, however, does not necessarily assure admission to 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. UCLA offers admission to those students with the best overall academic preparation.

As a state institution responsible to the legislature and the people of California, the University maintains a student affirmative action program to seek out and admit students from underrepresented minority groups. Though these applicants must still meet the UC eligibility requirements and demonstrate the ability to contend with the competition they will face at the University, their applications are screened in light of their historically and often economically deprived circumstances. UCLA is fully committed to student affirmative action and, for the foreseeable future, will take this element into account as one of many factors used to select students.

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 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. Obtain the Undergraduate Application Packet and submit the required application fees with the application form. The filing periods are the same as those for new applicants (see "When to Apply" at the beginning of this chapter).

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 medical insurance coverage, and by establishing absence of active tuberculosis. In addition, all international students must obtain an annual medical 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 1987-88 academic year, all such students returning in the same standing (undergraduate) must file applications for readmission as follows:

Filing Deadlines
August 15 for Fall Quarter 1987
November 25 for Winter Quarter 1988
February 25 for Spring Quarter 1988

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.
Registration and Enrollment

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 90024-1645, 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.

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

Last Mailing Dates
(Tentative only; refer to the Schedule of Classes for firm dates)

To Enroll in Classes by Mail:
August 28 for Fall Quarter 1987
November 19 for Winter Quarter 1988
February 28 for Spring Quarter 1988

To Register (Pay Fees) by Mail:
September 4 for Fall Quarter 1987
December 11 for Winter Quarter 1988
March 4 for Spring Quarter 1988

Fee Payment Deadlines
September 16 for Fall Quarter 1987
December 18 for Winter Quarter 1988
March 11 for Spring Quarter 1988

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 the days published by the Registrar in the Schedule of Classes and on the specific day and time printed on your Tentative Study List. Hours are 8:30 a.m. to 5 p.m.

Study List Changes
Tentative Study Lists showing enrollment results are mailed to each student prior to the enrollment in person period. During the enrollment in person period, 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 $1,430 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 1987 are current as of publication date but are subject to change without notice by The Regents.**

<table>
<thead>
<tr>
<th>Quarterly Expenses, Fall 1987</th>
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<tbody>
<tr>
<td>University registration fee</td>
</tr>
<tr>
<td>Education fee</td>
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<tr>
<td>Ackerman Student Union fee</td>
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<tr>
<td>Associated Students (ASUCLA) fee</td>
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<tr>
<td>Wooden Recreation Center fee</td>
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<tr>
<td><strong>Total for California residents</strong></td>
</tr>
<tr>
<td>Nonresident tuition fee</td>
</tr>
<tr>
<td><strong>Total for nonresidents</strong></td>
</tr>
</tbody>
</table>

The registration fee covers certain student expenses for counseling service, all laboratory and course fees, athletic and gymnasium facilities and equipment, lockers, registration, graduation, and care and treatment on campus by the Student Health Service. This fee is charged whether or not you make use of these services.

Other Fees

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

Fee Refunds

Students who formally withdraw from the University during the first five weeks of instruction may receive partial refunds of fees. For the refund schedule and more information, see “Withdrawal” in Chapter 4 of this catalog or 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 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.

Living Expenses

Printed below are the estimated yearly budgets for undergraduate California residents. Nonresidents must add the $4,290 annual tuition fee to their total expenses for an accurate estimate. Expenses cover the three regular session quarters of the 1987-88 academic year and do not include Summer Sessions. The budgets are designed to serve as a guide only.

<table>
<thead>
<tr>
<th>Estimated Annual Budgets for California Residents</th>
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<tbody>
<tr>
<td><strong>Single, Commuter, Living at Parents’ Home</strong></td>
</tr>
<tr>
<td>University Fees</td>
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<tr>
<td>Books and Educational Supplies</td>
</tr>
<tr>
<td>Food and Rent</td>
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<tr>
<td>Transportation</td>
</tr>
<tr>
<td>Personal</td>
</tr>
<tr>
<td><strong>Total Budget</strong></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, 270 De Neve Drive (825-4491).
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 90024-1435.

Applying for Financial Aid

The deadline for filing all undergraduate financial aid applications for academic year 1988-89 is early February 1988 (applications for 1987-88 would have had to be filed by March 1987). 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, to the extent that they can contribute, have primary responsibility for financing the cost of a student’s education. To permit an evaluation of need, all students who apply for need-based aid must provide financial information on the 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.

Financial need is a prerequisite only for University and name (endowed) scholarships other than those listed below. Each year approximately $300,000 is awarded from the many different scholarship funds. Awards range from $100 to $2,000 and are not renewable. You must reapply each year for continued consideration.

Regents Scholarships

One of the highest honors that may be conferred on an undergraduate student is the awarding of a Regents Scholarship. Unlike other University scholarships, these are awarded for four years to students entering from high school, and for two years to juniors. A UCLA faculty committee selects Regents Scholars on the basis of their exceptional academic achievement and promise. Financial need is not a criterion for this award; 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. Awards range from $500 to $2,000.

UCLA Alumni Association Scholarships

Alumni Scholarships are available to California high school graduates who will be UCLA freshmen in the Fall Quarter. No financial need is involved, but you must show academic promise. Alumni Scholarships are merit-based and competitively awarded; amounts 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.

Chancellor’s Scholarships

The Chancellor has established these honorary scholarships to recognize superior achievement among UCLA’s entering freshmen. A $300 honorarium is awarded to a limited number of semifinalists in the Regents Scholarship competition.

ROTC Scholarships

ROTC Scholarships are awarded on a competitive basis to U.S. citizens regardless of parents’ income. Scholarships provide tuition, a book allowance, fees, and a monetary allowance of $100 per month during the academic year. Applications for four-year scholarships may be obtained by calling the appropriate department at UCLA — Army, 825-7384; Air Force, 825-1742; Navy, 825-9975 — or by writing to Armed Forces Opportunities, P.O. Box 2865, Huntington Station, NY 11746-2102. When writing, specify which service (Army, Air Force, Navy/Marine) scholarship is desired. Completed applications should be submitted prior to August 15 for early consideration, but no later than December 1 of the year preceding college matriculation. Three- and two-year scholarship applications may be obtained from the appropriate UCLA department and should be submitted prior to February 1.
Bruin families enjoy UCLA's Cinco de Mayo festivities at the foot of Janss Steps.
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 1987-88 range from $200 to $2,100, depending on federal funding, 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 1987 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 $5,800. 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 check with various lending institutions to determine their particular loan policies, but the Financial Aid Office must process applications before you submit them to a lending institution. Applications are available at the Financial Aid Office, A227 Murphy Hall.

Perkins Loans
These low-interest loans (formerly known as National Direct Student Loans) are available to all students who are U.S. citizens, permanent residents, or refugees and who are carrying at least 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.

Emergency Educational Loans
You need not be receiving financial aid to apply for emergency loans. You may borrow up to $75 for immediate emergency needs; this amount is repayable within five weeks. To qualify, you must be a registered UCLA student with a satisfactory loan repayment record. Applications are available at the Student Loan Services Office, A227 Murphy Hall.

Guaranteed Student Loans (GSL)
Federal and California Guaranteed Student Loans are long-term budget-based loans made by banks, savings and loan associations, and credit unions. They are available to U.S. citizens, permanent residents, or refugees who are enrolled in at least a half-time program at UCLA. You should check with various lending institutions to determine their particular loan policies, but the Financial Aid Office must process applications before you submit them to a lending institution. Applications are available at the Financial Aid Office, A227 Murphy Hall. You must pass a need test in order to qualify for the loan.

Repayment of the GSL begins six to nine months after graduation or withdrawal and continues for a maximum of 10 years. If you receive a federal or state interest subsidy, the loan is interest-free while you are a student and for six to nine months thereafter. Undergraduates may borrow from $2,625 to $4,000 per academic year up to a total of $17,250. GSL processing takes approximately 10 to 12 weeks.

Work-Study Programs
Work-study is a need-based program designed to expand part-time job opportunities for students. The program allows you to work a maximum of 20 hours per week while attending school and 40 hours per week during breaks. An academic year’s work-study award may range from $1,000 to $6,000, but your gross earnings may not exceed the amount awarded to you. There are two basic work-study programs available.

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

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

<table>
<thead>
<tr>
<th>MAJORS</th>
<th>DEGREES</th>
<th>OTHER</th>
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</table>

## College of Letters and Science

- **African Studies** .................................................................................. B.A.
- **Afro-American Studies** ................................................................. B.A.
- **Anthropology** .................................................................................... B.A.
- **Asian American Studies** ................................................................. B.A.
- **Astronomy** .......................................................................................... B.A.
- **Atmospheric Sciences** ........................................................................ B.A.
- **Biology** .............................................................................................. B.S.
- **Business and Administration** .......................................................... B.A.
- **Chemistry and Biochemistry** ..............................................................
  - **Biochemistry** ................................................................................. B.S.
  - **Chemistry** ....................................................................................... B.S.
  - **General Chemistry** .......................................................................... B.S.
- **Chicano Studies** .................................................................................. B.A.
- **Classics** ..............................................................................................
  - **Classical Civilization** ................................................................. B.A.
  - **Greek** ............................................................................................... B.A.
  - **Latin** ............................................................................................... B.A.
  - **English/Greek** ................................................................................. B.A.
  - **English/Latin** .................................................................................. B.A.
- **Communication Studies** ........................................................................ B.A.
- **Cybernetics** ........................................................................................ B.A.
- **Development Studies** ........................................................................... B.A.
- **Diversified Liberal Arts** ......................................................................
  - **Program (taken jointly with an organized major)**

## Earth and Space Sciences

- **Geology** ............................................................................................... B.S.
- **Geology (Engineering Geology)** ........................................................ B.S.
- **Geology (Geochemistry)** ...................................................................... B.S.
- **Geology (Nonrenewable Natural Resources)** ........................................ B.S.
- **Geology (Paleobiology)** ................................................................. B.S.
- **Geophysics (Applied Geophysics)** .................................................... B.S.
- **Geophysics (Geophysics and Space Physics)** ..................................... B.S.
- **East Asian Languages and Cultures** ............................................... B.A.
  - **Chinese** ........................................................................................... B.A.
  - **Japanese** ........................................................................................ B.A.
- **East Asian Studies** ................................................................. B.A.
- **Economics** .......................................................................................... B.A.
  - **Computing, Specialization in** ............................................................ B.A.
  - **Economics/Business** ........................................................................... B.A.
  - **Economics/International Area Studies** ............................................. B.A.
- **Economics/System Science** ................................................................. B.S.
- **English** ............................................................................................... B.A.
- **French** ............................................................................................... B.A.
  - **French and Linguistics** ................................................................. B.A.
- **Geography** ......................................................................................... B.A.
  - **Computing, Specialization in** ............................................................ B.A.
  - **Geography/Ecosystems** ................................................................. B.A.
- **Germanic Languages** ................................................................ ........... B.A.
  - **German** ............................................................................................. B.A.
  - **Scandinavian Languages** ................................................................. B.A.
- **History** ................................................................................................ B.A.
  - **History/Art History** ............................................................... B.A.
- **Individual Field of Concentration** .................................................... B.A.
- **International Relations** ....................................................................... B.A.
  - **Special Program (taken jointly with the political science major)**
- **Italian** ............................................................................................... B.A.
  - **Italian and Special Fields** .............................................................. B.A.
- **Kinesiology** ........................................................................................ B.S.
- **Latin American Studies** ....................................................................... B.A.
- **Law and Society** ................................................................................ B.A.
  - **Special Program (taken jointly with the political science major)**
- **Linguistics** ........................................................................................ B.A.
- **African Languages** ............................................................................. B.A.
- **Computing, Specialization in** ............................................................ B.A.
  - **Linguistics and Anthropology** ........................................................ B.A.
  - **Linguistics and Computer Science** .................................................. B.A.
  - **Linguistics and East Asian Languages and Cultures** ........................ B.A.
  - **Linguistics and English** ................................................................. B.A.
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<td>Near Eastern Languages and Cultures</td>
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<tr>
<td>Ancient Near Eastern Civilizations</td>
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<td>Psychology/Biology</td>
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<td>Religion, Study of</td>
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<td>Slavic Languages and Literatures</td>
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<td>Russian Civilization</td>
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<td>Russian Linguistics</td>
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<td>Special Program (taken jointly with the sociology major)</td>
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<td>Portuguese</td>
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<td>Spanish</td>
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<tr>
<td>Spanish and Linguistics</td>
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<tr>
<td>Spanish and Portuguese</td>
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<tr>
<td>Urban Studies or Organizational Studies</td>
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<td>Special Program (taken jointly with an organized major)</td>
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<td>Women's Studies</td>
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<tr>
<td>World Arts and Cultures</td>
<td>B.A.</td>
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</table>

**College of Fine Arts**

| Art, Design, and Art History               | B.A.      |                            |
| Art                                         | B.A.      |                            |
| Art History                                 | B.A.      |                            |
| Design                                      | B.A.      |                            |
| Dance                                       | B.A.      |                            |
| History/Art History                         | B.A.      |                            |
| Music                                       | B.A.      |                            |
| Theater, Film, and Television               | B.A.      |                            |
| 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 keep informed and to comply with the rules, regulations, and policies affecting your academic standing and your life as a UCLA student. Consult this catalog, the college and school announcements, and the Schedule of Classes for the information you need; watch for official announcements in the Daily Bruin and on campus bulletin boards. Meeting academic deadlines, monitoring your Study List for accuracy, completing prerequisites, and fulfilling degree requirements are all part of your academic duties as a student. Living up to your responsibilities will add immeasurably to the value and enjoyment of your education (also see “Student Conduct” in the Appendix of this catalog).

Choosing Your Major

One of the most important decisions you will have to make in college is your choice of major — the field of study which represents your principal academic interest and which 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. 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.
As you work toward a bachelor's degree, be aware that in addition to unit requirements there are three types of requirements which you must satisfy. The first type consists of Universitywide requirements which all undergraduates must satisfy; the rest vary depending on your major and the college or school which offers it.

(1) University requirements (Subject A, and American History and Institutions);
(2) College or school requirements (e.g., credit and scholarship, English composition, general education requirements);
(3) Department requirements (courses in preparation for the major and in satisfaction of the major).

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

University Requirements

The University of California has established two requirements which all undergraduates must satisfy in order to graduate: Subject A, 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 one of the College Entrance Examination Board (CEEB) Advanced Placement Tests 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 the Subject A Examination. All freshmen from California high schools should have taken the Universitywide Subject A Examination in May 1987; others will take an examination at UCLA prior to their first quarter.

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 Examination). 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 course taken whether at UCLA or another UC campus. If you receive a final grade of C or less, you must repeat the course during your next quarter in residence. You will not receive credit for any English course exempt from this requirement by showing proof of temporary residence in the United States.

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). This requirement must be met even if you have received transfer credit for an acceptable college-level course in English composition at another institution and are thereby 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 Cor 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. Each course must be passed with a grade of C or better (C or a Passed grade is not acceptable). You must proceed in the English (ESL) 33 series until you complete course 33C. 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 bachelor's degree must satisfy the requirement in American History and Institutions by one of the following methods:

(1) Completing a year's course in American history or American government, or a one-year combination of both, in high school with an average grade of B or better, OR
(2) Completing any one of the following UCLA courses with a grade of C or better, or a grade of Passed:

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Course Code</th>
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<td>Afro-American Studies</td>
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<td>M104B</td>
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<td>M158C</td>
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<tr>
<td>Chicano Studies</td>
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<td>M159B</td>
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<td>Political Science</td>
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<td>180, 186</td>
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Equivalent courses completed in University Extension or at another college institution, and accepted by the Board of Admissions, may be used to fulfill the requirement, OR

(3) Presenting a satisfactory result of the requirement, by examination, as administered at another college or university within the state, OR
(4) Scoring 500 or better on the College Entrance Examination Board (CEEB) Achievement Test in American History, OR
(5) Scoring 3, 4, or 5 on the CEEB Advanced Placement Test in American History.

Candidates for a teaching credential, but not for a 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 residence in the United States.

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

Course Credit and Minimum Scholarship

In acceptable courses, the grades A through C and Passed denote satisfactory progress toward the bachelor's degree. 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.

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.

The normal program for undergraduate students is three to four courses (12 to 16 units) per quarter. All colleges and schools enforce minimum enrollment or minimum progress regulations. You may be subject to disqualification for failing to meet minimum progress requirements. Check with your college or school counselor. Please read the degree requirements section under each college and school for specific Study List limits. See Chapter 4 for information on concurrent enrollment, credit by examination and credit from other institutions, and special studies (199) course limitations.
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).

UCLA Internship Programs — More than 3,000 UCLA students have learned about the inner workings of government and business while serving in the programs, the largest of their 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, government agencies, and corporate offices 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.

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.

Community Service — Learning Programs — These programs enable students to study social and community issues in the context of economics, history, sociology, education, or urban planning while performing community services.

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.

Seminars are offered in the Fall, Winter, and Spring Quarters (consult the Schedule of Classes). Enrollment is limited to allow students close contact with professional school faculty members; lower division students are preferred. 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 special 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 and in several of the professional schools. 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, 825-1965 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 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.; inside the northwest entrance of Murphy Hall, weekdays 9 a.m. to 4 p.m. During registration and open enrollment periods 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.

**Office of Preparatory Programs**

The Office of Preparatory Programs, located in A316 Murphy Hall (206-1217), administers four important programs to help new students adjust and succeed academically at UCLA: Orientation, ARC Math/Sciences Tutorials, ARC Composition Tutoring Lab and ESL Service Courses Tutorials, and Student Athletes Tutorial Services. 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).

**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.
Tutorials

Sciences.

Student Athletes Tutorial Services

Because practice and competition schedules prevent student athletes from participating in the Academic Resources Center (ARC) tutorial services, evening and weekend tutorial services are available to intercollegiate athletes. Individual and group tutorials are provided to student athletes who request assistance during the first four weeks of the quarter. Trained tutors clarify content, teach study strategies and, in consultation with the instructor of record, develop problem-solving exercises and practice examinations to build learning and performance skills.

The coordinator is located on the second floor of the Morgan Center. For tutoring appointments and further information, call 206-1491.

Academic Advancement Program (AAP)

Located in Campbell Hall, the Academic Advancement Program is dedicated to expanding educational opportunities for over 4,500 underrepresented minority and low-income students. Through the Counseling Unit, Tutorial Unit, and Special Instructional Programs, AAP provides both personal and academic support services to its students in order to enhance their scholastic achievement and promote their successful pursuit of the bachelor's degree.

Counseling Unit

Throughout the academic year AAP freshman, advanced standing, learning skills, and peer counselors meet with students to facilitate their personal, social, and academic adjustment to UCLA and to assist them in clarifying problems, concerns, and goals. Individual counseling is available by appointment and on a walk-in basis; group counseling sessions are also available.

Incorporated within AAP in 1984, the federally funded Program Leading to Undergraduate Success (PLUS) provides counseling services to low-income, minority, and underprepared freshmen whose parents have never earned a bachelor's degree.

The Outreach Counseling Center, staffed by students who have made a successful academic transition to UCLA, provides a student perspective on courses, study materials, and educational goals. All peer counselors undergo thorough training in University policies and counseling techniques; they inform students about resources, services, clubs, and organizations on a one-to-one basis.

AAP also offers a series of workshops on time management, reading comprehension, examination preparation, note taking, professional and/or graduate school entrance examination preparation, and other areas of academic concern.

Tutorial Unit

The unit is staffed by approximately 200 upper division student tutors who provide academic support services in 15 major disciplines covering more than 450 different courses. Approximately 2,000 students receive tutoring every quarter on both an individual and group basis. Any AAP student is eligible to request tutoring.

Special Instructional Programs

The Freshman and Transfer Summer Programs are seven-week instructional programs which offer students a firsthand introduction to UCLA through in-class instruction, tutorials, and learning skills workshops. You receive guidance on academic planning and are assured enrollment in Fall Quarter classes. You also have the option of residence hall living or commuter status; cultural, social, and recreational activities, along with counseling assistance, are available to help you adjust to UCLA.

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

The Transfer Summer Program (TSP) is designed to improve the composition and general learning skills of incoming transfer students and to acquaint them with key campus resources and counseling/career information. The program consists of combinations of a composition course and an upper division course which, if completed successfully, yields credit toward the bachelor's degree.

For more information regarding eligibility, application, and/or specific questions on services, contact the AAP Office in 1209 Campbell Hall (825-1481).

Learning Resource Centers (LRC)

The Learning Resource Centers, a division of the Office of Instructional Development, include the Instructional Media Laboratory, Instructional Media Library, and Language Laboratory. All of these resources provide access to course-related audiovisual materials which supplement and enrich classroom instruction. For general information, contact the LRC Office in 46 Powell Library (206-1248).

The Instructional Media Laboratory provides individual student access to course-related interactive and videotape programs. Students, assigned by faculty to study specific supplementary materials, may learn at their own pace and at times that suit their individual schedules. Some self-instructional programs designed to improve learning skills are available. The laboratory is located in 290 Powell Library (206-1211).

The Instructional Media Library is UCLA's central resource for the collection and maintenance of educational and instructional media. Materials from the collection are loaned to regularly scheduled UCLA classes and may be rented by organizations and individuals from the campus community. The library is authorized to monitor compliance with University guidelines and federal copyright law governing the use of video recordings. Reference books from educational and feature film distributors are available. The staff assists in researching media on any subject and obtaining materials from outside sources. Two screening rooms, located in 46 Powell Library, are available by appointment (825-0755).

The Language Laboratory is a full-service audio facility for teaching and learning languages. Students enrolled in foreign language classes are assigned by faculty to practice pronunciation, comprehension, and listening 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.
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 units 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 and the School of Nursing, departmental honors and highest honors are awarded at graduation on your major department’s recommendation, based on successful completion of a departmental honors program. Consult your department for its requirements.

Departmental Scholar Program

Departments in all campus units except the School of Nursing may nominate exceptionally promising juniors and seniors as 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 Office of the Dean of Students, 2224 Murphy Hall (825-3871). Petitions are also used at UCLA to change your college or major, take more or fewer units than regulations permit, make late changes to your Study List, remove an Incomplete grade, or obtain credit by examination. In addition, you may petition for concurrent enrollment, double major, or waiver of scholarship requirements. Petitions for most of these exceptions are available from your college or school or department.

Golden Key

Golden Key is a national interdisciplinary academic honors organization dedicated to excellence. Students qualify on the basis of objective academic criteria: no more than the top 15 percent of enrolled junior and seniors may be eligible. The society recognizes and encourages scholastic achievement and excellence in all undergraduate fields of study, unites with collegiate faculties and administrators in developing and maintaining high standards of education, provides economic assistance to outstanding members by means of annual scholarships, and promotes scholastic achievement and altruistic conduct through voluntary service. Invitations are issued in Winter Quarter, and a reception is held in Spring Quarter. For more information, contact the Office of the Dean of Students, 2224 Murphy Hall (825-3871).

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 Office of the Dean of Students, 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 outstanding service to the University and community. Nominations are accepted from November through the end of January, and awards are presented at the annual Alumni Awards Ceremony in June. For more information, contact the UCLA Alumni Association in the 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, and excellent research centers, institutes, and laboratories in virtually every major discipline (see details in Chapter 1) all provide an extraordinary scope of opportunities for graduate endeavor.

Graduate training at UCLA takes place in the 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)**

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

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.

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<tr>
<th>1987-88 GRE Test Dates</th>
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<tr>
<td>October 10, 1987</td>
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<tr>
<td>December 12, 1987</td>
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<td>June 4, 1988 (general only)</td>
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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 a country where the official language is English and in which English is the spoken tongue and the medium of instruction, or who have completed at least two years of full-time study at such an institution, are exempt from both the TOEFL and the UCLA English as a Second Language Placement Examination (ESLPE). All other applicants must take 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
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<tr>
<th>MAJORS</th>
<th>DEGREES</th>
<th>OTHER</th>
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<td>African Area Studies</td>
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<td>Afro-American Studies</td>
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<td>American Indian Studies</td>
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<td>Anatomy</td>
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<td>Applied Linguistics</td>
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<td>Art (Art, Design)</td>
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<td>Dentistry</td>
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<td>Postgraduate Certificate Programs</td>
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<td>Earth and Space Sciences</td>
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<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>MAJORS</td>
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<td>Italian</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Kinesiology</td>
<td>M.S., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Latin American Studies</td>
<td>M.A.</td>
<td></td>
</tr>
<tr>
<td>Law</td>
<td>J.D., LL.M.</td>
<td></td>
</tr>
<tr>
<td>Library and Information Science</td>
<td>M.L.S., Ph.D.</td>
<td>Certificate of Specialization Program</td>
</tr>
<tr>
<td>Linguistics</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Management</td>
<td>M.B.A., Executive M.B.A., M.S., C.Phil., Ph.D.</td>
<td></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>Certificates of Postgraduate Medical Study</td>
</tr>
<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>
</tr>
<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>
</tr>
<tr>
<td>Nursing</td>
<td>M.N., D.N.Sc.</td>
<td></td>
</tr>
<tr>
<td>Pathology</td>
<td>M.S., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Experimental Pathology</td>
<td>M.S.*, Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Pharmacology</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Philosophy</td>
<td>M.S.*, M.A.T., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Physics</td>
<td>M.S.*, Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Political Science</td>
<td>M.A., C.Phil., Ph.D.</td>
<td></td>
</tr>
<tr>
<td>Public Administration</td>
<td>M.P.A. (not admitting new students at this time)</td>
<td></td>
</tr>
<tr>
<td>Psychiatry and Biobehavioral Sciences</td>
<td></td>
<td>Certificate Programs in Clinical Psychology Internship and Mental Retardation and Other Developmental Disabilities</td>
</tr>
<tr>
<td>Social Psychiatry</td>
<td>M.S.P. (not admitting new students at this time)</td>
<td></td>
</tr>
<tr>
<td>Psychology</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. (not admitting new students at this time)</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.A., C.Phil., 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>
</tr>
<tr>
<td>Spanish and Portuguese</td>
<td>M.A.</td>
<td></td>
</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>M.A., M.F.A., C.Phil., Ph.D.</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.*
which you are to register. This requirement must be met 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 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, 100 Dodd Hall. 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. Transcripts of all academic work previously submitted and your UCLA graduate transcript if you are returning to UCLA after more than 10 years.

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.) Your UCLA graduate transcript must also be submitted.

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.
Registration and Enrollment

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 90024-1645, 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.

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

Complete the request, obtain your adviser's signature approval, and file it with your major department by the tenth day of classes. There is a $50 fee for late filing of the Study List Request. To be enrolled for credit, you must complete both processes by the established deadlines to be officially registered and enrolled for the quarter.

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

Last Mailing Dates
(Tentative only; refer to the Schedule of Classes for firm dates)

To Register (Pay Fees) by Mail:
September 4 for Fall Quarter 1987
December 11 for Winter Quarter 1988
March 4 for Spring Quarter 1988

Fee Payment Deadlines
September 16 for Fall Quarter 1987
December 18 for Winter Quarter 1988
March 11 for Spring Quarter 1988

Enrollment in Classes

Enrollment requests are processed from the completed Study List Request portion of the Registration Form. To be enrolled for credit, you must complete the request, obtain your adviser's signature approval, and file it with your major department by the tenth day of classes. There is a $50 fee for late filing of the Study List (see your department for departmental procedures).

You are guaranteed enrollment in courses in your major department provided that department is coded correctly on your Study List Request. If you have recently changed majors and your Study List Request is incorrect, you need proof that the Graduate Division has approved the change. For guaranteed enrollment in restricted or possibly closed courses outside your major department, you must submit an approved Permission to Enroll form with the Study List Request.

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 in your department 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 at Registrar's Student Information, 1111 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 half the registration fee, plus all other fees in full. Petitions for the reduced fee are available from your department and from the Graduate Student Support Section, 1225 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) subject to the regulations of 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 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 medical insurance coverage, and by establishing absence of active tuberculosis. In addition, all international students must obtain an annual medical insurance clearance each fall at the SHS Insurance Office. For information, call 825-4073.
Graduate Fees and Financial Support

Fees

Although the exact cost of attending UCLA will vary according to your academic program, personal habits, tastes, and financial resources, there are some fees that all UCLA students must pay. Each entering and readmitted student is required to submit a Statement of Legal Residence to the Registrar's Office. Legal residents of California are not required to pay tuition at the University. Students classified as nonresidents must pay tuition of $1,430 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 and Medicine School students*) must pay the following fixed fees. Fees for Fall Quarter 1987 are current as of publication date but are subject to change without notice by The Regents.

<table>
<thead>
<tr>
<th>Quarterly Expenses, Fall 1987</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>University registration fee</td>
<td>$ 190</td>
</tr>
<tr>
<td>Education fee</td>
<td>268</td>
</tr>
<tr>
<td>Ackerman Student Union fee</td>
<td>4</td>
</tr>
<tr>
<td>Graduate Students Association (GSA) fee</td>
<td>5</td>
</tr>
<tr>
<td>Wooden Recreation Center fee</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total for California residents</strong></td>
<td>$ 472</td>
</tr>
<tr>
<td>Nonresident tuition fee</td>
<td>$1,430</td>
</tr>
<tr>
<td><strong>Total for nonresidents</strong></td>
<td>$1,902</td>
</tr>
</tbody>
</table>

*Students in the Schools of Law and Medicine should refer to their individual school announcements 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 (after the fee deadline) 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 $60 fine will be assessed if any check for registration fee payment is returned by a bank (i.e., stopped payment, insufficient funds, etc.). A complete list of fees may be found in the Schedule of Classes.

Fee Refunds

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

Nonresident Tuition Fellowships

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

Living Expenses

Printed below are the estimated yearly budgets for graduate California residents. Nonresidents must add the $4,290 annual tuition fee to their total expenses for an accurate estimate. Expenses cover the three regular session quarters of the 1987-88 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.)

Estimated Annual Budgets for California Residents

<table>
<thead>
<tr>
<th>Single, Commuter, Living at Parents¹ 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>$1,416</td>
<td>$1,416</td>
<td>$1,416</td>
<td>$1,416</td>
</tr>
<tr>
<td>Books and Educational Supplies</td>
<td>675</td>
<td>675</td>
<td>675</td>
<td>675</td>
</tr>
<tr>
<td>Food and Rent</td>
<td>1,220</td>
<td>3,110</td>
<td>5,570</td>
<td>6,830</td>
</tr>
<tr>
<td>Transportation</td>
<td>880</td>
<td>320</td>
<td>610</td>
<td>425</td>
</tr>
<tr>
<td>Personal</td>
<td>1,020</td>
<td>1,660*</td>
<td>1,030</td>
<td>2,605</td>
</tr>
<tr>
<td><strong>Total Budget</strong></td>
<td><strong>$5,211</strong></td>
<td><strong>$7,181</strong></td>
<td><strong>$9,301</strong></td>
<td><strong>$11,951</strong></td>
</tr>
</tbody>
</table>

¹Includes $100 for extra meals during breaks.

For more information on housing, see Chapter 1 or contact the UCLA Community Housing Office, 270 De Neve Drive (825-4491).
Financial Support

Information:
Graduate Student Support 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. Rejected 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.)

UCLA Graduate Student Support, a booklet describing the full range of financial assistance available, is published annually for continuing students by the Graduate Student Support 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 and retention of students from groups which, as a result of societal inequities, have been traditionally underrepresented in graduate education. These include American Indians, blacks/Afro-Americans, Chicanos/Mexican Americans, Filipino, 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 1987-88 awards provide stipends and fees to continuing students in the fields of management, urban planning, biology, psychology, and public health. 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) Danforth Compton Fellowship — UCLA is one of 10 universities selected to receive a grant from the Danforth Foundation to support outstanding black/Afro-American, Chicano/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 work-study and low-interest loans. Students are usually awarded a financial aid "package" which is a combination of these forms of assistance. Further information is available 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.

<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,</td>
<td>Two years (six quarters) in graduate standing at University of California,</td>
</tr>
<tr>
<td></td>
<td>two quarters at UCLA.</td>
<td>including three consecutive quarters at UCLA.** In most cases a longer period of</td>
</tr>
<tr>
<td></td>
<td></td>
<td>residence is necessary.</td>
</tr>
<tr>
<td>Program of Study</td>
<td>Nine graduate and upper division courses (36 units) in graduate standing,</td>
<td>No specific course requirements. Program is planned with adviser and guidance</td>
</tr>
<tr>
<td></td>
<td>including at least five graduate courses.</td>
<td>committee.</td>
</tr>
<tr>
<td>Scholarship</td>
<td>B average required in all courses taken in graduate standing at UC and in all</td>
<td>B average required in all courses taken in graduate standing at UC.</td>
</tr>
<tr>
<td></td>
<td>courses applied toward the master’s degree.</td>
<td></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</td>
<td>The departmental written and University Oral Qualifying Examinations must be</td>
</tr>
<tr>
<td></td>
<td>be satisfied. Forms must be filed by second week of the quarter in which degree</td>
<td>passed; departmental, course, and language requirements must be completed.</td>
</tr>
<tr>
<td></td>
<td>is to be awarded.</td>
<td>Advancement is officially granted when you obtain your committee chair’s</td>
</tr>
<tr>
<td>Final Requirement for the Degree</td>
<td>Master’s thesis or comprehensive examination (written, oral, or both).</td>
<td>signature, pay the $25 fee, and return the application to the Graduate Division.</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 may be applied toward UCLA master's programs. However, courses taken for any other degree 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 are concurrent courses prefixed by XLC (offered for students in degree programs and open to Extension students by petition) in the 100, 200, or 400 series, completed with a grade of B or better. By petition to the dean of the Graduate Division and with departmental approval, a maximum of two such courses may be applied toward the nine-course minimum and the five-graduate-course requirements for the master's degree. The master's program, then, would include at least three courses in the 200 or 500 series for academic degrees, or three courses in the 200, 400, or 500 series for professional degrees.

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

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

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 (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.
Once the thesis committee and other concerned faculty have approved the subject for the thesis, work may begin. You are responsible for preparing the thesis in the proper form and for observing filing deadlines. For guidance in the final preparation of the thesis, 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 all members of the committee have approved the thesis and you are ready to file it, you must initiate the final steps in the process by submitting the original signature (approval) page, title page, and any other required forms to the Graduate Division, Student and Academic Affairs Section, where completion of degree requirements will be verified. After final approval by the dean of the Graduate Division, you must file the thesis with the Theses and Dissertations Adviser approximately two weeks before the degree is to be awarded. Deadlines for this academic year are:

November 30 for Fall Quarter 1987
March 7 for Winter Quarter 1988
May 31 for Spring Quarter 1988

Master’s Comprehensive Examination (Plan II)

Following advancement to candidacy, students under Plan II must pass a comprehensive examination administered by a committee consisting of at least three faculty members appointed by the department. In some departments the comprehensive examination may serve as a screening examination for admission to doctoral programs. Information concerning this examination and its form (written, oral, or both) is available from your graduate adviser.

The Candidate in Philosophy Degree

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

The C.Phil. is not a terminal degree but gives formal recognition to a definite state of progress toward the doctorate. Academic requirements are the same as for advancement to candidacy for the Ph.D. (see below). Four quarters in academic residence, three of them (usually the last three) in continuous residence at UCLA, are required. (Also refer to “Academic Residence” under doctoral programs below.)

The C.Phil. may not be conferred after or simultaneously with the Ph.D. For departments offering the C.Phil., see the degree chart at the beginning of this chapter. For further details, consult Standards and Procedures for Graduate Study at UCLA, available in 1225 Murphy Hall and in individual departments.

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 the following 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 course work 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 also acts as 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 adviser 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).

On the day that your final dissertation is approved by the doctoral committee, 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
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 Office of the Dean of Students, 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.
Academics
Units and Grading Policy

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 = Superior</td>
<td>A = Superior Achievement</td>
</tr>
<tr>
<td>B = Good</td>
<td>B = Satisfactorily demonstrates potential for professional achievement</td>
</tr>
<tr>
<td>C = Fair</td>
<td>C = Passed but work does not indicate potential for professional achievement</td>
</tr>
<tr>
<td>D = Poor</td>
<td>F = Failure</td>
</tr>
<tr>
<td>F = Failure</td>
<td>NP = Not Passed</td>
</tr>
<tr>
<td>P = Passed (achievement at grade C level or better)</td>
<td>IP = In Progress</td>
</tr>
<tr>
<td></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>C-</td>
<td>1.7</td>
</tr>
<tr>
<td>D+</td>
<td>1.3</td>
</tr>
<tr>
<td>D</td>
<td>1.0</td>
</tr>
<tr>
<td>D-</td>
<td>0.7</td>
</tr>
</tbody>
</table>

F, NP, U = 0

In computing your grade-point average, your 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</th>
<th>Course Units</th>
<th>Total Grade Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-</td>
<td>3.7</td>
<td>14.8</td>
</tr>
<tr>
<td>B-</td>
<td>2.7</td>
<td>10.8</td>
</tr>
<tr>
<td>C+</td>
<td>2.3</td>
<td>9.2</td>
</tr>
</tbody>
</table>

12 34.8

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 298 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. 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 approval. 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 course 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 offices.

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 Office of the Dean of Students will assist you in resolving the problem. For graduate students, the dean of the Graduate Division will set a deadline by which the DR will lapse to an F if the problem is not resolved and a grade assigned. The DR will be changed to a grade, or perhaps to an Incomplete, when the instructor provides written confirmation that you have resolved the situation. The DR grade is not included in determining your grade-point average.

Repetition of Courses

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

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

All grades except 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 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 X or XLC before the number of the Extension course signifies that the course is equivalent to the regular session course bearing the same name. 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 Registrar’s Student Information, 1111 Murphy Hall (students in the College of Fine Arts and 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 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 of 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 seven 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 without charge 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. In Fall Quarter cards are issued adjacent to the enrollment area in Ackerman Union. Other quarters cards are issued at 140 Kerckhoff Hall. There is a $10 fee for issuing the card after your first term in attendance. You may replace lost or destroyed cards at 140 Kerckhoff Hall for a $10 fee.

Change of Name or Address

If you wish to change your name on your official record, fill out a name change form at Registrar’s Student Information in 1111 Murphy Hall. If you change your address after filing the UCLA Address/Data portion of your Registration Form, notify the Registrar’s Office in 1134 Murphy Hall as soon as possible.
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. Obtain the Undergraduate Application Packet and submit the required application fees with the application form. The filing periods are the same as those for new applicants (see “Undergraduate Admission” in Chapter 2). Applications are available from the UCLA Office of Undergraduate Admissions and Relations with Schools, 1147 Murphy Hall, Los Angeles, CA 90024-1436, other University of California Undergraduate Admissions Offices, or your local community college.

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

Absence during a 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 and request that your courses be evaluated (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 to return to the University.

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 for a total of two years at the discretion of your department and with approval of the Graduate Division, must be requested before the end of the second week of 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 leave 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.

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 academic dean’s office (undergraduates) or departmental office (graduates). 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. A $60 fine will be assessed if any check for registration fee payment is returned by a bank (i.e., stopped payment, insufficient funds, etc.). No fees will be refunded, and future registration privileges may be curtailed or revoked. Transcripts will not be issued if you have outstanding financial obligations to the University.
**Undergraduate Students** — If you return to the University for the 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 Registrar’s Student Information, 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 12. Students who have earned degrees in Summer Sessions 1987 or any quarter during the 1987-88 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. Many departments, schools, and colleges hold informal gatherings at which prizes and honors are awarded and students and their families meet faculty members. Check with your department, school, or college for program and time schedules.

Academic regalia (caps, gowns, and hoods) become available through ASUCLA two weeks prior to Commencement. The rental fee is $15 for bachelor’s candidates; $25 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 with printed enclosure cards at the ASUCLA Campus Photo Studio (150 Kerckhoff Hall) through mid-May.
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 38 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 1991) 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 1991 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 199H) 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 1991 course, you may not register for another until the I grade is removed. See departmental listings and individual course descriptions for specific prerequisites and credit limitations.
Graduate Courses*

Graduate courses numbered 200-299 are generally open only to graduate students who have completed basic undergraduate courses in the subject. Courses and seminars in the 200 series can fulfill the minimum graduate course requirement for any advanced degree.

With departmental and instructor consent, and subject to requirements in the appropriate college or school, undergraduate students may enroll in 200-series courses for unit credit toward the bachelor's degree. If you take a graduate course as an undergraduate, you may not apply that same course later toward a higher degree.

Graduate courses numbered 300-399 are highly specialized teacher-training courses which are not applicable toward University minimum requirements for graduate degrees. They are acceptable toward the bachelor's degree only at the discretion of the individual college or school.

Graduate courses numbered 400-499 are designed for professional programs leading to graduate degrees other than the M.A., M.S., and Ph.D. These courses may not be used to satisfy minimum graduate course requirements for the M.A. or M.S. degree but may apply as electives.

Individual study and research courses (numbered 500-599) are reserved for advanced study and are not open to undergraduates. Courses are numbered as follows: 595/596 = directed individual study or research; 597 = preparation for master's comprehensive or doctoral qualifying examination; 598 = master's thesis research and preparation; and 599 = doctoral dissertation research and preparation. (Courses numbered 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 the first three Academic Senate classifications

In the case of interdepartmental degree programs, all participating faculty members have appointments in regular academic departments. Participating faculty are listed in the above order, with the home department or specialty of each member indicated in parentheses.
"The Idea of a Multiversity' is a city of infinite variety. Some get lost in the city; some rise to the top within it; most fashion their lives within one of its subcultures. . . . It offers . . . a vast range of choices, enough literally to stagger the mind. In this range of choices . . . (one) encounters the opportunities and the dilemma of freedom."

Clark Kerr, The Uses of the University

With nearly 22,000 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 primary units of the College of Letters and Science are the academic departments which are grouped in four divisions: humanities, physical sciences, social sciences, and life sciences. Each division is headed by a dean who reports directly to the provost.

In addition to departmental advising, the Division of Undergraduate Programs and Services provides a network of student assistance within its two components: College Counseling Service and Preparatory Programs.

Undergraduate Study

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

You are expected to select a major by the beginning of your junior year. This may be a program of related upper division courses in a single department (departmental major) or a group of related courses involving a number of departments (interdepartmental major) or, under certain circumstances, a group of courses selected to meet your special need (individual major). The pursuit of such definite courses of study often requires knowledge of courses known as prerequisites.

Counseling Services

The College Counseling Service 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 clarification 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 for a letter grade unless otherwise stipulated by the department. If you have been away from the University for several terms, you should consult with your major department or curriculum adviser concerning the requirements under which you will graduate.

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

Departmental Majors

A departmental major consists of a group of related upper division courses, of which at least six courses are in one department. These majors are supervised by established campus departments. There are 81 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.)
Biological Sciences (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.)
Development Studies (B.A.)
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 Mathematics (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 Anthropology (B.A.)
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 of Computation (B.S.)
Microbiology (B.S., M.A., Ph.D.)
Molecular Biology (Ph.D.)
Nuclear Science and Engineering (B.S., M.S., 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.)
Public Administration (M.P.A.**)
Religion, Study of (B.A.)
Romance Languages and Literatures (M.A., C.Phil., Ph.D.)
Russian Civilization (B.A.)
Russian Languages (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 (B.A.)
Women’s Studies (B.A.)
World Arts and Cultures (B.A.)

*The department admits only applicants whose objective is the Ph.D.
**Not admitting new students at this time.
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 perspective of different disciplines and a greater degree of program flexibility is achieved.

The College of Letters and Science currently offers 25 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.

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

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

Individual Majors

If you have some unusual but definite academic interest for which no suitable major is offered at the University and you have completed at least three 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 specializations must be taken jointly with an organized departmental or interdepartmental major:

African Studies
Asian American Studies
Business and Administration
Computing, Specialization in (cybernetics, economics, geography, linguistics, mathematics, sociology)
Diversified Liberal Arts
International Relations
Law and Society
Urban Studies or Organizational Studies
Women's Studies

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

Student Research Program (SRP)

For information on this program, see "Alternative Academics" in Chapter 2.

Double Majors

If you are in good academic standing, you may be permitted to have a double major consisting of departmental majors from two departments within this college. They must both be completed within the maximum limit of 228 units, and you must obtain the approval of both departments.

With few exceptions, double majors in the same department are unacceptable. You must designate one of the two majors as the principal one for the purpose of satisfying general education requirements. No more than five upper division courses may be common to both majors.

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

Changing Your Major

If you are in good academic standing and wish to change your major, you may petition to do so provided you can complete the new major within the 216-unit limit (228 for double majors and special programs). Petitions must be submitted to and approved by the department or committee in charge of the new major. Admission to certain majors may be closed or restricted; changes are normally not permitted if you are on probation or have begun your last 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 types of requirements for the Bachelor of Arts or Bachelor of Science degree: University requirements, college requirements, and department requirements (including preparation for the major and major requirements). For details on department requirements, see the department and major of your choice.

University Requirements

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

College Requirements

The College of Letters and Science has six 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. If you have advanced placement (transfer) credit, you may exceed the unit maximum by the amount of that credit.

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

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

College Requirements
(1) English Composition or ESL Composition
(2) General Education
   (a) Basic Proficiencies
      (1) Quantitative Reasoning
      (2) Foreign Language (see below)
   (b) Course Requirements

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

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

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

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).

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 receipt of the bachelor's degree. You must also attain a 2.0 GPA in a major and satisfy both the course and scholarship requirements of that major (including preparation for the major) in the College of Letters and Science.

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. Credit will not be allowed for a less advanced course in grammar and/or composition after you have completed a more advanced course.

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

English Composition Requirement
Note: You must complete the University's Subject A requirement prior to completing the college's English Composition requirement.
You may satisfy the English Composition requirement by taking one course from English 3, 4, Humanities 2A, 2B, 2C. The course must be taken for a letter grade, and you must receive at least a C; a grade of C - is not acceptable. Humanities 2A, 2B, or 2C may be applied toward the humanities general education requirements; English 3 or 4 may not be applied.

The composition requirement may also be satisfied by scoring 4 or 5 on one of the College Entrance Examination Board (CEEB) Advanced Placement Tests in English or by passing the English 3 Proficiency Examination. Students scoring 660 or better on the CEEB English Composition Achievement Test are eligible for this proficiency exam.
You must satisfy the composition requirement within your first three quarters in residence.

Transfer Students: You may take the English 3 Proficiency Examination (1) if you have completed a transferable English composition course with a Passed grade rather than a letter grade or (2) if you have completed, with a grade of C or better, a college-level English composition course that the Office of Undergraduate Admissions and Relations with Schools does not accept as equivalent to English 3. Like eligible freshmen, you 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 (C - or a Passed grade is not acceptable). 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 taking course 36, in which case you must complete course 35 with a grade of C or better (C - or a Passed grade is not acceptable).

General Education (GE) 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.
The general education requirements of the college are intended to introduce undergraduates to the richness and diversity of the various academic disciplines. Within the four major divisions of the college — humanities, social sciences, life sciences, and physical sciences — you are encouraged to explore the different possibilities for further university study. Whether or not you have a specific educational goal, general education requirements are designed to broaden your intellectual perspective and to set you on the path to becoming an educated member of society.

The requirements consist of two parts. You must (1) demonstrate basic proficiency in quantitative reasoning and foreign language 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 higher 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.

(2) Course Requirements

The college has approved a revised set of GE course requirements effective Fall Quarter 1987 for all entering freshmen. As specified on the chart labeled “Courses to Fulfill GE Requirements” on the next pages, 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. In the physical sciences, two courses must be complementary and one must include a laboratory/demonstration component. In the life sciences, one course must include a laboratory/demonstration component.

Courses required to satisfy the major or other courses taken in the major department may not be used to satisfy the general education requirements. However, courses outside the major which are required as preparation for a major may be used to satisfy these requirements.

Course Exemptions: Students majoring in the humanities are exempt from two courses, one in their major subgroup and one other humanities course. Students majoring in the physical sciences are exempt from two courses in the physical sciences group. Students in the social sciences are exempt from two courses in the subgroup of their major, and students in life sciences are exempt from two courses in the life sciences grouping. At least 14 courses (12, with exemptions) must be completed.

Course Substitutions: Two lower division seminars which have been approved for GE credit may be substituted for courses on the “Courses to Fulfill GE Requirements” list. You may make no more than one such substitution per group (humanities, physical sciences, social sciences, life sciences). An annual list of GE seminars will be published in the Handbook to General Education, and descriptions will be listed in the quarterly Schedule of Classes under “Seminars and Special Programs for Undergraduates.”

Advanced Placement Credit: For application of advanced placement (AP) credit on the general education requirements, see the 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
African Languages
Arabic
Chinese
Classics
English
English/Greek
English/Latin
French
German
Greek
Hebrew
Italian (including Italian and Special Fields)
Japanese
Latin
Portuguese
Scandinavian Languages
Slavic Languages and Literatures
Spanish

(A2) Philosophy

B: Physical Sciences

Applied Mathematics
Astronomy
Atmospheric Sciences
Biochemistry
Chemistry
Chemistry/Materials Science
Cybernetics
Economics/System Science
General Chemistry
General Mathematics
General Physics
Geology (including all specialization options)
Geophysics (including all specialization options)
Mathematics
Mathematics/Applied 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
Development Studies
East Asian Studies
Economics (including all specialization options except Economics/System Science)
Geography
Geography/Ecosystems
Latin American Studies
Political Science
Sociology
Women's Studies

(D) Life Sciences

Biology
Cognitive Science
Kinesiology
Microbiology
Psychobiology
Psychology
Courses to Fulfill GE Requirements

See “Basic Proficiency Levels” on page 72 for courses to fulfill the quantitative reasoning and foreign language 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. 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
   - East Asian Languages and Cultures 140A, 140B, 140C. Chinese Literature in Translation
   - 141A, 141B. Japanese Literature in Translation
   - English 10A. English Literature to 1660
   - 10B. English Literature, 1660-1832
   - 70. Major British Authors before 1800
   - 75. Major British Authors, 1800 to the Present
   - 80. Major American Authors
   - 85. The American Novel
   - 90. Shakespeare

(2) Philosophy
   - Philosophy 1. The Beginnings of Western Philosophy
   - 2. Introduction to the Philosophy of Religion
   - 4. Philosophical Analysis of Contemporary Moral Issues
   - 5A. Philosophy in Literature
   - 6. Historical Introduction to Moral and Political Philosophy
   - 7. Introduction to the Philosophy of Mind
   - 8. Introduction to the Philosophy of Science
   - 10. Virtues and Vices
   - 21. Skepticism and Rationality
   - 22. Introduction to Ethical Theory

(3) Language and Linguistics
   - Linguistics 1. Introduction to the Study of Language
   - 10. The Structure of English Words
   - 88A. Lower Division Seminar: Science and Language

(4) Culture and Civilization
   - East Asian Languages and Cultures 40A. Chinese Civilization
   - 40B. Japanese Civilization
   - 9A. Introduction to Buddhism
   - Folklore and Mythology 15. Introduction to American Folklore Studies
   - 101. Introduction to Folklore
   - German (Germanic Languages) 100A. German Civilization and Culture before 1700
   - 100B. Modern German Civilization and Culture from 1700 to 1919
   - 100C. German Civilization and Culture in the 20th Century
   - History *9A. Introduction to Asian Civilizations: History of India
   - 9B. Introduction to Asian Civilizations: History of China
   - 9C. Introduction to Asian Civilizations: History of Japan
   - 9D. Introduction to Asian Civilizations: History of the Near and Middle East
   - 10A, 10B. Introduction to the Civilizations of Africa
   - Italian 42A, 42B. Italian Civilization or Italy through the Ages
   - 46. Italian Cinema and Culture
   - Portuguese (Spanish and Portuguese) M44. Civilization of Spanish America and Brazil
   - Russian (Slavic Languages) 99A. Introduction to Russian Civilization
   - 99B. Soviet Civilization
   - Slavic (Slavic Languages) 99. Introduction to Slavic Civilization
   - Spanish (Spanish and Portuguese) M42. Civilization of Spain and Portugal

(5) The Arts
   - Art History (Art, Design, and Art History) 50. Ancient Art
   - 51. Medieval Art
   - 54. Modern Art
   - 55A. Africa, Oceania, and Native America
   - 55B. Arts of Pre-Columbian America
   - 56A. Art of India and Southeast Asia
   - 56B. Introduction to Chinese Art
   - 57. Renaissance and Baroque Art
   - Classics 151B. Classical Archaeology: Greco-Roman Architecture
   - 151C. Classical Archaeology: Greco-Roman Sculpture
   - Dance 134A. History of Dance in Western Culture, Origins to 1600
   - 134B. History of Dance in Western Culture, 1600 to the Present
   - 181A. Dance Cultures of Asia
   - 182A. Dance Cultures of Africa
   - 187A. Dance Cultures of Native American Indians
   - Design (Art, Design, and Art History) 30A. Nature of Design
   - Motion Picture/Television (Theater, Film, and Television) 106A.
   - History of the American Motion Picture
   - 106B. History of the European Motion Picture
   - 106C. History of African, Asian, and Latin American Film
   - 106D. The Development of Film in Europe and the United States from WWII through the Depression
   - 106E. The Development of Film in Europe and the United States from WWII to the Present
   - Music (no more than one course from a single grouping):
     (a) 2A, 2B. Introduction to the Literature of Music
         - 138. Aesthetics of Music
     (b) 133. Bach
         - 134. Beethoven
         - 135A, 135B, 135C. History of the Opera
     (c) 131A, 131B. Music of Hispanic America
         - 152. Survey of Classical Music in India
         - 157. Music of Brazil
   - Theater (Theater, Film, and Television) 5A. History and Drama of the Theater from Primitive Times to 1640
   - 5B. History and Drama of the Theater from 1640 to 1900
   - 5C. History and Drama of the Theater from 1900 to the Present
   - 102E. Theater of the Non-European World

*Cross-listed courses can fulfill the GE requirement in only one group.

(continued on page 74)
Courses to Fulfill GE Requirements (continued)

(B) Physical Sciences
Three courses from the following, two of which must be complementary and one of which must have a laboratory and/or demonstration component:

- **Astronomy** 3. Astronomy: The Nature of the Universe
- 4. The Universe of Stars and Stellar Systems
- 5. Life in the Universe
- 6. Cosmology: Our Changing Concepts of the Universe
- 81. Astrophysics 1: Stars and Nebulae
- 82. Astrophysics II: Stellar Evolution, Galaxies, and Cosmology
- **Atmospheric Sciences** 2. Air Pollution
- 3. Introduction to the Atmospheric Environment
- 4. California Weather and Climate
- 6. Climate and Climatic Change
- **Chemistry** 2. Introductory Chemistry
- 11A, 11B. General Chemistry
- 11BL. General Chemistry Laboratory
- **Earth and Space Sciences** 1. Introduction to Earth Science
- 2. Earth History
- 5. Earth Science and Society: Geological Ecological Interactions
- 15. Introduction to Oceanography

- **Geography** 1. Physical Environment
- **Mathematics** 3A-B. Calculus for Life Science Students
- 3E. Calculus for Economics Students
- 31A, 31B. Calculus and Analytic Geometry
- **Physics** 3A. General Physics: Mechanics of Solids and Fluids
- 3B. General Physics: Heat, Sound, Electricity and Magnetism
- 3C. General Physics: Light, Relativity, and Modern Physics
- 6A. Physics for Life Science Majors: Mechanics and Wave Motion
- 6B. Physics for Life Science Majors: Electricity and Magnetism
- 6C. Physics for Life Science Majors: Light and Modern Physics
- 81A. Physics for Scientists and Engineers: Mechanics
- 8B. Physics for Scientists and Engineers: Waves, Sound, Heat
- 8C. Physics for Scientists and Engineers: Electricity and Magnetism
- 10. Physics

Complementary courses include Astronomy 3/4, 3/5, 3/6, 3/8; Atmospheric Sciences 2/3, 3/4, 3/6; Chemistry 11A/11B, Earth and Space Sciences 1/2; Mathematics 3A/3B, 3A/3E, 3E/31A, 31A/31B; Physics 3A/3B, 6A/6B, 6A/6C, 6B/6A, 8A/8B, 8A/8C.

Courses with a laboratory and/or demonstration component include Astronomy 3, 31, 32, Atmospheric Sciences 3, 4, Chemistry 11BL, Earth and Space Sciences 1, 2, 15, Geography 1, Physics 3A, 3B, 3C, 6A, 6B, 8A, 8B, 8C, 10.

(C) Social Sciences
Four courses, two from each group:

(1) Historical Analysis
Two courses from a single sequence are recommended:

- **Classics** 10. Survey of Classical Greek Culture
- 20. Survey of Roman Civilization
- **History** 1A, 1B, 1C. Introduction to Western Civilization
- 3A, 3B, 3C. Introduction to the History of Science
- 4. Introduction of the History of Religions
- 5A, 5B. Survey of British History
- 6A, 6B, 6C. History of the American Peoples
- 7A, 7B. Survey of the Political History of the U.S.
- 8A. Latin America: Reform and Revolution
- 8B. Latin American Social History
- 8C. Central America: The Struggle for Change
- *9A. Introduction to Asian Civilizations: History of India
- *9B. Introduction to Asian Civilizations: History of China
- *9C. Introduction to Asian Civilizations: History of Japan
- *9D. Introduction to Asian Civilizations: History of the Near and Middle East
- *10A, *10B. Introduction to the Civilizations of Africa

(2) Social Analysis

- **Anthropology** 5 (Principles of Cultural Anthropology) or 22 (General Cultural Anthropology)
- 6. Culture History
- **Communication Studies** 10. Introduction to Communication Studies
- **Economics** 1, 2. Principles of Economics
- 5. Introductory Economics
- **Geography** 3. Cultural Geography
- 4. Human Location and Behavior

- **Political Science** 20. World Politics
- 40. Introduction to Politics
- 50. Introduction to Comparative Politics
- **Psychology** 10. Introductory Psychology
- 11. Principles of Psychology

- **Social Sciences** 20. Racial Minorities in the United States
- **Sociology** 1. Introductory Sociology
- 2. Changing Society and Making History
- 3. The Sociology of Everyday Life
- 4. Jobs and Careers: A Sociological Approach

- **Women's Studies** 10. Perspectives on Women and Men in Society

(D) Life Sciences
Three courses from the following, one of which must have a laboratory and/or demonstration component:

- **Anthropology** 1 (The Principles of Human Evolution: Genetic Basis) and 2 (The Principles of Human Evolution: Comparative Analysis) or 11 (The Evolution of Man)
- **Biology** 2. Principles of Biology
- 5. Biology of Organisms
- 5L. Organismic and Environmental Biology Laboratory
- 6. Ecology, Evolution, and Behavior
- 7. Introductory Cellular and Molecular Biology
- 8. Introductory Genetics
- 10. Plants and Civilization
- 13. Evolution of Life
- 20. Introduction to Human Heredity
- 25. The Oceans
- 40. AIDS and Other Sexually Transmitted Diseases: The Modern Plague

- **Geography** 12. Biogeography
- 5. People and the Earth's Ecosystems
- **Kinesiology** 13. Introduction to Human Anatomy
- **Microbiology** 6. Introduction to Microbiology
- **Psychology** 15. Introductory Psychobiology

Courses with a laboratory and/or demonstration component include Biology 2, 5, 6, 7, 8, 10, 20, Earth and Space Sciences 115, Geography 2, 5, Kinesiology 13.

All honors sections of the above courses also fulfill GE requirements.

**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.

*Cross-listed courses can fulfill the GE requirement in only one group.*
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**
If you do not satisfy the Subject A requirement prior to enrolling at UC, you must pass an approved course or other program prescribed by your UC campus of residence. Only after satisfying the Subject A requirement can you take for transfer credit an English composition course after enrolling at UCLA. Consult a college counselor regarding Subject A equivalent courses from other UC campuses.

**Community College**
After completing 105 quarter units (26¼ courses) toward the degree in all institutions attended, you are allowed no further unit credit for courses completed at a community college.

**Physical Education**
No more than four units in physical education activities courses may be applied toward the bachelor’s degree.

**300- and 400-Level Courses**
No more than two courses (eight units) in the 300 and 400 series of courses may be applied toward the bachelor’s degree. Credit is not granted for X300 and X400 courses taken in 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 71B through 79Z, 171B through 179Z, and Music 80A-80N and 81A-81Z) 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.

**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>8 units</td>
<td><strong>No application for art</strong></td>
<td>8 units toward humanities</td>
</tr>
<tr>
<td>Art History</td>
<td>8 units for either general or drawing portfolio</td>
<td></td>
<td>No application for art studio</td>
</tr>
<tr>
<td>Art Studio: General Portfolio or Drawing Portfolio</td>
<td>8 units for either general or drawing portfolio</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biology</td>
<td>Biology 2 (4 units) plus 4 unassigned units</td>
<td>Credit for Biology 2 (4 units)</td>
<td>Credit for Biology 2 (4 units) plus 4 units toward life science</td>
</tr>
<tr>
<td>Chemistry</td>
<td>8 units</td>
<td><strong>No application for chemistry</strong></td>
<td>8 units toward physical science</td>
</tr>
<tr>
<td>Computer Science</td>
<td>Score 3, 4, or 5 — 4 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, 8 unassigned units</td>
<td>Score 3 — Satisfies Subject A requirement</td>
<td>Score 3 — Satisfies Subject A requirement and 8 units toward humanities</td>
</tr>
<tr>
<td>Language and Composition or Composition and Literature**</td>
<td>Score 4 — Subject A, English 3 (8 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 4 units toward humanities</td>
</tr>
<tr>
<td></td>
<td>Score 5 — Subject A, English 3 and 4 (8 units)</td>
<td></td>
<td>Score 5 — Satisfies Subject A requirement and English 3 and 4 (4 units total 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 receive a maximum of 8 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>Government and Politics, American</td>
<td>Political Science 1 (4 units)</td>
<td>4 units toward social analysis requirement</td>
<td>4 units toward social science</td>
</tr>
<tr>
<td>Government and Politics, Comparative</td>
<td>Political Science 50 (4 units)</td>
<td>4 units toward social analysis requirement</td>
<td>4 units toward social science</td>
</tr>
<tr>
<td>History, American</td>
<td>Score 3 — 8 units</td>
<td>Score 3 — No application</td>
<td>Score 3 — 8 units toward social science</td>
</tr>
<tr>
<td></td>
<td>Score 4 or 5 — History 7A-7B (6 units)</td>
<td>Score 4 or 5 — Credit for History 7A-7B</td>
<td>Score 4 or 5 — Credit for History 7A-7B (8 units total 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 4 units</td>
<td>Credit for History 1C (4 units)</td>
<td>Credit for History 1C (4 units) plus European history (4 units toward social science)</td>
</tr>
<tr>
<td>Language, French</td>
<td>Score 3 — French 4 (8 units total)</td>
<td>4 units toward language and linguistics requirement</td>
<td>8 units toward humanities</td>
</tr>
<tr>
<td>French Language</td>
<td>Score 4 — French 5 (8 units total)</td>
<td>4 units toward language and linguistics requirement</td>
<td>8 units toward humanities</td>
</tr>
<tr>
<td></td>
<td>Score 5 — French 6 (8 units total)</td>
<td>4 units toward language and linguistics requirement</td>
<td>8 units toward humanities</td>
</tr>
<tr>
<td>French Literature</td>
<td>8 units</td>
<td>No application for French literature</td>
<td>8 units toward humanities</td>
</tr>
<tr>
<td>Language, German</td>
<td>Score 3 — German 3 (8 units)</td>
<td>Score 3 — No application</td>
<td>Score 3 — No application</td>
</tr>
<tr>
<td></td>
<td>Score 4 — German 4 (8 units)</td>
<td>Score 4 or 5 — 4 units toward language and linguistics requirement</td>
<td>Score 4 or 5 — 8 units toward humanities</td>
</tr>
<tr>
<td></td>
<td>Score 5 — German 5 (8 units)</td>
<td>4 units toward language and linguistics requirement</td>
<td>8 units toward humanities</td>
</tr>
<tr>
<td>Language, Latin</td>
<td>Classics — Title (4 units)</td>
<td>No application for Latin</td>
<td>4 units toward humanities</td>
</tr>
<tr>
<td>Vergil</td>
<td></td>
<td></td>
<td>4 units toward humanities</td>
</tr>
<tr>
<td>Catullus/Horace</td>
<td></td>
<td></td>
<td>4 units toward humanities</td>
</tr>
<tr>
<td>Language, Spanish</td>
<td>Score 3 — Spanish 4 (8 units)</td>
<td>4 units toward language and linguistics requirement</td>
<td>8 units toward humanities</td>
</tr>
<tr>
<td>Spanish Language</td>
<td>Score 4 or 5 — Spanish 5 (8 units total)</td>
<td>4 units toward language and linguistics requirement</td>
<td>8 units toward humanities</td>
</tr>
<tr>
<td>Spanish Literature</td>
<td>8 units</td>
<td>No application for Spanish literature</td>
<td>8 units toward humanities</td>
</tr>
<tr>
<td>Mathematics (AB Test)**</td>
<td>Mathematics 31A (4 units)</td>
<td>Credit for Mathematics 31A (4 units)</td>
<td>Credit for Mathematics 31A (4 units toward physical science)</td>
</tr>
<tr>
<td>Mathematics (BC Test)**</td>
<td>Mathematics 31A, 31B (8 units)</td>
<td>Credit for Mathematics 31A, 31B (8 units total)</td>
<td>Credit for Mathematics 31A, 31B (8 units total toward physical science)</td>
</tr>
<tr>
<td>Music</td>
<td></td>
<td>No application for music</td>
<td>8 units toward humanities</td>
</tr>
<tr>
<td>Music Literature**</td>
<td>8 units</td>
<td>No application for music</td>
<td>8 units toward humanities</td>
</tr>
<tr>
<td>Music Theory**</td>
<td>8 units</td>
<td>No application for music theory</td>
<td>8 units toward humanities</td>
</tr>
<tr>
<td>Physics</td>
<td></td>
<td>No application for physics</td>
<td>8 units toward physical science</td>
</tr>
<tr>
<td>B Test **</td>
<td>8 units</td>
<td></td>
<td>4 units for C1 and 4 units for C2 toward physical science</td>
</tr>
<tr>
<td>C Test**</td>
<td>4 or 8 units</td>
<td></td>
<td>4 units for C1 and 4 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).

*All UCLA course equivalents consist of lower division advanced placement units.*

**Students who take both tests receive a maximum of 8 units of credit.
Physcis 3A, 6A, 10
Any two or more courses from Physics 3A, 6A, and 10 are limited to a total of six units of credit.

Statistics
No credit is allowed for more than one lower division course in statistics (Economics 40, Mathematics 50, Political Science 6, Psychology 41, Sociology 18) 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 may petition to special counseling within the division, preferential preenrollment in classes each quarter, access to specialized designated honors classes, and eligibility for unique scholarships and research stipends, attendance at special seminars, 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, GPA, and performance 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 3.85 or better and an SAT score of 1,300 or better (on one test date) or an ACT score of 30 or better or (2) graduate in the top three percent of their high school class or (3) qualify through the Division of Honors Educational Enhancement Program (see below). 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 regular- and potential honors students.

The Educational Enhancement Program offers low-income, minority, disabled, and other nontraditional students who might not otherwise be able to participate an opportunity to qualify for UCLA's College Honors program. Contact the Division of Honors for more information.

You may apply for admission to College Honors at A311 Murphy Hall. For more 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 automatically recorded on your 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 (time and place are announced in the "What's Bruin" section of the Daily Bruin and are posted outside A328 Murphy Hall, 825-1817). 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 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, Physics 3A, 3B, and 3C, or 6A, 6B, and 6C, or 8A, 8B, and 8C, Biology 5, 7, 8, 8L, Psychology 10.

Social sciences and humanities courses such as anthropology, history, economics, psychology, political science, appreciation of art and/or music, and philosophy should also be included.

For further information, consult Admissions Requirements of U.S. and Canadian Dental Schools, AADS, 1625 Massachusetts Avenue NW, 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).

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.

High school preparation for premedical studies at the University should include English, three units; United States history, one unit; mathematics, three and one-half units; chemistry, one unit; physics, one unit; biology, one unit; foreign language (preferably French or German), two units. It is desirable that a course in freehand drawing be taken in high school.

The following courses are usually required for admission to the UCLA Medical School: (1) 12 quarter units of English, including at least one course in English composition; (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) two years of college biology to include the study of cellular, molecular, developmental, and genetic biology, including at least one year of upper division courses. Required lower division courses are Biology 5, 5L, 7, 8, 8L; suggested upper division courses are selected from Biology 110, 138, 144, CM156, 166. Courses in physical chemistry and calculus are strongly recommended. Course requirements for admission to other University of California medical schools vary slightly.

Because requirements for admission to medical schools outside the University of California also vary somewhat, you should consult the following publications: Medical School Admission Requirements, U.S.A. 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).

New students admitted to the college in this curriculum are counseled in the college as "undeclared" majors but may seek additional advisement during posted weekly open counseling sessions. Students in the college who do not transfer to the UCLA School of Nursing must declare a major and be able to complete all degree requirements within 216 units.

Prenursing Requirements for the UCLA School of Nursing:

1. Anthropology 5;
2. Biology 5, 7;
3. Chemistry 11A, 15, 15L;
4. English 3;
5. Kinesiology 13;
6. Microbiology 6/6L or 101;
7. Physics 10 or one year of high school physics;
8. Psychology 10, 15;
9. Public Health 161;
10. Sociology 1;
11. recommended electives in the social and biological sciences.

All required prenursing courses must be completed for a letter grade.

Preoptometry Curriculum: Three Years

A three-year program designed to prepare you for admission to optometric schools may be completed in the College of Letters and Science. If you are planning to transfer to the School of Optometry at Berkeley, you should contact Assistant Dean Carter of the School of Optometry, University of California, Berkeley, CA 94720, (415) 642-9537, as early in your preprofessional studies as possible.

You will be adequately prepared for preoptometric studies if you have taken the following subjects in high school: English, history, mathematics (algebra, geometry, and trigonometry), chemistry, physics, and two years of one foreign language.

The 135 quarter units of work required for admission to the School of Optometry, UC Berkeley, include the following:

1. Subject A: (2) American History and Institutions.

Specific UC Berkeley School of Optometry Requirements:

1. English 3, 4; (2) Chemistry 11A, 11B/11BL, 11C/11CL, 21, 23; (3) Physics 6A, 6B, and 6C, or 8A, 8B, and 8C; (4) Biology 5, 5L, 7, 8, 8L; (5) Psychology 10; (6) Mathematics 3A, 3B, and 3C, or 31A, 31B, and 50 or Psychology 41; (7) Microbiology 6/6L; (8) Kinesiology 12A, 12B, 13. Recommended: two upper division courses in the biological sciences, preferably in neuroanatomy and neuropsychology.

The balance of the 135 quarter units required for admission may be selected from the social sciences, foreign languages, and the humanities.

For further information, obtain the booklet Information for Applicants to Schools and Colleges of Optometry from the American Optometric Association, 243 Lindbergh Boulevard, St. Louis, MO 63141. Open counseling sessions are held weekly; call 825-1817 for details.

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.

*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 in early fall of the year preceding the September of proposed admission. Contact the Office of Student Affairs, School of Pharmacy. Applications may be obtained from the office of the Director of Admissions, University of California Medical Center, San Francisco, CA 94143-0446, (415) 478-5738. For further information, see the Announcement of the School of Pharmacy, UC San Francisco, which may be obtained from the Dean, School of Pharmacy, University of California Medical Center, San Francisco, CA 94143-0446.

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.

Prephysical Therapy Curriculum: Three or Four Years

Students who intend to apply for admission to a physical therapy school should select a major (kinesiology and psychology are commonly selected) and complete the following prerequisite courses: Kinesiology 12A, 12B, and 13 or 14; Biology 5, 7; Chemistry 11A, 11B/11BL, 15, 15L; Physics 3A, 3B, 3C; Psychology 10, 115, 127, 130. Recommended: one course in statistics and one in computing. The prerequisite courses should be taken for a letter grade; GPAs for these courses should not be lower than 3.0, with no grade lower than a C.

Information on physical therapy programs in California may be obtained from the Student Affairs Office in the Department of Kinesiology, 2834 Slichter Hall (825-3891). You should write each school early in your sophomore year for specific admission requirements and application deadlines. Information concerning out-of-state programs may be obtained from the American Physical Therapy Association, 1156 15th St. NW, Washington, DC 20005.

Prepub 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. Students in the Division of Honors can make counseling appointments in A311 Murphy Hall.
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.

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 B. Edgerton, Ph.D. (Anthropology)
Christopher Ehret, Ph.D. (History)
Hassan el Nouty, Docteur ès Lettres (French)
John Friedmann, Ph.D. (Urban Planning)
Victoria A. Promkin, Ph.D. (Linguistics)
Edward Gonzalez, Ph.D. (Political Science)
Peter B. Hammond, Ph.D. (Anthropology)
John N. Hawkins, Ph.D. (Education)
Richard C. Hawkins, M.A. (Theater, Film, and Television)
Derrick B. Jelliffe, M.D. (Public Health)
Mazizi R. Kunene, M.A. (Linguistics)
Peter N. Ladefoged, Ph.D. (Linguistics)
Michael F. Lothke, Ph.D. (Political Science)
Jacques Maquet, Ph.D. (Anthropology)
Peter Morris, B.A. (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 Posansky, Ph.D. (History and Anthropology)
John F. Povey, Ph.D. (English as a Second Language)
Dwight Read, Ph.D. (Anthropology)
Georges Sabagh, Ph.D. (Sociology)
Russell G. Schuh, Ph.D. (Linguistics and African Languages)
Richard L. Sklar, Ph.D. (Political Science)
Allega Snyder, M.A. (Dance)
Edward W. Soja, Ph.D. (Urban Planning)
Hartmut Walter, Ph.D. (Geography)
Walter R. Goldschmidt, Ph.D., Emeritus (Anthropology)
Frederick C. Knitzer, Ed.D., Emeritus (Education)
Hilda 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
Jacqueline C. DjeDje, Ph.D. (Music)
Sebastian Edwards, Ph.D. (Economics)
Testhome H. 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)
Gail E. Kennedy, Ph.D. (Anthropology)
Robert S. Kirchner, Ph.D. (Germanic Languages)
Arnold Rubin, Ph.D. (Art History)
Hans Scholhammer, B.B.A. (Management)
Nathan Shapiro, Dottore in Architettura (Design)

Assistant Professor
Beverly J. Robinson, Ph.D. (Theater, Film, and Television)

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

Adjunct and Visiting Assistant Professors
Susanna B. Hecht, Ph.D., Visiting (Urban Planning)
Joseph J. Lauer, Ph.D., Adjunct (Library and Information Science)

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 (1) take the Graduate Record Examination (GRE), (2) submit three letters of recommendation from academic referees, one of which may be from an employer if the applicant has been away from school for some time, (3) submit a sample research project as evidence of serious scholarly potential, and (4) present a résumé describing both academic and professional experience.

In addition to meeting the requirements of the Graduate Division, you must have adequate preparation in undergraduate fields related to the program. Required preparation for the M.A. degree in African Area Studies is a Bachelor of Arts in the social sciences or arts and humanities.

Major Fields or Subdisciplines

Studies are concentrated in a major and minor discipline in the social sciences, arts and humanities, or professional schools. For more information and a brochure describing the program, contact the Assistant Graduate Adviser, African Studies Center, 10244 Bunche Hall, UCLA, Los Angeles, CA 90024-1310.
Foreign Language Requirement
You are required to satisfy the language requirement in one of the following ways: (1) take three courses (12 units) in an African language with an average grade of B or better (these courses may not be applied toward the nine courses required for the degree); (2) 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 is required for the M.A., at least five of which must be at the graduate level. The courses must be distributed between disciplines as follows: (1) major discipline — a minimum of five courses, of which three must be at the graduate level. Sociology and anthropology may be taken as a combined major. Other combined majors must be approved by the graduate adviser; (2) minor discipline — a minimum of three courses, of which two must be at the graduate level; (3) third discipline — a course on Africa, preferably of the discipline—a course on Africa, preferably of the

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.F.A. in African Area Studies and the M.A., with a specialization in motion picture/television. Additional information is available from Teshome Gabrihel, 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
BA-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 Literature in English Translation
190. Survey of African Languages
199. Special Studies in African Languages
270. Seminar in African Literature
Afrikaans (Germanic Languages) 105A. Elementary Afrikaans
105B. Intermediate Afrikaans
114. Afrikaans Literature in Translation
135. Introduction to Afrikaans 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
133P. Aesthetic Anthropology
195Q. 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
230Q. Cultural Anthropology
233P. Symbolic Anthropology
233Q. Aesthetic Anthropology
233P. 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
253. Social Theory for Planners
268. 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) 55A. Africa, Oceania, and Native America
101A. Egyptian Art and Archaeology
101B. Egyptian Art and Archaeology of the Middle and New Kingdoms
118C. Arts of Sub-Saharan Africa
C119A. 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
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 and African Languages)

Scope and Objectives

This special undergraduate program is designed primarily for (1) students who plan to live and work in Africa or who are interested in government and public service careers involving African affairs and (2) students who plan to pursue graduate work in one of the social sciences or Near Eastern and African languages, with primary concentration on the African field.

The philosophy of the specialization is that people with a solid background in one of the established disciplines can make the best contribution to an understanding of Africa and its problems. Thus, the specialization can be taken only jointly with work toward a bachelor’s degree, normally in one of the following fields: anthropology, economics, geography, history, linguistics, political science, or sociology. Students completing this special program receive a degree with a major in a selected discipline and specialization in African studies. The chair of the committee in charge certifies completion of the program.

Special Undergraduate Program

Preparation for the Specialization

Required: 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 Adviser, 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. Berry, Ed.D. (Education)
Mazisi R. Kunene, M.A. (Linguistics)
Claudia Mitchell-Kernan, Ph.D. (Anthropology), Cochair
Boniface I. Obichere. D.Phil. (History)
E. Victor Wolffenstein, Ph.D. (Political Science)

Associate Professors
Jacqueline C. DjeDje, Ph.D. (Music)
Robert A. Hill, M.Sc. (History)
James H. Johnson, Ph.D. (Geography)
Vickie M. Mays, Ph.D. (Psychology)
Hector F. Myers, Ph.D. (Psychology)
Melvin Oliver, Ph.D. (Sociology), Cochair
Gloria J. Powell, M.D., in Residence (Psychiatry)
Rometta Tidwell, Ph.D. (Education)
Julia C. Wrigley, Ph.D. (Psychology)
Gail E. Wyatt, Ph.D., in Residence (Psychiatry)
Richard A. Yarborough, Ph.D. (English)

Assistant Professors
Margaret W. Creet, Ph.D. (History)
Franklin Gilliam, Jr., Ph.D. (Political Science)
Sandra Graham, Ph.D. (Education)
Warren Pinckney, Ph.D. (Music)
Beverly J. Robinson, Ph.D. (Theater, Film, and Television)

Bachelor of Arts Degree

The B.A. program in Afro-American Studies is periodically revised; check with the program office for changes and/or updates. Majors should also closely consult the 1987-88 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 en-
The Major

Required: (1) Anthropology M164, English M104A or M104B, History M158B-M158C; (2) four upper division and/or graduate courses in Afro-American studies (or four departmental courses that are multiple-listed with Afro-American Studies); (3) six upper division electives within the department of concentration selected from the approved courses listed below; (4) two upper division electives outside the department of concentration selected from the approved courses listed. Note: You may petition the committee which administers the degree program to have a course not on the approved list accepted for the major. In arranging a course of study, you should select a combination of courses that best meets your current and future educational and career goals.

Approved courses (recommended courses are in bold):


Economics 101A, 101B, 102, 103A through 103Z, 107, 110, 111, 112, 120, 121, 130, 133, M135, M136, 141, 144, 147A, 147B, 150, 151, 160, 161, 180, 183, 190, 191, 192, 199


Psychology 42, 102, 110, 111, 112B, 115, 116, 118B, M119, 120, 121, 123, 125, 127, 129A, 129B, 130, 132, M133B, 135, 136A, 136B, 137C, 137D, M138, M139, M142, 143, 147, 148, 150, 151, M163, M165, 170A, 170B, M172, 175, 176, 177, 179, 192, 193, 194, 195, 199 (note: courses 110, 115, 120, 125, 127, 135, M142, and 151 should be taken by students planning to pursue graduate study in psychology)


Honors Option

Students participating in the honors option are required to complete an independent research paper or project undertaken with the guidance of a faculty member. If you are an Afro-American studies major with a grade-point average of 3.5 or better, you complete the honors option by writing an undergraduate thesis. For more information, contact the curriculum coordinator of the Afro-American Studies Program.

Double Major Option

Some students elect to complete the requirements of two majors (Afro-American studies and another). If you are interested in this option, you must maintain good academic standing and complete both majors within the 288-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 1988-89 academic year is January 30, 1988 (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 90024-1545.

Major Fields

The M.A. in Afro-American Studies is interdisciplinary, with formal support linkages to nine disciplinary departments: Anthropology, English, History, Linguistics, Music, Philosophy, Political Science, Psychology, and Sociology. Related courses are also offered in the following schools and departments: Art, Dance, Economics, Geography, Psychiatry and Biobehavioral Sciences, Theater, Film, and Television, Folklore and Mythology, Latin American Studies, African Studies, Education, Library and Information Science, Management, Public Health, and Social Welfare.

Foreign Language Requirement

You are required to satisfy the language requirement in one of the following ways: (1) successfully completing two years of coursework 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 200B through 200F. 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 1987-88 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.

C101A-C101Z. Special Topics in Afro-American Studies. Prerequisite: consent of instructor. Variable topics. May be repeated for credit. Concurrently scheduled with courses C201A-C201Z.

M104A. Early Afro-American Literature. (Formerly numbered M104.) (Same as English 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; prose, poetry). Emphasis on the use of literature in the antislavery 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 M104B.) (Same as English 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, speeches; prose, poetry, drama). 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, Amiri 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. Ellington's music, known as "Ellingtonia," is one of the largest and perhaps most important bodies of music ever produced in the United States. Covers the many contributions of other artists who worked with Ellington, such as composer Billy Strayhorn and musicians Johnson Hodges, Cooties Williams, and Mercer Ellington. Mr. Burrell (W)

M158A. Comparative Slavery Systems. (Same as History M158A.) Lecture, three hours. An examination of the slavery experience in various New World slave societies, with emphasis on outlining the similarities and the differences among the legal status, treatment, and slave cultures of North American, Caribbean, and Latin American slave societies. Ms. Mitchell-Kernan (W)

M158B-M158C. Introduction to Afro-American History. (Same as History M158B-M158C.) Lecture, three hours. A survey of the Afro-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, and the transition from rural to urban milieu.

M164. The Afro-American Experience in the United States. (Same as Anthropology M164.) Promotes understanding of contemporary sociocultural forms among Afro-Americans in the United States by presenting a comparative and diachronic perspective on the Afro-American experience in the New World. Emphasis on the utilization of anthropological concepts and methods in understanding the origins and maintenance of particular patterns of adaptation among black Americans.

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 economic forces which impact on the interpersonal relationships of Afro-American women as members of a language group and as members of their biological and ethnic group.

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

1978. Special Studies in Comparative Literature: Caribbean Literature. A general introduction to the literature of the English-speaking Caribbean by reviewing its historical and geographical background. To analyze the historical process toward self-determination in the literature, the following topics are included: (1) alienation and the search for community; (1) "external" relationships (the ancestor, the king, the other), and (3) form and language.

Graduate Courses
M200A. Advanced Historiography: Afro-American. (Same as History M200V.) Seminar, three hours. May be repeated for credit. Ms. Creel

200B. Seminar in the Political Economy of Race. Prerequisite: consent of instructor. A seminar on political economy, with special reference to black political economy and with focus on the dynamics of allocation of wealth and power resources among social classes and racial and ethnic groups in the United States. Presented in a context that is at once comparative and international, the seminar emphasizes internationalism and transnationalism as well as the uniqueness of the Afro-American condition. It attempts to relate the black condition in the United States to the socioeconomic system of this country and to compare it to the political, social, and economic conditions of African peoples elsewhere.

M200C. Selected Problems in Urban Sociology. (Same as Sociology M262.) Seminar. Prerequisite: consent of instructor. Mr. Light, Mr. Oliver

M200D. Afro-American Sociolinguistics: Black English. (Same as Anthropology CM2430.) Lecture, three hours. The functions of research, research proposal writing, theory development and hypothesis testing, sampling theory, data collection, data processing and analysis, and interpretation. The ethics of research and preparing the research report.

270A. Research Methods. Seminar. Prerequisite: consent of instructor. An introduction to a variety of research methods, including experimental, quasi-experimental, observational, and survey research methodologies. The functions of research, research proposal writing, theory development and hypothesis testing, sampling theory, data collection, data processing and analysis, and interpretation. The ethics of research and preparing the research report.

270B-270C. Research Seminar. Prerequisite: consent of instructor. Designed to provide students with an opportunity to put their research skills into practical application. During the first quarter, all students meet under the direction of a faculty member and engage in a colloquium in which they share conceptual schema and research design. Students spend the second quarter completing their projects.

596. Directed Readings and Tutorial. Provides students an umbrella for those they can pursue specialized interests from which there is insufficient demand to warrant offering a formal course.
American Indian Studies (Interdepartmental)

3220 Campbell Hall, (213) 825-7315

Professors
Richard L. Abel, LL.B., Ph.D. (Law)
Robert A. Georges, Ph.D. (English)
Carole E. Goldberg-Ambrose, J.D. (Law)
James N. Hill, Ph.D. (Anthropology)
Pamela L. Munro, Ph.D. (Linguistics)
Gary B. Nash, Ph.D. (History)
Alegre Snyder, M.A. (Anthropology)

Associate Professors
Charlotte A. Heith, Ph.D. (Music)
Paul V. Krosnoff, Ph.D. (Anthropology)
Kenneth R. Lincoln, Ph.D. (English)
Jeffrey Prager, Ph.D. (Sociology)

Assistant Professors
Duane Champagne, Ph.D. (Sociology)
Jennie Joe, Ph.D. (Anthropology)

Scope and Objectives
Because UCLA possesses a substantial number of faculty in the humanities and social sciences engaged in teaching and conducting research on American Indians, the nation's first interdisciplinary M.A. in American Indian Studies was established here.

The M.A. program draws primarily on existing courses in the participating departments, where research and research methodologies are of primary concern. Students are exposed to Indian-related research in a number of different disciplines; demonstration of research skills is required. They will graduate with the training they need to teach Native American studies or to serve in an administrative capacity in Indian programs. The M.A. program is coordinated by the American Indian Studies Center and ranks among the top Indian studies programs in the country.

Master of Arts Degree

Admission
A bachelor's degree from an accredited undergraduate institution is required for admission to the M.A. program in American Indian Studies. You must demonstrate interest in American Indian studies either by formal coursework, independent study, or practical experience. As part of the application, you must submit a detailed account of your background, potential career plan, and interest in American Indian studies. Preference is given to individuals with undergraduate majors relevant to the proposed areas of concentration within the M.A. degree: 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 90024-1548.

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 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.

Linguistics Requirement
Students in the M.A. program must successfully complete one of the following: (1) Linguistics 114, (2) Anthropology 243P, or (3) for native speakers of an American Indian language, an independent study course (approved by the instructor) in either linguistics or anthropology in which a structural knowledge of the student's language is learned. These courses are designed to show how American Indian languages and communicative norms are primary vehicles for understanding American Indian cultures.

Course Requirements
(1) A minimum of 10 courses is required, at least seven of which must be graduate courses. Four courses are required: American Indian Studies M200A, M200B, M200C (which must be taken in the first year), and one of the linguistics requirement options described above, which must be taken by the end of the second year. In addition, one of the remaining six courses must be a graduate course concerned with research methodology.

(2) All M.A. candidates select one of the following areas of concentration: (a) history and law, (b) expressive arts, (c) social relations, (d) language, literature, and folklore. You can petition for optional combinations of interdisciplinary work through the program committee. In addition to the four required courses, you must complete a minimum of four courses in your area of concentration. Three of these must be graduate-level courses. Two additional courses are to be chosen from other areas of concentration. Courses must be selected from an approved list maintained by the program.

(3) Two courses in the 500 series may be applied toward the total course requirement; however, only one 596 course may be applied toward the minimum graduate course requirement.

Thesis or Comprehensive Examination Plan
You may select either (1) a thesis plan or (2) a comprehensive examination plan to complete the degree program. The committee members supervising the thesis or administering the comprehensive examination are selected by you with the consent of the program committee. Copies of the thesis must be submitted to each 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 a written and/or oral examination your competency in the major and minor areas of study.

Upper Division Course
197. Special Topics in American Indian Studies. Variable topics selected from the following: Myth and Folklore of Indian Societies; Contemporary American Indian Literature; Social Science Perspectives of American Indian Life; Law and the American Indian; History of 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. Designed to familiarize students with the major lenses of literature relating to American Indian history. Subjects include theories of Indian origins, historical demography, Euro-American attitudes toward Indian peoples, studies of United States Indian policy, and tribal histories. Standard theoretical approaches, including cultural ecology and dependency theory.

M200B. Cultural World Views of Native America. (Formerly numbered 200B.) (Same as English M296.) 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.

Ms. Heith, Mr. Lincoln

M200C. Contemporary Issues of the American Indian. (Same as Anthropology M269 and Sociology M273.) 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 course M200A and the cultural and expressive experience of American Indians presented in course M200B.

Mr. Champagne, Ms. Joe

201. Topics in American Indian Studies. Discussion, three hours. Prerequisite: consent of instructor.
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 sociology, 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 degree in anthropology. 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 (archaeology 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 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 normally is 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 culminates 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 197H, 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 is formulated. Knowledge of a foreign language is not required for admission, but completion of the language requirement before beginning work is highly recommended, and such students are at an advantage in the selection process.

Applications and all supporting material must be submitted by the following dates to be considered for admission:
- Winter Quarter 1988 — October 1, 1987
- Spring Quarter 1988 — December 30, 1987
- Fall Quarter 1988 — December 30, 1987

The Graduate Admissions Office (Graduate Division, 1247 Murphy Hall, UCLA, Los Angeles, CA 90024-1428) 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 90024-1553:
- (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 10 courses (40 units) taken for a letter grade with a minimum 3.0 grade-point average.

(1) Four courses may be upper division (100 series).
(2) One course must be a graduate core seminar in your chosen subfield of specialization (e.g., Anthropology M219A for archaeology, course 226 for biological anthropology, course 230 for sociocultural anthropology, course 240 for linguistic anthropology).
(3) In addition to the appropriate graduate core seminar, you must take five other graduate seminars (200 series).
(4) Three courses may be outside the major with consent of the guidance committee.
(5) Two courses may be anthropology independent studies (see department for course numbers) with consent of the guidance committee.

Eight units of course 596 taken for a letter grade may be applied toward the total M.A. course requirement, with four of these units applicable toward the minimum graduate course requirement.

Thesis
By your fourth quarter of study, you select a thesis committee of departmental faculty to supervise your research and writing. The committee, as well as your thesis topic, must be approved by the department and the dean of the Graduate Division. Prior to completing the M.A. degree requirements, you file a Petition for Advancement to Candidacy form with the Graduate Division. The approved thesis must be typed and filed according to University regulations; information on regulations and procedures is available in the Graduate Division. Evaluation of the thesis provides the basis for the thesis committee's recommendation and departmental faculty vote regarding both the acceptability of the thesis for the M.A. degree and admission into the doctoral program.

Ph.D. Degree

Admission
If you are entering the department with an M.A. in Anthropology from another university or in a field other than anthropology, you have to satisfy all master's degree requirements with the exception of the thesis. To fulfill this requirement, you may submit your prior master's thesis or a research paper written as a graduate student (whether or not in anthropology). Only after satisfying these requirements is a student 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 the committee, the department chair, and the Graduate Division. Under unusual circumstances, the department will consider alternate means of fulfilling the requirement.

Course Requirements
You must be in residence for one year between receipt of the M.A. degree and advancement to doctoral candidacy. During this time, coursework must be done with at least three different members of the faculty. You must be enrolled in a minimum of 12 units (this requirement may be waived by petition to the department chair) or be on an official leave of absence.

Qualifying Examinations
Qualifying examinations are conducted in two parts: (1) a written examination and (2) the University Oral Qualifying Examination. The timing of the examinations is arranged with members of the doctoral committee, but they may not take place earlier than the third 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 determined by the doctoral committee which examines you in three subfields of your choice. Two of these three subfields are drawn from a list available in the department; the third is specific to your needs, interests, and dissertation plans. After you successfully complete the written examination, the doctoral committee administers the University Oral Qualifying Examination, in which you are required to present a defense of your dissertation proposal. The committee determines the conditions for reexamination should you fail either examination.

Final Oral 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

1. The Principles of Human Evolution: Genetic Basis. Lecture, three hours; discussion, one hour. Required as preparation for the major. Not open for credit to students with credit for course 111. Human population biology in the conceptual framework of evolutionary processes. Emphasis on the genetic basis of human evolution, population biology, and diversity among living populations.

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. Human population biology in the conceptual framework of evolutionary processes. Emphasis on comparative primate behavior, structural anatomy, and the fossil record.

5. 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 the human dimension of social behavior as developed through anthropological study of contemporary peoples.

6. 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 investigation.

11. 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 22. Emphasis on evolutionary processes and the evolutionary past of the human species.

22. General Cultural Anthropology. Lecture, three hours; discussion, one hour. Not open for credit to students with credit for course 22. An introduction to the cultural understanding 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 contrasted against studies of primitive life.

33. Culture and Communication. Lecture, three hours. The role of culture in structuring how people communicate with one another, with emphasis on the importance of language as a symbolic guide to one's culture. Topics include cultural differences in verbal and nonverbal behavior, imagined and actual differences in male and female speech, language and education, verbal style and interactional strategy, language taboos, and the sociocultural factors which promote and retard language change. Emphasis on patterns of language use, rather than details of language structure.

44. Culture and the Visual Arts. Lecture, two hours; discussion, one hour. In our contemporary urban societies, looking at art objects and other aesthetic forms is a significant part of our everyday cultural experience. The anthropological approach offered helps achieve a better understanding of the formal qualities and the symbolic meanings of Western and non-Western art objects present in our visual environment.

Mr. Maquette

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.

Archaeology

110. World Archaeology. Prerequisite: upper division standing or consent of instructor. A broad survey of human civilization 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 non-majors. Experience in an anthropological approach to the study of the past. (Alternate core course for anthropology field.) Mr. Sackett

111. The Study of Archaeology. A survey of contemporary prehistoric and historical archaeology. Emphasis on 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. Early 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. Pleistocene geology and chronology. Mr. Sackett

113P. Archaeology of North America. Prerequisite: course 5 or 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 archaeology.

Mr. Meighan

113Q. Prehistory of California Indian Cultures. Examination of the California archaeological record from earliest human evidence to historic times, with emphasis on the development of cultural diversity.

Mr. Meighan

113R. Southwestern Archaeology. Examination of the prehistory of the American Southwest from Early Man to the close of the prehistoric period, with special emphasis on 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

114P. Ancient Civilizations of Western Middle America (Nahuatl Sphere). Pre-Hispanic and Conquest period native cultures of Western Middle America, as revealed by archaeology and early colonial writings in Spanish and Indian languages. Toltec-Aztec and Mixtec 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 or 6 or 22. Pre-Hispanic and Conquest period native cultures of Andean South America, as revealed by archaeology and early Spanish writing. The Inca and their predecessors in Peru, with emphasis on sociopolitical systems, economic patterns, religion, and aesthetic and intellectual achievements.

Mr. Donnan

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

115Q. Archaeological Research Techniques. Prerequisite: course 6 or consent of instructor. An introduction to the techniques of discovery and analysis that archaeologists have found useful in research. Special attention to sampling, typology, and location 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 archaeology, with emphasis on the development of research designs. Focus on how archaeological research is conceived and planned, with consideration of differing viewpoints and their usefulness.

Mr. Hill
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M115S. Historical Archaeology. (Same as History M103.) 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

116AQ. Laboratory Methods in Biological Anthropology: Skeletal. Prerequisites: courses 1, 2, consent of instructor. Laboratory methods and analysis of human skeletal remains. Lab.

120P. Laboratory Methods in Biological Anthropology: Dental. Prerequisites: courses 120Q and 120R, consent of instructor. Laboratory methods and analysis of human skeletal remains. Lab.

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M115G. Dating Techniques in Environmental Sciences and Archaeology. (Same as Geography M178.) Lecture, three hours; seminar, three hours; laboratory, one hour. Prerequisite: consent of instructor. Introduction to scientific dating methods such as radiocarbon dating, radiocarbon dating methods, biological dating techniques, and magnetic dating, and applications in environmental sciences, archaeology, and physical anthropology.

M. Berger

118A. Museum Studies. Prerequisite: consent of instructor. Method and theory of museum operation. Discussion and demonstration of museum acquisition, storage, photography, conservation, and exhibitions. Analysis of museum research, publication, and teaching, as well as museum administration and funding. Lectures and demonstrations structured to illustrate how the various aspects of museum operation are interrelated.

M. Donnan and the Museum Staff

118B. Graduate Research and Consulting. Prerequisites: course 118A, consent of instructor. Advanced research and consulting in the museum field. Lab.

118C. Museum Studies. Prerequisite: consent of instructor. Method and theory of museum operation. Discussion and demonstration of museum acquisition, storage, photography, conservation, and exhibitions. Analysis of museum research, publication, and teaching, as well as museum administration and funding. Lectures and demonstrations structured to illustrate how the various aspects of museum operation are interrelated.

M. Donnan and the Museum Staff

Biological Anthropology

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

120G. Biological Anthropology in Review. Lecture, three hours; seminar, three hours. Corequisite: lecture portion of course 11. Limited to graduate students in anthropology. Designed for anthropology students who have a deficiency in biological anthropology. Seminar discussion based on basic evolutionary principles, the behavior of nonhuman primates, hominid evolutionary history, and contemporary human variation.

M. Boyd

121A. Fossil Man and His Culture. Recommended prerequisites: courses 1, 2, Course 121A should be taken before 121B and 121C. Introduction to method and theory in paleoanthropology. Primate evolution, Cretaceous through the Miocene. Ms. Kennedy

121B. The Australopithecines. Prerequisite: consent of instructor. Recommended: courses 1, 2, 121A. The morphology, ecology, and behavior of the genus Australopithecus, its relationship to the other primates, and their place in human evolution. Ms. Kennedy

121C. Evolution of the Genus Homo. Prerequisite: consent of instructor. Recommended: courses 1, 2, 121A, 121B. The origin and evolution of the genus Homo, including the evolution of Homo habilis, Homo erectus, Homo neanderthalensis. The morphology, ecology, and behavior of these groups. Course ends with the appearance of modern man. Ms. Kennedy


123P. Aging: An Anthropological Perspective. Lecture, three hours. An exploration of aging from an evolutionary and cross-cultural perspective. A survey of 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.


124P. Evolution of Human Sexual Behavior. Lecture, three hours. Prerequisite: consent of instructor. Recommended: course 1 or 2 or equivalent. Examination of human sexual relations and social behavior with an emphasis on evolutionary perspectives. Emphasis on theories and evidence for differences between men and women in their patterns of growth, maturation, fertility, mortality, parenting, and relations with members of the opposite sex.

124Q. Physiology of Human Behavior. Lecture, three hours. Prerequisites: upper division standing and/or consent of instructor. An overview of the neural, physiological, and endocrine substrates of a variety of human behaviors, including sexual behavior, aggression, language, and affiliative behavior. Emphasis on the evolutionary origins, developmental pathways, and cross-cultural expressions of the behaviors examined. Focus on human behavior, with evidence from the animal literature as well.

Ms. Peacock

124R. Laboratory Methods in Human Behavioral Endocrinology (6 units). Lecture, three hours; laboratory, three hours (plus time to complete project). Prerequisites: course 124Q or consent of instructor. An introduction to laboratory methods in neuroendocrinology for students in the social and behavioral sciences. Emphasis on field-compatible methods. Design and execution of a small research project.

Ms. Peacock

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 variation. Analytic methods and evolutionary hypotheses.

126P. Introduction to Field Methods in Human Ecology. Lecture, three hours. Prerequisite: upper division or graduate standing. A survey of methods used in anthropological investigations emphasizing human biology and human ecology. Study design, physical assessment of nutritional status, growth and maturation, demographic surveys, systematic observation of behavior, energy expenditure, subsistence ecology, data survey of the behaviors and patterns of animals, and human primates. Emphasis on field-compatible methods. Lectures and demonstrations structured to illustrate how the various aspects of field methods are interrelated. Lab.

Ms. Peacock

127P. Primate Evolution. Prerequisite: upper division standing. A survey of the primate paleontological and evolutionary records, encompassing prosimians, New World and Old World monkeys, and hominoids. Attention of paleoecology and behavior.

Ms. Bailey, Ms. Peacock

128A-128B. Primate Behavior Nonhuman to Human. Lecture, three hours. Prerequisite: upper division standing. Course 128A is prerequisite to 128B. Review of primate behavior as known from laboratory and field studies. The behavioral, ecological, and evolutionary adaptations of animal behavior, with special reference to nonhuman primates. Discussion of human behavior as the product of such evolutionary processes. P/ NP or letter grading.

Ms. Silko

129P. Laboratory Methods in Biological Anthropology: Skeletal. Prerequisites: courses 1, 2, consent of instructor. Limited to majors and graduate students. Laboratory methods and analysis of human skeletal remains. Lab.

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Cultural Anthropology

130. The Study of Culture. Lecture, three hours. Prerequisite: courses 124P or equivalent. 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.

M. Osvald


M. Osvald

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

Ms. Levine

133Q. 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). Emphasis on field-compatible methods. Lectures and demonstrations structured to illustrate how the various aspects of field methods are interrelated. Lab.

Ms. Maquet

133R. Aesthetics Anthropology. Prerequisite: upper division standing. An examination of visual aesthetic phenomena that meets the requirements of anthropological research. Emphasis on the integration of visual aesthetic phenomena with other elements in the cultural system; their relationships with other elements in the cultural system.

M. Maquet

134. Theoretical and Methodological Issues in Cultural Anthropology. Prerequisite: upper division standing or consent of instructor. The relationship between individual and collective behavior, with particular attention to anthropological theories and interpretations of cultural behavior.

M. Wilbert
134P. Anthropology of Self and Identity. Lecture, three hours. Prerequisite: course 22 or equivalent. Survey of the anthropological literature on self, identity, and emotion. Examination of the conceptual and theoretical relationships among these terms as well as their exploration in the context of contemporary ethnography. P/NP or letter grading. Ms. Hollan

135A. Introduction to Psychological Anthropology: Historical Development. (Formerly numbered 135P) Lecture, three hours. Prerequisite: course 22 or consent of instructor. Survey of the field of psychological anthropology, with emphasis on the early foundations and historical 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. P/NP or letter grading. Ms. Wellenkamp

135B. Introduction to Psychological Anthropology: Current Topics and Research. (Formerly numbered 135P) 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. P/NP or letter grading. Ms. Wellenkamp

135C. Seminar in Psychocultural Studies. Seminar, three hours. Prerequisites: course 22 or equivalent, consent of instructor. Firsthand exposure to current research in psychocultural studies. Varied interests of university scholars are brought in to discuss their ongoing research. Using these presentations as models, students develop proposals for future research. P/NP or letter grading. Mr. Hollan, Ms. Wellenkamp

135D. The Individual in Culture. Prerequisite: upper division anthropology, sociology, or psychology standing. The balance for freedom and determinism for individuals and societies in the interrelation of personality, social structure, and culture. The nature and limits of human plasticity, the variability and uniformity of personality within and between cultures; the relation of normal and abnormal conformity and deviance. Mr. Hollan

135R. 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 relating to the field. Mr. Weisner

135S. Anthropology of Deviance and Abnormality. Lecture, three hours. Prerequisites: course 22 or equivalent, consent of instructor. The relationship between culture and the recognition of, responses to, and forms of deviant and abnormal behavior. Mr. Hollan

136P. Ethnology: Field Training. Training in ethnographic field methods. Execution of individual and group ethnographic field research projects. M136G. A Laboratory for Naturalistic Observations: Developing Skills and Techniques. (Same as Psychiatry M112J.) 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, limitations, and implications for research in the social sciences. Mr. Gallimore, Mr. Weisner (W)

137. Ethnography on Film. Intensive examination of filmed and written ethnographies of a wide range of the world’s peoples. Focus on relating visual with written data and evidences and (2) developing criteria for adequate written and film ethnography. Mr. Moerman

138. Methods and Techniques of Ethnology. Introduction to the cross-cultural study of 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. Nicholson

139. Field Methods in Cultural Anthropology. Lecture, three hours. Prerequisite: upper division standing. Corequisite: course 139L. Introduction to the skills and tools of data ascertainment through fieldwork in cultural anthropology. Emphasis on techniques, methods, and concepts of ethnographic research and how basic observational information is systematized for presentation, analysis, and cross-cultural comparison. Mr. Wilbert

139L. Field Methods in Cultural Anthropology. Laboratory, three hours. Prerequisite: upper division standing. Corequisite: course 139. A supervised practicum of field methods in cultural anthropology. Field methods and techniques presented in course 139 practiced and applied in simulated field situations. Discussion of styles of presenting ethnographic information. Mr. Wilbert

Linguistic Anthropology

M140. Language in Culture. (Same as Linguistics M146J.) 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 the linguistic categories of a culture; the role of language in the expression of experience. A holistic approach to the study of language, with emphasis on the relationship of linguistic anthropologist to the fields of biological, cultural, and social anthropology, as well as archaelinguistics. Core course for linguistics field. Mr. Kroskrity

141. The Ethnography of Communication: Introduction and Practicum. Prerequisite: upper division standing or consent of instructor. Course has two interrelated objectives: (1) to introduce students to the ethnography of communication—the description and analysis of situational communicative behavior—and the sociocultural knowledge which it reflects and (2) to train students to recognize, describe, and analyze the relevant linguistic, proxemic, and kinesic aspects of face-to-face interaction. Mr. Kroskrity

142A-142B. Human Social Ethnology. 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, which are analyzed in class for the interactive tasks, resources, and accomplishments displayed. Laboratory and fieldwork outside of class and minimal fees to offset costs of equipment maintenance and insurance required. Mr. Moerman

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

143B. Field Methods in Linguistic Anthropology: Syntax, Semantics, Textual Cohesion. Prerequisite: course 143A or equivalent experience or consent of instructor. The skills and strategies necessary for conducting investigations into the syntactic, semantic, and textual properties of native languages. Practice with native speakers of various non-Indo-European languages is an important aspect of student participation. Mr. Kroskrity

144. American Indian Ethnoanthropologies. Prerequisite: prior coursework in either anthropology, linguistics, or American Indian studies. Introduction and comparative analysis of the sociocultural aspects of language use in Native North American Indian speech communities. Specific loci include: macro-linguistic, micro-linguistic, and textual (or discourse) structures of field language. Micro-linguistic topics are comprised of such issues as multilingualism, cultural differences regarding appropriate communicative behavior and variation within speech communities (e.g., male and female speech, baby talk, ceremonial speech, etc.). Macro-linguistic considerations include language contact and its relationship to language change and language in American Indian education. Mr. Kroskrity

C145. 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 social implications 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 society; the relation of these to the technological complexity and ecological conditions of the culture; the principles of evolutionary development of social systems. (Core course for social field.) Mr. Goldschmidt

151. Marriage, Family, and Kinship. Prerequisite: course 5 or 6 or Sociology 1. A survey of marital patterns, descent, and kinship systems and the cultural implications and 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 preindustrial societies of varying degrees of complexity. Law and the maintenance of order; corporate groups; ideology. The relations of political institutions to other institutions of society. Ms. Levine

152P. Comparative Systems of Social Inequality. Lecture, three hours. Prerequisite: course 5 or 6 or consent of instructor. Exploration of the cultural causes and consequences of systems of social inequality based on rank, caste, class, ethnicity, or sex, with examples from Asian, Pacific, European, African, and American societies. Mr. Hammond


154. Principles of Social Structure. Prerequisites: course 5 or 6 or Sociology 1. Upper division standing in anthropology or sociology. Theoretical 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 6 or Sociology 1 and upper division standing, or consent of instructor. An analysis of the cultural modes of thought and social structures associated with illness in non-Western societies. Emphasis on the social roles involved in the diagnosis and curing. Ms. Levine

156. Comparative Religion. A survey of various methodological and ideological approaches, including the understanding of particular religions through descriptive and structural approaches, and the identification of social and psychological factors which may account for variation in religious systems cross-culturally. Mr. Newman
Social Action/Applied Anthropology

160. Introduction to Social Action Anthropology. Lecture, three hours. Prerequisites: courses 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, housing, mental health organization, economic development, environmental protection, 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 firsthand experience working in agencies in the public and private sectors (e.g., hospitals, mental health clinics, community development agencies, schools, etc.) selected for their relevance to students' prospective professional interests in applied anthropology. Eight to 12 hours in the field, complemented by weekly seminars, field evaluations, and the preparation of a field journal. Mr. Hammond

161. Development Anthropology. Prerequisites: course 5 and upper division standing, or consent of instructor. Comparative study of the peasanization of traditional peasant cultures, the transformation of peasant societies, and the urbanization of ruralities. Special emphasis on the nature of these trends as well as the social and political effects of these trends. Ms. Levine

162. Contemporary American Indian Problems. Contemporary problems of the American Indian both on 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 from traditional cultures and contemporary American culture. Ms. Joe, Ms. Levine


165. Demographic Problems in Nonindustrial Societies. Prerequisite: course 5 or 22. The dynamic interaction between environment, cultural belief, social structure, and population in hunting and gathering, pastoral, horticultural, and agricultural societies. The principal theories of population change and current issues in population policy considered in light of the anthropological evidence. Ms. Levine

166. An Introduction to Ethnic Minority Relations. Lecture, three hours. Prerequisites: courses 5, 6, 106, 165P. Comparative study of minority relations, social discrimination, and prejudice. Emphasis on cross-cultural psychological and sociocultural analysis. Cases from the U.S., Latin America, India, and Africa. Mr. MacEachern

166P. Mexican and Chicano Folklore in Cultural Context. (Same as Folklore M103.) 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. Ms. Rodriguez

167. Urban Anthropology. Open to upper division majors in the social sciences, and others with consent of instructor. Emphasis on urban adaptation by 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

167P. Psychoanalysis and Anthropology. Lecture, three hours. Exploration of mutual relations between anthropology and psychoanalysis, considering the nature and evolution of psychoanalytic theory and practice. A cross-cultural psychoanalytic approach. Mr. Johnson

168. Health in Culture and Society. (Same as Nursing M158.) 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 belief systems of the participants. Emphasis on interaction networks in health care systems. Mr. Johnson

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 processes of change, political, technological, and military. Critical examination of contrastive models of economic development and nation-building policies employed by Turkey, Egypt, Iran, and Saudi Arabia and their consequences for the countries and the region. Mr. Shahritari

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 pluralism of civilizations, each based on a particular association of an environment (dry savanna, grassland, equatorial forest, highlands) with a dominant technique of acquisition/production (hunting/ gathering, 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 prehistoric time to modern development. Mr. Osvald

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 or 6 or 22 or upper division standing or consent of instructor. A survey of ethnographic and etnohistorical research of the Pueblo Indians (Zuni, Tanoan, and Keresan) and their immediate neighbors. Basic information on the history, languages, social organization, and traditional cultural systems of these groups. Mr. Kroskity

173R. Ethnohistory of the Pueblo Southwest. Prerequisites: course 12R 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 the use of life histories, the problem of objectivity, and the use of native languages as field tools. Mr. Kroskity

172T. Ethnohistory of Hispanic Cultures in the U.S. Southwest. (Same as Chicano Studies M172T) Lecture, three hours. Prerequisite: course 5 or 22 or consent of instructor. An ethnography of the social and cultural adaptations of Hispanic people in the United States: their respective social organization, economic and political institutions, sacred and secular belief systems, and expressive cultures. Pr. NFP (undergraduates), S/U (graduate), or letter grading. Ms. Rodriguez

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

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. Mr. Johnson

173Q. Latin American Communities. An overview of the social and cultural anthropology of small communities in Latin America. Similarities and contrasts in social organization and interpersonal relations described from an ethnohistorical perspective. Critical examination of the effects 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. 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 Indochinese Peninsula, the Malay Peninsula, Borneo, Burma, Laos, Cambodia, and Vietnam seen against their historical and ecological backgrounds. Use of slides and other media along with texts, lectures, and discussion. Mr. Moerman
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. Shahrami

Pacific
177. Cultures of the Pacific. The four major culture areas of Oceania: Melanesia, Polynesia, Micronesia, and Australia. General geographical 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 through the development of early social thought and the emergence of early social science. 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 emphasis on the research methods that have been found most useful in each. Examination of the relevance of philosophy of science 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 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 models. Discussion and exercise are scheduled with course C288, P/NP or letter grading.

Special Studies
191. Writing for Anthropology. Prerequisite: course 5. Teaching of writing skills in various academic forms, including term papers, essay examinations, journal articles, and reports. Class projects required. Consent of instructor. 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, policies, modernization, labor power training, 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 of readings on a major topic.

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

199A. 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 evaluation of professional written work. Emphasis on the organization and presentation of a scholarly argument. May be repeated for credit. Mr. Sackett

199B. Directed Studies for Honors. Prerequisites: courses 199A and consent of instructor. May be repeated for credit. Mr. Read

206. 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. Earle

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, 135A, 150, or equivalent, or consent of instructor. The essential concepts, theories, and methodologies of sociocultural anthropology. Reading and of 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 density of population.
Mr. Earle

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 include the history and process of island occupation, island adaptation, and the evaluation 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 Near East. 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

M216. 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 instruction and experimental work. May be repeated for credit. Mr. Berger
Biological Anthropology

220. Current Problems in Biological Anthropology. Seminar, three hours. 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 introduction to current research in the conditions of gene frequency equilibria, and factors causing gene frequency change. Mr. Williams.

222O. Probability Models and Statistical Methods in Genetics. (Same as Biometrics M246.) Lecture, three hours. Prerequisites: consent of instructor, 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).

222R. Applied Genetic Modeling. (Same as Biometrics M207B.) Lecture, three hours; discussion, one hour. Prerequisites: course 222O and graduate standing, or consent of instructor. Methods of computer-oriented genetic analysis. Topics include the segregation and linkage analysis, polygenetic (quantitative) models, and population structure. Includes a laboratory for hands-on computer analysis of genetic data; laboratory reports required. Ms. Spence (F, even years).

225S. 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.

223. The Roots of Human Behavior. Lecture, three hours. 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 discussion of topics in the study of foraging societies. Emphasis on the theoretical and practical topics in human ecology and biology, including health and nutrition, the spread and development, life history variables, foraging, and demographic 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 and field-oriented laboratory investigations of primate ecology, behavior, anatomy, physiology, and evolution (specific topics to be announced). May be repeated for credit.

225. Analysis of Biological Anthropology Field Data. Prerequisite: course 224 or other field training course or consent of instructor. Pragmatic and theoretical aspects of research on wild primates from planning and execution through final data analysis (discussion topics to be announced). May be repeated for credit. Mr. Sackett.

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 vocalization, to the social shaping 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. Survey of the evolution of different mating systems in birds and mammals, with special focus on nonhuman primates. Emphasis on social and ecological selective pressures acting on male and female reproductive behavior and partial investment. The validity of applying evolutionary theory to human reproductive behavior. Mr. Blount Jones.


229A. Seminar: Human Behavioral Ecology. (Same as Education M281A and Psychiatry M279A.) Lecture, one hour; discussion, three hours. Prerequisite: consent of instructor. Examination of predictive models from animal behavioral ecology used to study human diet and subsistence; settlement patterns and territory; sharing and helping; reproduction and mortality. Comparison with other economic and ecological approaches in anthropology. Mr. Blount Jones.
232U. Issues in the Anthropology of Emotion. Seminar, three hours. Prerequisite: graduate standing and consent of instructor. Theoretical and methodological issues in the anthropological study of emotion, as the extent to which culture shapes emotional experience and expression in everyday contexts and in ritual, and their representation in the psychological sciences. Cross-listed with Psychology 243. Required of all MRRC trainees. A systematic overview of the quarter. 

Ms. Wollenkamp

232V. Current Issues in Ethnography. Seminar, three hours. Prerequisite: graduate standing or consent of instructor. S/U or letter grading. 

Mr. Moerman

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 semiotic logic (as opposed to the causal one) are among the questions to be selected for analysis and discussion. May be repeated for credit. 

Mr. Maquet

233Q. Aesthetics of 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. 

Mr. Edgerton, Mr. Price-Williams

M234A. Transcultural Psychiatry. (Same as Psychiatry M222.) Lecture, three hours. Prerequisite: consent of instructor. A two-quarter sequence devoted to the present state of research in the transcultural appraisal of mental health and illness in child development and socialization, personality, psychobiology, transcultural psychiatry, deviance, learning, perception, cognition, and psychocultural perspectives on change. 

M234B. Seminar in Psychocultural Studies. (Same as Psychiatry M210A-M210B.) 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

M234Q. Psychobiological Anthropology. (Same as Psychiatry M227.) Lecture, three hours. Prerequisite: consent of instructor. Various psychological issues in anthropology, both theoretical and methodological. Areas of interest include the same things as culture theory and cultural anthropology, and the place of psychology in this area. Discussion of questions related to the conceptual frameworks and unconsciousness as they are related to culture. Topics vary from quarter to quarter. May be repeated for credit. 

Mr. Edgerton

M234R. Sociocultural Perspectives on Mental Retardation. (Same as Psychiatry M211.) Lecture, three hours. Prerequisite: consent of instructor. Exploration of concepts such as "intelligence," "competence," and "adaptive behavior" in varying non-Western societies as background to the study of the problem of mental retardation in the West, particularly the United States. Topics include cross-cultural perspectives, the history of institutional confinement, the policies of deinstitutionalization and normalization, and current issues involving adaptation and "quality of life." Discussion of the psychological issues in these contexts. 

Mr. Edgerton


M236P. Selected Topics in the Cross-Cultural Study of Socialization and Childhood. (Same as Psychiatry M214.) Lecture, three hours. Prerequisite: consent of instructor. Methods, ethnographic data, and theoretical orientations. Emphasis on current research. May be repeated for credit. 

Mr. Weisner

M236Q. A Laboratory for Naturalistic Observations: Developing Skills and Techniques. (Same as Education M220 and Psychiatry M245.) Lecture, three hours. Prerequisite: consent of instructor. The skills of observing and recording behavior in natural settings, with emphasis on field training and practice in observing behavior. Emphasis on the analysis of observations and their implications for research in the social sciences. Students are expected to integrate observational work into their current research interests. 

Mr. Edgerton

M237A-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. Required of all MRRC trainees. A systematic review of mental retardation and the sciences basic to this field of study. The language, methods, aims, and contributions of the various disciplines that contribute to the field. The last two weeks of the second quarter are spent discussing and preparing multidisciplinary research designs with potential for the prevention or amelioration of mental retardation. S/U grading. 

Mr. Buchwald, Mr. Edgerton

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. O'Connell

239P. Selected Topics in Field Training in Ethnography. (Same as Linguistics M246A.) Seminar, four units. Prerequisite: consent of instructor. Supervised collection of ethnographic information in the field. Students spend full time in the field for most of the quarter. 

239Q. Analysis of Field Data. Prerequisite: course 239P. Seminar in Ethnographic field data analysis. Supervision of ethnographic material 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, including relationship of language to work, recreation, leisure, politics, economics, philosophy of science, and social structure. 

Mr. Maquet

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 ethnolinguistics and the ethnography of communication. Main attention to the development of theoretical models related to the ethnography of communication. 

Mr. Kroskrity

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 skills and the mastery of situationally appropriate speech. May be repeated for credit. 

Ms. Mitchell-Kernan

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 body of modern sociolinguistic work; to study the nature of intra-individual and interindividual variation; and to evaluate the utility and potential applicability of recent linguistic models to anthropological linguistics and anthropological theory. 

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. 

M247A. Ethnographic Film. (Same as Motion Picture-Television M209C.) Lecture/discussion, four hours; laboratory, to be arranged. 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 culture. Students are assigned preliminary research topics, and they are expected to increase the understanding of the theoretical and practical aspects of ethnographic filming. Consideration of the potential of both film and video for fieldwork. 

Mr. Boehm, Mr. Hawkins, Mr. Moerman (F)

248. Practicum in a Field Language (4 to 8 units). Prerequisite: consent of instructor. Intensive training in an indigenous language as preparation for work in the field. 

Social Anthropology

250. Social Anthropology. Prerequisite: consent of instructor. Introductory orientation to current theoretical and methodological issues in the field. 

Ms. Levine

251P. Cultural Ecology. Prerequisite: consent of instructor. May be repeated for credit. 

Mr. Johnson

251Q. Cultural Ecology of Lowland South America. Prerequisite: consent of instructor. Seminar on tropical forest anthropology. Field research in South America, with special emphasis on the tropical forest. 

Explanatory 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. Prerequisite: course 152P, upper division standing, consent of instructor. Particular problems in understanding social structures which are essential to the practice of social anthropology. May be repeated for credit.

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.

257. Social Interaction. Prerequisite: consent of instructor. Emphasis on issues for ethnographic theory and practice raised by developments in anthropological, sociological, psychological, linguistic, and ethnological contributions to our understanding of the organization of face-to-face behavior. May be repeated for credit.

258. Comparative Studies of Intentional Communities. Prerequisite: course 157 or consent of instructor. Questions concerning the idealized, societal, and individualistic approach to intentional communities are selected and discussed in depth, with reference to particular collectivities. May be repeated for credit.

259. Cultural Ecology of Nomadic Pastoral Societies. Seminar, three hours. Prerequisite: upper division standing or consent of instructor. Examination of nomadic pastoralism both as a form of subsistence and economic strategy, and as a mode of sociopolitical adaptation to ecologically marginal and sociopolitically heterogeneous regions of Asia and Africa. Mr. Shahrani

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 of the study of minority relations from a comparative perspective. Consensus, conflict, and pluralistic constructs analyzed and interpreted in terms of sociocultural development and the ways in which they are maintained or changed.

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 problems 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. Hammond

262P. Culture and Human Reproduction. (Same as Public Health M276P.) Lecture, two hours; discussion, two hours. Prerequisites: course 120 or 124P, Public Health 112, 171A, M274A, consent of instructor. Exploration of human behavior in the context of reproductive, contraceptive, and health-related practices. Cross-cultural exploration of biological and behavioral factors, with particular reference to human reproduction. Ms. Scrimshaw

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: consent of instructor. Exploration of 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

263Q. Social Relations, Illness, and Health. (Same as Nursing M273 and Psychiatry M273.) Prerequisite: one upper division course in anthropology, sociology, or psychology. Social structural 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. Browner (Sp)

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, belief and value systems, linguistic and expressive arts, and health systems. Topics vary according to interest and are announced prior to the beginning of the quarter. May be repeated for credit.

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 and managers of cultural resources. Mr. Meighan

266. Medical Anthropology in Public Health. (Same as Public Health M271.) Prerequisite: Public Health 112, 130, one upper division course in medical anthropology, sociology, or anthropology course, or equivalent, consent of instructor. Cross-cultural aspects of human health 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 M265A-M265B.) Lecture, four hours; laboratory, to be arranged. Prerequisites: course M247A, consent of instructor. Further consideration of the methods and criteria for the use of film as a medium for the presentation and communication of human cultures. Production of films and videotapes on topics selected by students.


269. Contemporary Issues of the American Indian. (Same as American Indian Studies M200C and Sociology M275.) Introduction to the most important issues facing American Indians as individuals, communities, tribes, and nations. The American Indian and the cultural and expressive experience of American Indians presented in American Indian Studies M200B. Mr. Champagne, Ms. Joe

269P. Women, Work, and Health. (Same as Nursing M280 and Psychiatry M280.) Seminar, three hours; discussion, one hour. Prerequisite: consent of instructor. Examination of how women's socio-economic 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.

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. Topics in the 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 sub-regions of the U.S. Southwest: the lower Rio Grande Valley of south Texas, the Rio Arriba of northern New Mexico, western Arizona, and Southern California.

276. Cultures of Southeast Asia. Prerequisite: consent of instructor. Topics in the contemporary sociocultural anthropology of Southeast Asia. Depending on their level of preparation, students produce a topical annotated bibliography, critique, or proposal for research. S/U or letter grading. Mr. Meighan

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 perspectives. Major perspectives include evolutionism, cultural ecology, British functionalism, French functionalism, structuralism, cultural and personality, psychological anthropology (Freudian, neo-Freudian, non-Freudian), behavioral anthropology, cognitive anthropology, and ethnomethods.

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. Mr. Johnson

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 theory, systems theory, decision theory, Markov processes, etc. Mr. Read

M284. Qualitative Research Methodology. (Same as Public Health M273.) Discussion, three hours; laboratory, one hour. Prerequisite: Public Health 100A and 125 or 161, one undergraduate or graduate social psychology, anthropology, or sociology course, 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. Ms. Scrimshaw

285. Schools, Domains, and Strategies in World Archaeology. (Not the same as course 285 prior to Fall Quarter 1986.) Seminar, three hours. Prerequisite: consent of instructor. A comparative examination of the schools of world 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. Mr. Sackett

286. Quantitative Methods in Anthropology. Laboratory, three hours; seminar, three hours. Prerequisite: courses 186A and 186B or equivalent, consent of instructor. Computer-aided methods of quantitative data analysis, including multivariate techniques, in the context of student research data sets. Mr. Read

M286. Selected Topics in Computer Simulation and Modeling. Seminar, three hours. Prerequisites: courses 186A and 186B, or equivalent, consent of instructor. Recommended: course 186B. Applications of computer simulations and/or models to specific problem areas of interest to anthropologists. Problem areas rotate with each offering and include cognitive ecological, demographic, evolutionary, and other theoretical foci. S/U or letter grading. Mr. Read

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 techniques; 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 required to meet one additional hour each week to discuss relevant simulation literature. S/U or letter grading.

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

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.

501. Cooperative Program (2 to 8 units). Prerequisite: consent of UCLA adviser and graduate dean. 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.

Lecturers
Donna Brinton, M.A. (English as a Second Language)
Janet Goodwin, M.A. (English as a Second Language)

Visiting Associate Professor
Grant Henning, Ph.D. (English as a Second Language)

Visiting Assistant Professor
Barbara Kroll, Ph.D. (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 another recognized institution may be admitted provided they then make up the courses in one or the other of the two UCLA M.A. programs whose equivalents they have not yet taken.

Students with graduate degrees in other related disciplines (such as a foreign language, English, education, psychology, sociology, or anthropology) are advised to complete the UCLA M.A. in Linguistics or TESL before seeking admission to the Ph.D. program.

Prospective candidates are required to submit (1) 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 propose, and (3) a statement of the type of dissertation they hope to propose.
to prepare, and (3) copies of any relevant professional publications, M.A. theses, or substantial papers they may have written. The General 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 90024-1531) 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 acquisition, language analysis, language education, and language use. For details on each specialization, contact the program office.

Applied Linguistics Program

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 201 or 203. Students selecting the syntax and semantics track would take Linguistics C165B/C200B, followed by Linguistics 206 or 207 or 211. 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 are not required to take them at UCLA. If you have at least two years 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 300 or 301. 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 acquisition or language use. (None of the aforementioned six courses may be 596 courses taken in departments other than Linguistics or English.) An additional two courses are required in the specialization in which the dissertation research will be done. Thus, a student who opted for a dissertation in language acquisition 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 admission 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 completion of the M.A. and preferably taken within the framework of UCLA's Applied Linguistics 501.

Within Graduate Division limits, courses that may be taken on an S/U basis include undergraduate courses taken as prerequisites to needed graduate courses, undergraduate courses not required, reading courses in a foreign language, graduate courses taken in addition to the required 32 units. These may not be applied toward the Ph.D. course requirements. May be repeated for credit. (F,W,Sp)

596. Directed Individual Study (4 to 8 units). Prerequisite: doctoral standing. Independent study in an area of applied linguistics. Up to eight units may be applied toward the Ph.D. course requirements. May be repeated for credit. (F,W,Sp)

597. Preparation for Ph.D. Candidacy Examination (4 to 8 units). Prerequisite: completion of at least six courses of the 32-unit requirement for the Ph.D. May not be applied toward the 32-unit requirement. May be repeated for credit. S/U grading. (F,W,Sp)

599. Research for and Preparation of Ph.D. Dissertation (4 to 16 units). Prerequisite: advancement to Ph.D. candidacy. Required of all Ph.D. candidates each quarter they are registered and engaged in dissertation preparation. May be repeated for credit, but may not be applied toward the Ph.D. course requirements. S/U grading. (F,W,Sp)

Applied Linguistics Course List

Language Acquisition

Education 212A. Learning and Education
212B. Motivation and Affect in the Educative Process
212C. Cognition and Creativity in Education
217D. Language Development and Education

English 260K. Psycholinguistics and Language Teaching
261K. Second Language Acquisition
269K. Current Issues in Language Acquisition

Linguistics 254. Topics in Linguistics I: Proseminar
257A-257B. Communication Disorders Associated with Developmental Disabilities and Psychiatric Disorders

Psychology 240A-240B. Developmental Psychology
260A-260B. Proseminar in Cognitive Psychology
263. Psycholinguistics
Language Analysis

English 249K. Current Issues in Language Analysis
250K. Advanced Seminar in Cohesion Analysis of English Structure
251K. Advanced Seminar in Intersubject Analysis of English Structure
Linguistics 201. Survey of Current Issues in Phonological Theory
201B. Phonological Theory in the 20th Century
206. Survey of Current Issues in Syntactic Theory
210A, 210B. Field Methods
211. Survey of Discourse and Functional Foundations of Grammar
220. Linguistic Areas
225. Linguistic Structures
251. Topics in Phonetics and Phonology I: Proseminar
252. Topics in Syntax and Semantics I: Proseminar
253. Topics in Language Variation I: Proseminar
254. Topics in Linguistics I: Proseminar
Spanish (Spanish and Portuguese) 256A-256B. Studies in Spanish Linguistics

Language Education

Education 204A. Topics and Issues in International and Comparative Education
204D. Minority Education in Cross-Cultural Perspective
210A. Basic Concepts in Educational Research
210B. Experimental Design in Educational Research
210C. Experimental Design: Advanced Topics
210D. Experimental Design: Multivariate Analysis (courses 210A-210D are highly recommended for statistical work, but only two may be applied toward the eight-course requirement)
211A. The Measurement of Educational Achievement and Aptitude
211B. Measurement in Education: Underlying Theory
262B. Seminar: Reading
262F. Seminar: Research Topics in Bilingual/Multicultural Education
264. Seminar: Teacher Education
English 220K. Materials Development for Language Teaching
221K. Media for Language Teaching
222K. Language Testing for Teachers of English as a Second Language
223K. Role of English as a Second Language in Bilingual Education
M224K. The Teaching of English for Minority Groups
227K. Experiential Seminar in Second Language Learning
229K. Current Issues in Language Education
232K. Advanced Seminar in the Construction and Administration of Language Tests

Language Use

Anthropology M232P. Cultural Modes of Thought
M234Q. Psychological Anthropology
240. Seminar in Language and Culture
M241. Topics in Linguistic Anthropology
244. Topics in Language Socialization
Education 200B. Survey Research Methods in Education
English 223K. Role of English as a Second Language in Bilingual Education
242. Language and Literature
M262. Studies in Afro-American Literature
275. Stylistics and the Teaching of English

Archaeology (Interdepartmental)

288 Kinsey Hall, (213) 825-4169

Professors
C. Rainer Berger, Ph.D. (Anthropology, Geography, and Geophysics), Chair
Giorgetto Buccellati, Ph.D. (Ancient Near East and History)
John Callender, Ph.D. (Near Eastern Languages and Cultures)
Christopher B. Dorman, Ph.D. (Anthropology)
Susan B. Downey, Ph.D. (Art History)
Timothy Earle, Ph.D. (Anthropology)
Marja Gimbutas, Ph.D. (European Archaeology)
James N. Hill, Ph.D. (Anthropology)
Clement W. Meighan, Ph.D. (Anthropology)
Henry B. Nicholson, Ph.D. (Anthropology)
Wendell H. Osawalt, Ph.D. (Anthropology)
Merrick Posansky, Ph.D. (History and Anthropology)
Donald A. Preziosi, Ph.D. (Art History)
Dwight Read, Ph.D. (Anthropology)
James R. Sackett, Ph.D. (Anthropology)
Stanislav Segert, Ph.D. (Near Eastern Languages and Cultures)
George H. Sines, Ph.D. (Materials Science and Engineering)
Kan Lao, B.A., Emeritus (East Asian Languages and Cultures)
Katharina Otto-Dorn, Ph.D., Emeritus (Art History)
Richard G. 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)
Bernard D. Frischer, Ph.D. (Classics)
Gail E. Kennedy, Ph.D. (Anthropology)
Cecelia Klein, Ph.D. (Art History)
William Klement, J.R., Ph.D. (Materials Science and Engineering and Archaeological Sciences)
Steven Lattimore, Ph.D. (Classics)
Arnold Rubin, Ph.D. (Art History)

Assistant Professors
Robert C. Bailey, Ph.D. (Anthropology)
Irene A. Bierman, Ph.D. (Art History)
Robert L. Brown, Ph.D. (Art History)

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) General 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 90024-1510.
Major Fields or Subdisciplines
Africa; analysis of archaeological materials; ancient Near East; Andean South America; Caribbean; China and the Far East; classical Greece and Rome; dating techniques in archaeological sciences; Europe; India and Central Asia; Mesoamerica; Pacific; paleoenvironmental studies; Western North America.

Other areas of specialization are also available.

Fieldwork
No graduate degree is 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 take a regular UCLA field course such as Anthropology 115P, Archaeology 259, Ancient Near East 261, or History 276, 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 has 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, or (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 are 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 which have been the focus of the seminar discussions in Archaeology M201A-M201B. The examination is graded high pass, pass, or no pass and may be repeated once.

M.A. Paper
A master's-level research paper, normally no longer than 30 to 35 pages and graded by the three members of the M.A. committee, is to be submitted by the end of the third week of the seventh quarter to the chair of the program.

Ph.D. Degree
Admission
Completion of a master's program is required. Applicants who do not have a UCLA M.A. in Archaeology should refer to the admission section under "Requirements for Graduate Degrees." Admission to the doctoral program for students completing a UCLA M.A. in Archaeology is based on written recommendation by all three members of the M.A. committee and at least a high pass on either the M.A. core examination or the M.A. paper.

Doctoral students entering the program with an M.A. from another university are required to pass a comprehensive core examination (see "Master of Arts Degree") unless they can demonstrate to the chair and the members of the admissions committee that the examination should be waived.

Foreign Language Requirement
Reading competence in two modern foreign languages relevant to your interests is normally required. Competence may be demonstrated as outlined for the master's degree.

Course Requirements
You must be enrolled in a minimum of 12 units per quarter. Archaeology 200 is required. There are no other restrictions or requirements concerning courses.

Qualifying Examinations
By the end of the fourth quarter of the doctoral program, after the foreign language requirement has been fulfilled, you must take a written qualifying examination in the following three areas: (1) topical specialization; (2) analytical theory, method, and technique; (3) regional culture history. If you pass this examination, you may then make arrangements to take the oral examination. If the written examination or any portion thereof is failed, you may make one further attempt if your committee deems it appropriate.

The University Oral Qualifying Examination must be taken by the end of the sixth quarter of the doctoral program. You are required to submit to the doctoral committee a formal dissertation proposal (of about 10 pages), including the particular research problem on which you will be examined during the oral qualifying examination.

Candidate in Philosophy Degree
You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

Final Oral Examination
The final oral examination may be waived by your doctoral committee.

Upper Division Course

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.

M213. Archaeological and Paleontological Applications of Stable Isotopes (6 units). (Formerly numbered 211.) (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; paleoclimatic analysis; determination of provenience of archaeological materials; analysis of aspects of the biochemistry and physiology of fossil animals.

Mr. DeNiro

259. 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.

596. Individual Studies for Graduate Students (2 to 12 units). Hours to be arranged. Prerequisite: consent of instructor. May be repeated for credit with consent of adviser.

597. 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.

598. M.A. Paper Preparation (2 to 12 units). Prerequisite: consent of instructor. May be repeated for credit with consent of adviser. S/U grading.

599. 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 116Q. Dating Techniques in Environmental Sciences and Archaeology 118A, 118B. Museum Studies 121A. Fossil Man and His Culture


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. Pre-Columbian Art of Mexico C117B. Pre-Columbian Art of the Maya C117C. Pre-Columbian Art of the Andes 118A. Arts of Oceania 118D. Arts of Native North America 220. Oceanic, Pre-Columbian, African, and Native North American Art

Old World — Africa


Old World — Europe

Anthropology 112. Old Stone Age Archaeology 213. Selected Topics in Problems in Old World Archaeology


Old World — India and the Far East


Old World — Islam

Art History (Art, Design, and Art History) 104A. Western Islamic Art 104B. Eastern Islamic Art C104C. Problems in Islamic Art 213. Advanced Studies in Islamic Art

Old World — Near East

Asian American Studies (Interdepartmental)

3232 Campbell Hall, (213) 825-2974

Professors
Lucie C. Cheng, Ph.D. (Sociology)
John N. Hawkins, Ph.D. (Education)
Harry H.L. Kitano, Ph.D. (Social Welfare), Chair
Fred G. Notehelfer, Ph.D. (History)
Alexander P. Saxton, Ph.D. (History)
Stanley Sue, Ph.D. (Psychology)

Associate Professors
Noriko Akatsuka, Ph.D. (East Asian Languages and Cultures)
Robert A. Nakamura, M.F.A. (Theater, Film, and Television)
Philip L. Newman, Ph.D. (Anthropology)

Assistant Professors
King-Kok Cheung, Ph.D. (English)
Don T. Nakamshi, Ph.D. (Education)
Paul Ong, Ph.D. (Urban Planning)

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 an interdepartmental major such as 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 Specialization
Required: Asian American Studies 100A-100B.

Upper Division
Since this is not a degree-granting program, students participating in it must complete an organized major.

For further information on the undergraduate specialization, contact the Curriculum Coordinator, Asian American Studies Center, at the above address.

Master of Arts Degree

Admission
In addition to the University's minimum requirements, applicants are expected to present evidence of their previous interest in Asian American studies through courses taken at the undergraduate level, by research papers written independently or for related classes, or by work experience in an Asian American community. In any case, applicants are required to submit a paper or article, preferably on Asian Americans, directly to the Asian American Studies Program (3232 Campbell Hall, UCLA, Los Angeles, CA 90024-1546) as part of their application. Three letters of recommendation are also required.

Major Fields
Since the program is interdepartmental, its major fields are determined by the participating faculty 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 approval and completion of the thesis, the committee conducts an oral examination on its subject.

Upper Division Courses

100A-100B. Introduction to Asian American Studies. An introduction to Asian American studies. 100A. The history of Asians in America. 100B. Contemporary Asian American communities.

M102. Asian American Literature. (Same as English M102.) Prerequisite: satisfaction of Subject A requirement. Prose and poetry by Americans of Chinese, Japanese, Pilipino, and Korean origins. Study of the interaction of autobiography and fiction, the nourishing and limiting influences of mainstream American and Asian literary traditions, and the conflict between ideological and literary criteria.

103. Asian American and the Law. Survey of major federal and California case and legislative law directed specifically toward Asian Americans from 1850 to World War II and relocation. Major subject areas include Japanese relocation orders, anti-Asian labor legislation, legal prohibitions against Asians' right to testify, case law on Asian women, and equal educational opportunity for Asians.

105. Asian American Women. Lecture, three hours. The condition of Asian women in America. Topics include racial and cultural stereotypes, women in Asian American history, and contemporary issues and concerns of Asian American women. Current approaches to Asian American women presented and evaluated.

M107. Asian American Personality and Mental Health. (Formerly numbered 197.) (Same as Psychology M107.) Lecture, three hours. Prerequisite: Psychology 10. Foundations of personality development and mental health among Asian Americans. Topics include culture, family patterns, achievements, stressors/resources, and immigrant and minority group status.

197. Topics in Asian American Studies. Lecture, three hours. Variable topics selected from the following: Pilipino American Experience; Japanese American History; Korean American Experience; Asian American Literature; Asian American Communities.

199. Special Topics in Asian American Studies (2 to 4 units). Prerequisites: course 100A or 100B or comparable knowledge in Asian American studies, junior or senior standing, consent of instructor. Special individual study on topics such as ethnic literature, public policies, economic development, immigrant education, and/or social policies related to Asian American studies.
Graduate Courses

200A. Critical Issues in Asian American Studies. Prerequisites: graduate standing, consent of instructor. Examine and seek to develop a critical appreciation of the research literature on Asians in America and to develop alternative interpretations of the Asian American experience. Topics include Asian American history and economic/political and social-psychological issues. Ms. Chang

200B. Critical Issues in Asian American Studies. Prerequisites: graduate standing, consent of instructor. A critical review of research methods, strategies, and philosophies in Asian American studies. Mr. Nakamura

200C. Critical Issues in Asian American Communities. Lecture, three hours. Prerequisites: graduate standing, consent of instructor. Evaluation of traditional and contemporary theories and models of community for their appropriateness to understanding Asian Pacific American communities. Consideration of specific topics which explicate the development, structure, and dynamics of Asian Pacific American communities in studying community issues and concerns. Mr. Ong

297. Topics in Asian American Studies. M297A. Topics in Asian American Literature. (Same as English M260A.) Lecture, three hours. A graduate 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 article-length research papers. Analyzing rhetorical and stylistic features of essays in various Asian American journals helps students improve both their prose style and editorial abilities. Four units may be applied toward 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
261. Comparative 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 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

Astronomy

8979 Math Sciences, (213) 825-4434

Professors
Ferdinand Coroniti, Ph.D.
Harland W. Epps, Ph.D.
Michael A. Jura, Ph.D., Chair
Mark Morris, Ph.D.
Mirek Plavec, Ph.D.
Roger K. Ulrich, Ph.D.
Edward L. Wright, Ph.D.
Benjamin Zuckerman, Ph.D.
Lawrence H. Aller, Ph.D., Emeritus
Daniel M. Popper, Ph.D., Emeritus

Associate Professor
William I. Newman, Ph.D.

Assistant Professors
Matthew Malkan, Ph.D.
Jean L. Turner, 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 Bachelor 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, 180.

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
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) General Test and Subject Test in Physics. For further information, contact the Graduate Adviser, Department of Astronomy, 8979 Math Sciences, UCLA, Los Angeles, CA 90024-1562.

New students and those who have not been admitted to candidacy for the Ph.D. should consult with the graduate adviser at the beginning of Fall Quarter to determine a program for the year.

Master of Science Degree
Course Requirements
Nine courses are required for the master's degree, of which at least five must be at the graduate level in astronomy (excluding Astronomy 200). The B segments of the graduate multiple-term courses (Astronomy 204B, 208B, 217B, 219B, 227B, 230B) count as 1.5 courses each for the purpose of receiving degree credit. 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, 208C, 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.

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 (excluding Astronomy 200), 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.
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 are encouraged to complete it later, but the grade assigned is based on the portion completed by the end of the Fall Quarter.

Final Oral Examination
You must pass a final examination after completing your dissertation.

Lower Division Courses
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 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.

Mr. Epps, Mr. Malkan, Mr. Plavec, Ms. Turner

3H. Introductory Astronomy and Astrophysics. Lecture, three hours; discussion, one hour. Not open to students with credit for or currently enrolled in course 3. Introduction to astronomy and astrophysics for freshmen who are seriously interested in science. Requires the ability to understand mathematical and physical concepts, but high school algebra and trigonometry classes provide sufficient qualification. Particularly recommended for declared or potential majors in astronomy or in physical and mathematical sciences.

Mr. Jura, Mr. Morris, Mr. Plavec (W)

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 clusters and the universe and their relation to stars. Intermediate medium. Initial stages of stellar evolution (protostars, T Tauri stars) and final stages (disequilibrium and collapsed stars). Stellar systems from clusters to galaxies.

Mr. Epps, Mr. Plavec

5. Life in the Universe. Lecture, three hours; discussion, one hour. Prerequisite: 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 primarily from astronomy and biology but includes some chemistry, geology, and physics. Selected topics treated in some depth, but with little or no formal mathematics.

Mr. Zuckerman (W)

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.

Mr. Malkan, Mr. Wright (Sp)

10. Practice in Observing (2 units). Laboratory, two and one-half hours one evening per week. Prerequisites: knowledge of plane trigonometry and prior or concurrent course in astronomy, or consent of instructor. Practical work for beginners. Includes telescopic observations and laboratory exercises cognate to an introductory course in astronomy.

81. Astrophysics I: Stars and Nebulae. (Formerly numbered 101.) Lecture, three hours; laboratory, one hour. Prerequisites: Mathematics 31A, 31B, Physics 8A, or equivalent, or consent of instructor. Open to qualified sophomore and upper division students. A survey of our knowledge about stars: their distances, masses, luminosities, temperatures, and interrelationships between these parameters. Methods and importance for astrophysics. Variable stars. Planetary and gaseous nebulae.

Mr. Morris, Mr. Plavec (W)

82. Astrophysics II: Stellar Evolution, Galaxies, and Cosmology. (Formerly numbered 102.) Lecture, three hours; discussion, one hour. Prerequisites: Mathematics 31A, 31B, Physics 8A, or equivalent. Recommended: course 81, Physics 8B, BC. Open to qualified sophomores and upper division students. Basic principles of stellar structure and evolution. Red giants, white dwarfs, novae, supernovae, neutron stars, and black holes. Pulsars and galactic X-ray sources. The Milky Way galaxy and the interstellar medium. Extragalactic astronomy, galaxy clustering, active galactic nuclei, and quasars. Introduction to cosmology: Hubble law, thermal history of the Big Bang, and the earliest moments of the universe.

Mr. Cononith, Mr. Malkan

Upper Division Courses

Mr. Epps, Mr. Jura (W)

117. Radiation and Fluids in Astrophysics. Lecture, three hours; laboratory, one hour. 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 radiation transfer. Hydrodynamics and shock waves. Applications to stars, to the interstellar and intergalactic media, 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 in stars. 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 star clusters and galaxies, with particular emphasis on required Way and green spectral surveys 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: junior 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 radio astronomy, interferometry, 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. Wright (F)

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, course may be used to carry out a meritorious observing 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.

200. Introduction to Graduate Study of Astronomy. Required of all new graduate students. Survey of the various fields of astronomy and astrophysics; first acquaintance with working methods and with the department. Survey of basic astronomical nomenclature; the background in physics and mathematics outlined and required in graduate courses.

201. Astrophysics of the Solar System. Prerequisites: graduate standing or consent of instructor. The sun, solar phenomena, and solar-terrestrial relationships. The interplanetary medium and astronomical plasma physics, comets, meteoroids, meteorites, 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. Jura, Mr. Turner, Mr. Zuckerman


Mr. Plavec, Mr. Ulrich
Atmospheric Sciences

7127 Math Sciences, (213) 825-1217

Professors
Akio Arakawa, D.Sc. (Atmospheric Dynamics)
Michael Ghil, Ph.D. (Climate Dynamics)
George L. Siscoe, Ph.D. (Atmospheric Physics), Chair
Richard M. Thorne, Ph.D. (Atmospheric Physics)
Sekharipuram V. Venkateswaran, Ph.D. (Atmospheric Physics)
Morton G. Wurtele, Ph.D. (Atmospheric Dynamics)

Associate Professors
Carol R. Mechoso, Ph.D. (Atmospheric Dynamics)
Roger M. Wakimoto, Ph.D. (Atmospheric Dynamics)

Associate Teaching Professor
Akio Arakawa

Junior Faculty
Michele Yamai, D.Sc. (Atmospheric Dynamics)
James G. Edinger, Ph.D. (Atmospheric Dynamics)
Yale Mintz, Ph.D. (Atmospheric Dynamics)

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 90024-1565. In addition to students holding bachelor's degrees in meteorology or atmospheric sciences, graduates with degrees in related disciplines—astronomy, chemistry, engineering, geophysics, mathematics, 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.

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 microphysics, atmospheric chemistry, and radiative transfer in planetary atmospheres. The department is staffed by the following people: Akio Arakawa, Roger M. Wakimoto, Richard M. Thorne, Carlos R. Mechoso, and Michelle Yamai, who are active in these fields.

Minor in Atmospheric Sciences
Any other student requiring at least 15 units of courses in atmospheric sciences may elect a minor in atmospheric sciences. The courses may be repeated as many times as needed, and the minor must be declared by the end of the Fall Quarter of the student's senior year. The minor includes three courses in atmospheric sciences, and an additional course may be chosen to meet a specific need. The minor also requires a minimum of 45 units of courses with grades of B or better.

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.

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, 1554; 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.

Atmospheric Sciences


Mr. Flavec, 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.


M285. Origin and Evolution of the Solar System. (Same as Earth and Space Sciences M285) Dynamic problems of the solar system; chemical evidences from geochemistry, meteorites, and the solar atmosphere; nucleosynthesis; solar origin, evolution, and termination; solar nebula, hydrogen processes, formation of the planets and satellite systems. Content varies from year to year. May be repeated for credit. S/U grading.

Mr. Kaula, Mr. Newman

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 may be repeated at the discretion of the department:

596A. Directed Individual Studies (4 to 10 units).

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.

Mr. Kraft

599. Ph.D. Research and Writing (10 to 12 units).
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. 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 allows students to make weather forecasts for Los Angeles and one city east of the Rocky Mountains.

Mr. Wakimoto (W)

1A. 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 (W)

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 air pollution in high school and beyond 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.

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.

4. California Weather and Climate. (Not the same as course 4 prior to Fall Quarter 1996.) Lecture, two hours; laboratory, two hours; field trips. The climate and weather in California. Topics include upper-level, middle-level, and sea-level conditions, mesoscale and low-level phenomena. Use of the weather forecast, and use of interactive computing in weather analysis.

Mr. Thorne, Mr. Wurtele (W,F,Sp)

5. Introduction to the Atmosphere. Lecture, three hours; discussion, one hour. Introduction to the atmosphere and time scales ranging from the lifetime of an el nino event to the earth's rate of evolution. Discussion of the causes of climatic change (e.g., the long-term change in solar luminosity, short-term fluctuations in solar luminosity, changes in the earth's orbit, changes in the composition of the atmosphere, volcanoes, anthropogenic changes such as increased CO2 and nuclear war), the role of the ocean in regulating the climate, and the role of the biosphere and the oceans.

Mr. Thorne

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 climates, the global distribution of climate types, and the role of factors such as the earth's orbit, changes in atmospheric composition, volcanoes, anthropogenic changes such as increased CO2 and nuclear war, the role of the ocean in regulating the climate, and the role of the biosphere and the oceans.

Mr. Thorne

7. Meteorology in History and Art. Lecture, three hours; discussion, one hour. The impact of weather and climate on society, their dominant role in human history, and their role in shaping the course of human civilization over the course of the last several centuries.

Mr. Thorne

8. Clouds, Rain, and Storms. (Formerly numbered 8A.) Lecture, three hours; discussion, one hour. The raindrop and the ice crystal. Relation of meteorological conditions to cloud types. Precipitation mechanisms from clouds. Different scales of atmospheric cloud organization. Description and dynamics of spectacular weather systems, ranging from tornadoes to hurricanes. Severe weather forecasting.

Mr. Venkateswaran

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 for all students interested in the impact of weather on society. The impacts on and uses of meteorology in society. Introduces social issues in weather forecasting, and the relationship between weather forecasting, the legal profession, and the public policy.

Mr. Thorne

150. Introduction to Dynamic and Synoptic Meteorology I. Lecture, two hours; laboratory, three hours. Prerequisites: courses 1A, 101, Mathematics 35A, and 11. Atmospheric physics, atmospheric thermodynamics, and atmospheric dynamics.

Mr. Yanai (Sp)

154. Introduction to Dynamic and Synoptic Meteorology II. Lecture, two hours; laboratory, three hours. Prerequisites: course 150. The conservation of mass and the equation of continuity. Transformations of atmospheric flow. Circulation and the vorticity equation. The thermodynamic energy equation. The equation of state. The atmosphere as a two-dimensional, incompressible, adiabatic system.

Mr. Yanai (Sp)


Mr. Thorne

150B. Introduction to Dynamic and Synoptic Meteorology III. Lecture, two hours; laboratory, three hours. Prerequisites: course 150. The conservation of mass and the equation of continuity. Transformations of the three-dimensional atmosphere. Circulation and the vorticity equation. The thermodynamic energy equation. The equation of state. The atmosphere as a two-dimensional, incompressible, adiabatic system.

Mr. Yanai (Sp)

150C. Introduction to Fluid Dynamics. (Formerly numbered 150.) Same as Earth and Space Sciences M150C. Lecture, three hours; discussion, one hour. Corequisite: Physics 131, Equations of fluid motion, conservation of momentum, potential, stagnation and vorticity equations, boundary conditions, and the Navier-Stokes equation for fluids. Phase change, internal gravity waves, Rossby waves, Ekman layers, and oceanic fronts. The geostrophic wind, jet stream, and atmospheric circulation. The general circulation of the atmosphere.

Mr. Yanai (W)
142. Atmospheric Motion II. (Formerly numbered 151.) Lecture, three hours; discussion, one hour. 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. Arakawa (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; evaporation; transport, diffusion, and transformation of atmospheric contaminants. Mr. Wurtele (Sp)

145. Atmospheric Physics. Lecture, three hours; discussion, one hour. Prerequisites: Physics 8E, 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. Thorne (W)

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 disturbed conditions. The solar wind. The magnetospheres and the ionospheres of the earth and other planets. Geomagnetic phenomena. Aurora and solar storms. Mr. Thorne (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 (W)

M180. 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. Newman

195. Senior Paper. Prerequisite: senior standing in atmospheric sciences. Supervised through individual consultation with an appropriate faculty member, students write a research paper on a topic of their own choosing within their area of concentration in the major. May be used for writing an honors thesis. (F,W,Sp)

198. Operational Meteorology (2 units). Laboratory, six hours. Prerequisite: junior or senior standing in atmospheric sciences. Daily contact with weather data and forecasting, satellite and radar data. Introduction to weather forecasting for aviation, air pollution, marine weather, fire weather, and public use. Includes daily weather briefings, discussions and visits to observing, radiosonde, and radar installations. Mr. Wakimoto

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. Macroscopic and microscopic description of clouds and precipitation; phase change processes in the atmosphere; theory of drop forming and ice formation; development of precipitation in clouds; cloud chemistry, cloud electric. (F)


200C. Introduction to Atmospheric Chemistry. (Formerly numbered 156.) Lecture, three hours. Chemical composition and history 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. Siscoe (Sp)

201A. Chemical Weathering and Air Pollution. 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, airmass thunderstorms, multicell storms, supercell tornadoes, dry and wet deposition, aerosols, and the dry deposition of gases. Mr. Drob (W)

202. Dynamics of Clouds. Lecture, three hours. Prerequisites: courses 209, 210A. Margules relations; early Norwegian cyclone models; quasi-geostrophic and semi-geostrophic frontogenesis; orography and surface friction; mesoscale organizations near fronts; observations and theory; frontogenesis as a problem in nonlinear dynamics.

204. Atmospheric Circulation. Lecture, three hours. Prerequisites: course M140 or consent of instructor. Rayleigh convection. Buoyant convection from isolated sources. Thermodynamics of moist air. Theory of moist convection. Observations of atmospheric convection. Models of cumulus convection. Mr. Yanai (F)

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. Mr. Wurtele (F)


210A. Atmospheric Wave Motions. Lecture, three hours. Prerequisite: course 209. Oscillations of a compressible, stratified, and rotating atmosphere. Scale analyses and dynamics of quasi-geostrophic motion. Quasi-geostrophic wave instability. Vertical propagation of wave energy. Mr. Thorne (F)

210B. Dynamics of Planetary Circulations. Lecture, three hours. Prerequisite: course 210A. Interaction between waves and mean zonal and meridional circulations. Radiative forcing of thermal wind, planetary circulations and their stability. Frontogenesis. Geostrophic turbulence. Forced planetary waves. Mr. Gharib (Sp)

212A. Numerical Methods in Geophysical Fluid Dynamics. Lecture, three hours. Prerequisite or corequisite: course 209. Basic numerical methods for initial-boundary value problems in fluid dynamics, with emphasis on applications to atmospheric and oceanographic problems. Finite difference methods and their applications to nonlinear initial-boundary value problems, computational models and computational boundary conditions. Spectral methods. Mr. Mechoso (W)

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. Parameters 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. Stratospheric sudden warming. Mr. Arakawa (Sp)


Mr. Ghi

214B. Climatic Oscillations. Climatic history of our planet. Quaternary glaciations. Fluid dynamics of the atmosphere and oceans, ice sheets and Northern Hemisphere Oscillatory models of glaciation cycles. Bifurcations from equilibrium to periodic and aperiodic solutions. The predictability of climatic change on various times scales. Mr. Ghi (F)

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. Ghi (W)


218. Dynamics of the Atmosphere-Ocean Systems. Lecture, three hours. Transfer of properties between atmosphere and ocean; wind-driven oceanic currents; coastal upwelling. Air-sea interactions. Effects of the oceans on climate. Mr. Mechoso (Sp)

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; tropospheric air pollution chemistry; physical and chemical properties of atmospheric aerosols; wet and dry deposition of particulate and gaseous pollutants.

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 states of molecules in the upper atmosphere; stratospheric pollution; chemistry of the airglow and nightglow; chemistry of other atmospheres.
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.

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 growth and evaporation of water drops and ice crystals; growth of cloud drops and atmospheric ice particles; growth of cloud drops and atmospheric ice particles by collision.

224. Atmospheric Electricity. Lecture, three hours. Prerequisite: course 223A. Theory of the effect of clouds; radiative dynamical interactions in clouds; physics of thunder and lightning; effect of charge generation mechanisms in atmospheric electrification.

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 non-spherical 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

235. Infrared Radiative Transfer. Lecture, three hours. Prerequisite: course 200B. Theory of radiative transfer. Approximate solutions to the equation of transfer. Absorption spectroscopy; band models; absorption by atmospheric gases; fluxes and heating rates. Satellite radiation measurements.

236. Scattering Processes in the Atmosphere. Lecture, three hours. Prerequisite: course 200B. Equation of transfer in a scattering medium. Stokes formalism; Rayleigh and Mie theories of atmospheric scattering; skyglow; 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 Magnetochemistry. Lecture, three hours. Prerequisite: course 215A 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 and to solar wind-magnetospheric coupling.

240B. Solar System Microscopic Plasma Processes. Lecture, three hours. Prerequisite: course 215 or consent of instructor. Adiabatic charged particle dynamics; coherent radiation processes; collective effects in a plasma; propagation characteristics of electrostatic and electromagnetic waves; introduction to resonant interaction between charged particles and plasma waves.

240C. Ionoospheric Plasmaes. Lecture, three hours. Prerequisite: courses 215A, 240B. Formation of planetary ionospheric layers; transport processes; currents and electric fields; ionospheric plasma instabilities; nonlinear effects and artificial modification.


247. Radio Radiation Belt 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.

248. Advanced Topics in Interaction between Lower and Upper Atmospheres. Lecture, three hours. Content varies from year to year.

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.


257. Radiation, Pollution, and Climate. Lecture, three hours. A breadth requirement for graduate students; specific background in radiation 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.

260. Seminar in Meteorology (2 units). Seminar in Atmospheric Dynamics (2 units). Seminar in Cloud and Precipitation Physics (2 units). Seminar in Atmospheric Radiation (2 units). Seminar in Physics of the Upper Atmosphere (2 units). Seminar in Climate Dynamics (2 to 4 units each). (Same as Earth and Space Sciences M270A-M270B-M270C.) Lecture, two hours. Prerequisite: consent of instructor. 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 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. Ghil, 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
Biomathematics 202
Chemical Engineering 137A, 137E, 240
Civil Engineering 163

Computer Science 10C
Earth and Space Sciences 101, 1140, 1514, 1800, 202, 203, 204, 2111, 2124, 222, 261, 265 Electrical Engineering 103, 161, 162A, 165


biochemistry

See Biological Chemistry (School of Medicine), Biology, and Chemistry and Biochemistry
2203 Life Sciences, (213) 825-3481

Professors
- Albert A. Barber, Ph.D. (Cell Biology)
- Joseph Cascaran, Ph.D. (Cell Biology)
- David J. Chapman, Ph.D., D.Sc., Chair
- William R. Clark, Ph.D. (Cell Biology)
- Martin L. Cody, Ph.D.
- Wilbur T. Ebersold, Ph.D.
- Franz Engelmann, Ph.D.
- John H. Fessler, Ph.D. (Molecular Biology)
- Arthur C. Gibson, Ph.D. (Botany)
- William R. Clark, Ph.D. (Botany)
- John H. Fessler, Ph.D. (Cell Biology)
- Thomas W. James, Ph.D. (Molecular Biology)
- J. Lee Kavanau, Ph.D.
- Joseph Cascarano, Ph.D. (Cell Biology)
- Jeffrey Miller, Ph.D.
- 0. Raynal Lunt, Ph.D.
- George G. Laties, Ph.D. (Plant Physiology)
- J. Philip Thornber, Ph.D. (Plant Biochemistry)
- Jacob B. Biale, Ph.D.
- Albert A. Barber, Ph.D. (Cell Biology)
- Nicholas E. Collias, Ph.D.
- Arthur W. Haupt, Ph.D.
- Vladimir Walters, Ph.D.
- Clara M. Szego, Ph.D.
- Henry A. Hespenheide, Ph.D.
- Charles C. Taylor, Ph.D.
- Peter M. Narins, Ph.D.
- Judith A. Lengyel, Ph.D.
- Clifford F. Brunk, Ph.D. (Cell and Molecular Biology)
- Elma Gonzalez, Ph.D. (Cell Biology)
- Henry A. Hesper, 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.
- Richard K. Vance, Ph.D.
- Laurie Vitt, Ph.D.

Lecturers
- Kathleen Diamond, Ph.D.
- Catherine Jacobs, Ph.D.
- Eric Mundall, Ph.D.
- Steve Strand, Ph.D.

Adjunct Professor
- William M. Hamner, 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, 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, 153, 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, Geography 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, 145A 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 I through V, 6 through 7, 8 through 9, 10 through 11, and 12 through 13; Chemistry 1 through 2; Mathematics 1 through 2; Mathematics 4 through 5; Mathematics 6 through 7; Physics 1 through 2; and Biology 100, 101, 105, 110, or 115. One course in morphological and molecular biology.

The Major: One course in morphological and molecular biology. A minimum of 16 upper division courses is required, including 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 of 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, cellular, and developmental biology) or Division II (organismic and population biology). The major fields and subdisciplines are listed under faculty interests. Applicants should be directed to the appropriate department. Undergraduates who are prospective applicants should remedy their deficiencies by preparatory study at an appropriate institution. The Graduate Division of the department may initially restrict applicants with less distinguished accomplishments.

All applicants must take the General Test (verbal, quantitative, and analytical) of the Graduate Record Examination (GRE). The Subject Test in Biology is also required.

Three letters of recommendation are required. These should be from professors, supervisors, or other individuals who can provide an evaluation of motivation, accomplishments or potential in research, scholarly activities, teaching, and related academic functions.

Applications, departmental brochures, and additional information may be obtained from the Graduate Affairs Office, Department of Biology, 3216 Life Sciences, UCLA, Los Angeles, CA 90024-1606.

Program of Study

Study consists of coursework and research within the department and within related programs in biochemistry, geology, microbiology, and molecular biology on campus. Opportunities are also available off campus for intensive study of marine biology at the Catalina Marine Science Center in the Fall Quarter (CMBO), field biology in the Spring Quarter (FBQ), and tropical biology through courses offered by the Organization for Tropical Studies.

You also are required to complete the departmental written qualifying examination, given in the Fall and Spring Quarters, at an early point in your graduate career.

Foreign Language Requirement

No foreign language is prerequisite to admission to the M.A. or Ph.D. program, and there is no uniform language requirement for obtaining the Ph.D. However, in the pursuit of certain specialties in biology, you may be required to gain proficiency in one or more foreign languages.

Master of Arts Degree

Admission

Applications are evaluated by the appropriate divisional admissions committee and are accepted for admission to Fall Quarter only.

Course Requirements

The program consists of at least nine courses completed in graduate standing, of which at least five must be graduate (200 series) courses. The remaining courses may be in the 100, 200, or 500 series as noted below. No more than two 596 courses (eight units) may be applied toward the nine courses required for the degree; only one 596 course (four units) may be applied toward the minimum graduate course requirement. Courses graded S/U may not be applied toward the minimum requirement, except that an S/U-graded course outside the major and applicable to the degree may be applied, provided that no more than one such course is taken per quarter.

Specific course requirements are established for you by your guidance committee.

Thesis Plan

A thesis reporting the results of an original investigation, written to conform to the requirements of the Graduate Division, is presented to and approved by the master's thesis committee of three faculty members. Before beginning work on the thesis, you must obtain approval of the subject and general plan from the faculty members concerned and from the thesis committee.

Comprehensive Examination Plan

If you select this plan, you must take a three-hour examination prepared and graded by your committee or committee chair and approved by the graduate adviser. The examination is graded pass or fail. If you fail, recommendation for or against a second examination must be made by the graduate adviser.
Ph.D. Degree

Admission
Each division determines admission of students to the Ph.D. program separately. Ph.D. students in Division I (molecular, cell, and developmental biology) are admitted in 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 introduce 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. (F.W.Sp)
5. Biology of Organisms Lecture, three hours; discussion, 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. (F.W.Sp)
6. Ecology, Evolution, and Behavior Lecture, three hours; discussion, two hours. Prerequisites: courses 5 and Mathematics 3A or 31A. A survey of the principles of population and community ecology, behavioral ecology, population genetics, and evolution.
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 organelles, molecular biology, cell cycles, and developmental biology.
8. Introductory Genetics Lecture, three hours; discussion/demonstration, 90 minutes. Prerequisites: 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. Cellular and Molecular Biology Laboratory (2 units). Lecture, three hours; discussion/laboratory, two hours. Prerequisites: courses 5L, 8 (may be taken concurrently). Introductory laboratory experience, including bacterial growth, mitosis and meiosis, genetics, molecular biology, and developmental biology.
10. Plants and Civilization Lecture, three hours; 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.
13. Evolution of Life Lecture, three hours; discussion, one hour. Not open to life sciences majors. Limited to 100 students. An introduction to the evolutionary framework of early life. The relationship of evolutionary thought to other areas of knowledge and society.
15. Evolutionary Theory Lecture, three hours; discussion, one hour. Not open to students with credit for course 15 since these represent a course sequence surveying the entire plant world as appropriate background for upper division courses in plant biology.
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 the role of the oceans as a control on climate; seasonal and interannual variations; marine productivity; and the impact of marine life on human populations.
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 applications of random walk theory. Coverage of topics tailored to specific student interests.

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.

Upper Division Courses
Course 5L is prerequisite to all upper division laboratory courses. Course 8 is prerequisite to all upper division courses in cell, molecular, 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 vascular plants, 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.

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 biology of vascular plants, 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.

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 five intensive weeks, followed by an extended field trip where students do individual field projects. Mr. A. Gibson

104. 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. Currently scheduled with course C212.

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, natural history, morphology, and physiology of the invertebrates. Mr. Morin

106. Experimental Marine Invertebrate Biology (6 units). (Formerly numbered 106B.) Lecture, two hours; laboratory, 12 hours. Prerequisites: courses 105, 129, and 166 (latter may be taken concurrently), or equivalent, or consent of instructor. An advanced course of natural history, physiology, biochemistry of invertebrates, and comparison of independent laboratory and field investigations. Mr. Morin, 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 four-unit course has lecture, three hours; laboratory, six hours; additional 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; 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 their evolution, systematics, morphology, zoogeography, and ecology. Field trips examine the fishes of the Southern California shoreline, tidepools, and coastal streams. Mr. Buth

112. Evolutionary Biology. Lecture, three hours; laboratory, three hours. Prerequisite: completion of preparation for four major courses. Highly recommended: Mathematics 31A, 31B, 32A, 32B. 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, Dr. Hesenbein (W)

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.

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.

116A. Honors Seminar in Organismic and Evolutionary Biology (2 units). Prerequisites: course 5 and honors program standing, or consent of instructor. Reading and group discussion of organismic topics in course 5. Students participate in the honors program and must have taken 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.

116B. Honors Seminar in Organismic and Evolutionary Biology (2 units). Prerequisites: courses 6, 116AH. Reading and group discussion of 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. Prerequisites: one course in biological sciences or consent of instructor. Recommended: Earth and Space Sciences 2 or equivalent. Survey of morphology, paleobiology, and evolution of vascular and nonvascular plants during geologic time, with particular emphasis on major evolutionary events.

119. Mathematical Ecology. Lecture, three hours; laboratory, three hours. Prerequisites: course 6 and Mathematics 32A, or consent of instructor. Recommended: course 122. Use of models of population growth and interspecific interactions, formulated as multidimensional, nonlinear difference, or differential equations, to explore the structure and dynamics of ecological populations and communities. Laboratory exercises include simulation of dynamical systems on personal computers. Mr. Vanc

120. Evolutionary Ecology. Lecture, three hours; laboratory, two hours. Prerequisite: completion of preparation for four 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, Dr. Hesenbein (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. Hesenbein

122. Ecology. Lecture, three hours; laboratory, three hours. Prerequisite: course 120 or consent of instructor. High-level major course. Highly recommended: Mathematics 31A, 31B, 32A. Recommended for biology majors specializing in environmental and population biology. Introduction to population and community ecology, with 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. Gayle

124. Field Ecology (4 or 8 units). Lecture, two hours; laboratory or field trip, 10 hours. Prerequisites: courses 5, 6. Recommended: courses 111, 120, 122. Offered either as a quarter-long course with weekend field trips or as a single field trip conducted between quarters by verbal instruction and written materials for three weeks. When the course is given as part of the Field Biology Quarter, it is eight units and lasts for five weeks. Field and laboratory research in ecology, the collection, analysis, and write-up of numerical data, with emphasis on design and execution of field studies. Mr. Cody

125. Plant Population Ecology (4 or 8 units). Lecture, two hours; laboratory, six hours; field trips. Prerequisites: course 120, consent of instructor. Offered either as a quarter-long course for four units or in the Field Biology Quarter as a concentrated five-week course for eight units. A study of ecological variation, structure, distribution, and reproductive biology of plant populations, emphasizing study of selected populations and ecosystems. Mr. Cody

126. Behavioral Ecology (4 or 8 units). Prerequisites: courses 5, 6. 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, three hours; discussion, three hours. Animal communication behavior, island biogeography, and evolution of social behavior. The eight-unit course covers the same basic lecture material in five intensive weeks, followed by an extended field trip where students do individual projects in behavioral ecology. Mr. Nalins

127. Soils, Plants, and Society. (Same as Geography M127.) Lecture, three hours; field trip. Prerequisites: Chemistry 11A, 11B, and 11C, or equivalent, or consent of instructor. 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, and cultural aspects. Use of soil profiles examined on the field trip to explain developmental phenomena. Mr. Lunt

128. Plant Physiological Ecology (4 or 8 units). Lecture, three hours; laboratory/field, three hours. A study of interactions of organisms under selected conditions. Emphasis on transpiration and photosynthesis, leaf temperatures, and water movement in the soil-plant-atmosphere continuum. Individual student projects. When the course is given as part of the Field Biology Quarter, it is eight units, and the individual research project is correspondingly expanded. Mr. Noble

129. The Behavior of Animals. Lecture, three hours; discussion, three hours. Prerequisite: course 111 or consent of instructor. Ecological significance, underlying mechanisms, and evolution of behavior, with special reference to animal sociology under natural conditions.

130. Behavior Research Problems. Lecture, three hours; laboratory, two hours. Prerequisites: courses 5, 6, consent of instructor. Systems controls and nonobtrusive sensing procedures for behavior studies in the laboratory and field. Rationale, design, and limitations of laboratory studies of behavior. Mr. Kavanau
131. Insect Ecology (4 or 8 units). Lecture, two hours; laboratory or field trip, eight hours. Prerequisites: course 120 or 122, consent of instructor. Offered either as a quarter-long course with weekend field trips or as part of the Field Biology Quarter (eight units; amount of field work is increased accordingly). Analysis of the ecological roles of insects in terrestrial communities, with emphasis on interactions with both plants and vertebrates. Group and individual field projects.

Mr. Greenfield, Mr. Hespenheide

132. Field Behavioral Ecology (8 units). Lecture, two hours; laboratory/field trip, 10 hours. Prerequisites: courses 5, 6, Recommended: course 129. A five-week course offered only as part of the Field Biology Quarter. Field research in behavioral ecology, emphasizing animal communication. The design and execution of individual and small group field projects during an extended field trip.

Mr. Greenfield, Mr. Narins

C134. Physiological Ecology of Desert Animals (2 units). Prerequisites: courses 111, and 166 or 167. A consideration of ecologically relevant aspects of animal physiology, with emphasis on desert animals. Concurrently scheduled with course C214.

Mr. Nagy

135. Population Genetics. Lecture, three hours; discussion, one hour. Prerequisite: course 8. Highly recommended: Mathematics 31A, 31B. Basic principles of genetics of population, dealing with the genetic stock of a species and the changes in its time of evolution. Equilibrium conditions and the forces altering gene frequencies, polygenic inheritance, and the methods of quantitative genetics.

Mr. Taylor

136A-136B-136C. Seminar in Genetics (2 units each). Prerequisites: course 8, consent of instructor. Undergraduate seminar in genetics; reading and group discussion of current research in genetics.

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.

Ms. Lengyel, 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 Bases 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 (protoplasm, fungi, lower and higher plants), with the goal of developing a unified concept of differentiation.

(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.

143. Molecular Cell Biology. Lecture, three hours; discussion, one hour. Prerequisites: courses 5, 7, 8, chemistry 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 may 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 7, 8, 25. Recommended: Chemistry 25. A course in molecular biology emphasizing the synthesis, structure, function, and interactions of biological macromolecules.

145A-145B-145C. Molecular Biology Laboratory. Lecture, 12 hours. Prerequisite: consent of instructor. Highly recommended: course 144. A course in experimental molecular biology in which students carry out original research under supervision. Supervised study is required. Seminar and readings in the literature, with focus on current questions in the fields of medical and human genetics and the methodologies appropriate to answer such questions. Concurrently scheduled with course C156.

Mr. Salser (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. An introduction to the syntheses, functions, and properties of cells and organelles, with emphasis on membranes, thermodynamics of solution and water movement, light absorption, and subcellular energy transduction.

Mr. Nobel (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 plankton and communities, population crises in marine environments. Given at the Catalina Marine Science Center.

Mr. Salser

148. Biology of 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 basics of structure reproduction, life histories, systematics, 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. Chapman

149. Plant Biochemistry and Photosynthesis. Prerequisite: completion of preparation for the major courses. A course survey emphasizing plant-specific biochemistry, including photosynthesis; nitrogen fixation and metabolism; sulfur metabolism; respiration; plant growth, development, light, water transport, carbohydrates, the cell wall; terpenes, alkaloids and flavonoids.

150. Functional Plant Anatomy. Lecture, three hours; laboratory, five hours. Prerequisites: courses 5 and 7, or equivalent, or consent of instructor. The structure and functional significance of the various cell types found in plants, with emphasis on the patterns of growth and differentiation in roots, stems, leaves, flowers, and fruits.

151. Functional Histology. Lecture, three hours; laboratory, four hours. Prerequisite: completion of preparation for the major courses. Correspondence of function and structure in vertebrate organs and tissues at cellular and subcellular levels.

Mr. Cascarano, Mr. James

154. Functional Ultrastructure of Cells and Tissue. Lecture, three hours; discussion, one hour. Prerequisites: course 5 or 7, Chemistry 21, 25, or equivalent. Basic life processes at the subcellular 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. Interpretations of structural information.

Mr. Sjostrand

155. Analytical Microscopy and Cytology. Lecture, three hours; laboratory, five hours. Prerequisites: Chemistry 3A, 3B, and 3C, or 6A, 6B, and 6C, or equivalent, or consent of instructor. Designed for students in the biological sciences to acquaint them with quantitative cytology, with emphasis on bright field, dark field, phase contrast, interference, polarizing analysis, fluorescence microscopy, and epi-illumination.

CM156. Human Genetics. (Same as Biomatematic 115, CM156, E 115, CM156.) Lecture, three hours; discussion, one hour. Prerequisites: course 8, Chemistry 25. The application of genetic principles in human populations, with emphasis on cytotogenesis, biochemical genetics, and human disease. Prerequisites: courses 111, and 166 or 167. A quarter-long course with weekend field trips. A survey of the methods and applications of recombinant DNA research as applied to both basic scientific research and the biotechnology industry.

Mr. Salser

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 at the molecular, organellar, and cellular levels.

Mr. Cascarano, Mr. James


Ms. Lallies (F)

163. Plant Physiology Laboratory. Lecture, one hour; laboratory, five hours. Prerequisite: completion of preparation for the major courses or consent of instructor. Selected aspects of the natural history, ecology, and behavior of the diverse assemblage of local marine fishes. Fieldwork strongly emphasized. Given at the Catalina Marine Science Center.

Mr. Mr. Buth

164. Field Biology of Marine Fishes. 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 in the oceans of the world and to the major marine habitats. Laboratory work emphasizes marine vertebrates of Southern California waters. Given at the Catalina Marine Science Center.

Mr. Gordon

165. 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 physiological principles, with emphasis on organ systems and intact organisms.

166. Analytical Microscopy and Cytology 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 in the oceans of the world and to the major marine habitats. Laboratory work emphasizes marine vertebrates of Southern California waters. Given at the Catalina Marine Science Center.

Mr. Mr. Buth

167. Regulatory Physiology (6 units). Lecture, three hours; laboratory, five hours. Prerequisites: courses 5L, 6, 7. Not open for credit to students with credit for course 166 or 167. An introduction to physiological principles, with emphasis on organ systems and intact organisms.

Mr. Engemann

168. Insect Physiology. Lecture, two hours; laboratory, four hours. Prerequisites: courses 115, or 118 or 119, or 167 or equivalent. Survey of the physiology of insects, with emphasis on functional adaptations.

Mr. Engemann
163. Comparative Physiology. Lecture, three hours; laboratory, four hours. Prerequisites: course 106, 166. A detailed analysis of selected aspects of invertebrate and vertebrate physiology. Mr. Gordon

170. Animal Environmental Physiology (6 units). Lecture, three hours; laboratory, five hours. Prerequisites: completion of preparation for the major courses. Not open for credit to students with credit for course 166 or 167. Recommended for students concentrating in ecology, behavior, and evolution (EBE). An introduction to the physiology of organs, organ systems, and organisms, with emphasis on environmental interactions and adaptations. Mr. Nagy, Mr. Narins

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 transmission and coding in sensory pathways, and the neural control of movement; development of and trophic interactions between cells of the nervous system. Mr. O'Lague

172A-172B. Introductory Laboratory in Neurophysiology. Laboratory, eight hours. Prerequisite: course 170 or consent of instructor.限定了 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. O'Lague

173. Anatomy and Physiology of Sense Organs. Lecture, three hours; discussion, one hour. Prerequisite: course 170 or consent of instructor.限定了 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. O'Lague

174. Invertebrate Endocrinology. Lecture, three hours. Prerequisite: course 158 or 166 or equivalent, consent of instructor. Principles of chemical integration in biological systems. Mr. MacInnis

175. Experimental Parasitology (4 units). Lecture, two hours; laboratory, six hours. Prerequisites: courses 105 or 106, 166, or equivalent, consent of instructor. Emphasis on a functional approach to evolution of the vertebrate locomotor and circulatory systems. Laboratory includes comparative and experimental analyses of morphological adaptation. Independent project required. Mr. Jackson

177. Introductory General Endocrinology. Lecture, three hours; discussion, one hour. Prerequisites: course 158 or 166 or equivalent, one course in biochemistry. Principles of chemical integration in biological systems. Mr. MacInnis

178. Immunology Seminar. Laboratory, two units. Prerequisite: consent of instructor or graduate adviser. Investigations and discussions of current socially important issues involving immunological considerations, either or both as background for policy and as consequences of policy. May be repeated once for credit. Mr. Gordon, Ms. Tobin

190A-190D. Honors Research in Biology (2 to 4 units each). Prerequisites: senior standing, consent of undergraduate adviser. Individual research described 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 at the end of the quarter. Independent research each quarter a 190 course is taken. A maximum of eight units may be applied toward the biology major. (F,W,Sp)

199. Special Studies (2 to 16 units). Prerequisite: consent of instructor and undergraduate adviser, based on a written proposal outlining the study or research project. 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 head 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 Organisinal Plant Biology. Lecture, three hours; laboratory, three hours. Topics in organismic 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. Phinney

203. Marine Botany and Physiology (8 units). Lecture/laboratory. Structure, reproduction, life histories, systematics, and biology of marine algae; techniques in culture and cytological investigation of algal material. Given at the Catalina Marine Science Center. Mr. Buth

204A. Advanced Algae. A consideration of current research in experimental phycology. Topics include a discussion of the appropriate chemicals and techniques for the experimental study of aquatic algae: experimental ecology of benthic and planktonic algae. Mr. Chapman

204B. Advanced Algae. Lecture, three hours; laboratory, six hours. Designed to introduce students to current concepts in algal systematics. An intensive section 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 major classes and phyla of marine invertebrates; 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 teleost fish biology and ichthyology. 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 32B, or Physics 6C, or consent of instructor. Strongly recommended: Chemistry 110B or 156. Development of areas of physics, including thermodynamics, diffusion, statistical mechanics, and molecular forces. Application to areas of molecular and cellular biology, including macromolecule characterization, enzyme catalysis, assembly of biological structures, membrane properties, 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 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, one hour. Prerequisites: courses 105 or 107 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 114 or equivalent, consent of instructor. Advanced study of topics in avian biology, including systematics, distribution, behavior, and ecology. Students work 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. Mr. Morin

212. Advanced Invertebrate Pathology. Lecture, two hours; laboratory, 12 hours. Prerequisites: courses 105, 129, and 166 or equivalent. Investigation of the structure and function of animal communities, in theory and in practice (includes the concepts of coexistence, competition, niche, and diversity). Mr. Cody

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 theory and in practice (includes the concepts of coexistence, competition, niche, and diversity). Mr. Cody


215. Theoretical Population Biology. Lecture, three hours. Prerequisites: courses 6, 8, and Mathematics 3C or 32A, or consent of instructor. Not open to students with credit for course 106. Study of the 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
216. Quantitative Methods in Behavior and Ecology. Lecture, two hours; laboratory, six hours. Prerequisites: course 122 or 123 or equivalent, consent of instructor. Quantitative methods of data collection and analysis in behavioral and ecological research. Lectures review the general nature of quantitative problems that arise in behavior and ecology and the statistical methods used to solve them. Laboratory exercises emphasize the analysis, using comprehensive statistical software routines on personal computers, of the kinds of data that frequently arise in field biological research. Mr. R. Gibson

217. Marine Ecology (8 units). Structure, diversity, and energetics of marine ecosystems; population dynamics, and biogeochemistry of component species; associated oceanography and geology. Given at the Catalina Marine Science Center. Mr. Vance

218. Oceanography (8 units). Ecology and dynamics of pelagic and benthic associations; physiochemical properties of seawater and marine substrates and their biological significance; qualitative and quantitative methods of oceanology. Given at the Catalina Marine Science Center. Mr. Vance

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 animal behaviors in various systems.

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 Drosophila chromosome behavior, techniques of gene localization, the one gene-one chromomere hypothesis, meiotic mutants, mosaic animals and cell lineage, behavior, and X chromosome inactivation.

222A-222B. 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, developmental and behavioral genetics. May not be repeated for credit.


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.

226A. Principles of Microbial Pathogenesis. (Same as Microbiology M226A and Microbiology and Immunology M226A.) Lecture, one hour; discussion, three hours. Prerequisites: Microbiology and Immunology 202A, 202B, 202C, and 202D, or equivalent, or consent of instructor. A lecture/discussion format designed to analyze the basic pathogenesis of bacterial and mycotic infections. Emphasis on molecular and cellular approaches to an understanding of host-microbial interaction.

226B. Principles of Microbial Pathogenesis. (Same as Microbiology M226B and Microbiology and Immunology M226B.) Lecture, one hour; discussion, three hours. Prerequisites: Microbiology and Immunology 202A, 202B, 202C, and 202D, or equivalent, or consent of instructor. A lecture/discussion format designed to analyze the basic pathogenesis of parasitic and viral infections. Emphasis on molecular and cellular approaches to an understanding of host-microbial interaction.

227. Chromosome Structure and Replication. Lecture, three hours. Prerequisite: course 8 or Chemistry 157A or 157B or consent of instructor. A survey of biochemical and biophysical investigations of the structure and replication of genetic material. Emphasis on nucleic acids, with emphasis on bacterial and viral systems.


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.

230A. Structural Molecular Biology (2 units). (Same as Chemistry M230A and Microbiology M230A.) Lecture, two hours; discussion, two hours. Prerequisite: consent of instructor based on a written research proposal. Fundamentals of electron microscopy of macromolecules and supramolecular structures; resolution techniques, nucleic acid analysis, and studies on viruses and protein crystals.

230B. Structural Molecular Biology. (Same as Chemistry M230B and Microbiology M230B.) Lecture, three hours; discussion, two hours. Prerequisite: Physics 6C, Mathematics 3C, consent of instructor. Selected topics from the principles of biological structure; structures of globular proteins and RNAs; structures of fibrous proteins, nucleic acids, and polysaccharides; harmonic analysis and Fourier transforms; principles of electron, neutron, and X-ray diffraction; optical and computer filtering; three-dimensional reconstruction. S/U or letter grading. Ms. Kasamatsu, Mr. Lake (F, alternate years)

230C. 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 with electron microscopy of macromolecules and supramolecular structures, emphasizing quantitative microcopy, high resolution techniques, nucleic acid analysis, and studies on viruses and protein crystals.

232. Experimental Molecular Developmental Biology. (Same as Chemistry M232 and Microbiology M232.) Lecture, three hours; discussion, two hours. Prerequisite: consent of instructor. The range of congenital anomalies that are known to result from various kinds of experimental intervention. Cloning in bacterial and plasmid vectors, three-dimensional reconstruction. S/U or letter grading.

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.

234A. Genetic Control of Development. (Formerly numbered 146.) Especially intended for first- and second-year graduate students as an overview of the range of congenital anomalies that are known to result from various kinds of experimental intervention. The comprehensive molecular biology of selected structural proteins and polysaccharides, including cellular synthesis, structure and physical properties, and integrated biological functions.

235. Current Topics in Escherichia coli Genes (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 mechanisms of gene expression.

236. Experimental Cell Biology. Lecture, two hours; discussion, one hour; laboratory, four hours. Prerequisites: course 158, consent of instructor. Theoretical and experimental analysis of various systems utilized in the study of cellular metabolism and physiology; cell organelles, cell populations, and organized tissues.

238. Structure, Function, and Biogenesis of the Mitochondrion. Lecture, four hours; discussion, two hours. Prerequisites: courses 129, 138, and/or consent of instructor. Mitochondrion, 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 233A and 233B, since these represent a survey of modern biology. Preparatory preparation for graduate study. S/U or letter grading.

239. Techniques in Nucleic Acid Research (2 units). (Same as Microbiology M239.) Lecture, two hours; discussion, two hours. Prerequisite: course 129, consent of instructor. The comprehensive molecular biology of selected structural proteins and polysaccharides, including cellular synthesis, structure and physical properties, and integrated biological functions.

240. Physiology of Marine Animals (8 units). Lecture and laboratory studies on cellular, tissue, organ, and avanguard physiological regulatory biology; metabolic characteristics of cells, energy transformations. Given at the Catalina Marine Science Center.
241. Laboratory in Advanced Electrophysiology (9 units). Lecture: three hours, discussion, two units. Prerequisites: courses 127A, 127B or equivalent, consent of instructor. In-depth involvement in individual research projects under staff guidance. Approximately two projects each quarter. May be repeated twice for credit.

242. Topics in Neurobiology. Lecture, three hours. Prerequisites: course 171 or equivalent, consent of instructor. Selected current problems in neurobiology discussed in depth, with emphasis on analysis of original papers. May be repeated for credit.

243. Animal Communication. Lecture, three hours; discussion, one hour. Prerequisites: Mathematics 3C, Physics 6C, consent of instructor. Open to qualified undergraduates with consent of instructor. Physical properties of animal signals and the physiological mechanisms underlying their generation and reception. Lectures treat signal analysis, signal transmission, and receptor design in light of the constraints placed on each of the sensory modalities. Examples of communication systems using visual, auditory, chemical, electrical, and magnetic cues, with emphasis on biological adaptations for efficiently signaling specific classes of current research articles on topics such as the neural correlates of communication systems using visual, auditory, chemical, electrical, and magnetic cues.

244. Advanced Insect Physiology. Lecture, two hours; laboratory, five hours. Prerequisite: course 168 or consent of instructor. A detailed discussion of current problems in insect physiology, with advanced laboratory.

245. Advanced Topics in Cell Biology (2 units). Seminar, one hour; discussion, one hour. Prerequisites: courses 138 or 158 or equivalent. Includes a seminar section on a current topic in cell biology and a discussion section on the seminar topic. Students prepare one such seminar each quarter, using the reading list provided as background, and select a topic with the aid of current literature and consent of instructor. May be repeated for credit. S/U grading.

246. Computer Analysis of Genetic Organization. (Same as Microbiology 246E.) Lecture, two hours; laboratory, six hours. Prerequisites: courses 8, 144 and Microbiology 119 or equivalent. Lectures and laboratory instruction in contemporary procedures for the analysis of nucleic acid and protein sequence data with the computer. No prior computer experience necessary; students gain both general and specialized facility with IBM PC and Digital VAX computers.

247. Advanced Plant Biology. (Formerly numbered 247A-247F.) Lecture, three hours; discussion, two hours. Prerequisite: course 141 or 162 or equivalent. Open to undergraduates with consent of instructor. Designed to expose first-year graduate students to topics of current interest in plant biology. Subjects include plant genetics, growth and development, organelle structure, development and function, and plant-specific metabolic processes (photosynthesis, nitrogen fixation, metabolism of small molecules). S/U or letter grading.

248. Molecular Genetics. (Same as Biological Chemistry 248.) Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. Basic concepts in modern genetics, drawing examples from either eukaryotic or prokaryotic systems. Emphasis on the use of genetic techniques for addressing fundamental questions in biochemistry and molecular biology. Topics include mutagenesis, mutation selection, recombination, genetic mapping, complementation, transposable elements, gene organization, genetic regulation, and molecular evolution.

249. Biochemistry of Parasitism. Lecture, three hours. Biochemical and physiological aspects of parasite-host relationships. Mr. MacInnis

250. Molecular Genetics of the Immune System (2 units). (Same as Microbiology 250E and Microbiology and Immunology 250E.) Lecture, two hours; discussion, two hours. Prerequisite: course 185 or Microbiology and Immunology 202A or equivalent or consent of instructor. Reading and discussion of current research articles on the immune response, antigen processing, and T cell development. S/U or letter grading.

251. Seminar in Systematics (2 units). Mr. Buth, Mr. A. Gibson


253. Seminar in Plant Structure (2 units). Mr. Phinney

254. Seminar in Plant Morphogenesis (2 units). Mr. McKnight

255. Seminar in Invertebrate Zoology (2 units). Mr. Morin, Mr. Muscatine

256. Seminar in Molecular Genetics. Lecture, three hours; discussion, one hour. Prerequisites: course 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 research topics in the field of human molecular genetics. S/U grading.

257. Gene Manipulation. Seminar, topic with consent of instructor. May be repeated for credit. S/U or letter grading.

258. Seminar in Ichthyology (2 units). Discussion, two hours. Prerequisite: course 111 or 112. Students present and discuss specific topics in ichthyology. Topics vary from year to year. May be repeated for credit.

259. Seminar in Herpetology (2 units). Discussion, three hours. Prerequisite: course 113 or consent of instructor. Seminar in current approaches to herpetology. Main theme varies from year to year in areas such as biogeography, ecology, behavior, and environmental physics.

260. Seminar in Biology of Terrestrial Vertebrates (2 units).

261. Seminar in Vertebrate Paleontology (2 units). Mr. Vaillant

262. Seminar in Population Genetics. Discussion, three to six hours. Seminar on topics of current interest in population genetics, including kin selection, sociobiology, cultural evolution, conservation genetics, and speciation. Prerequisite: consent of instructor. S/U grading.

263. Seminar in Evolutionary Concepts (2 units). Lecture, three hours. Exploration of development of evolutionary concepts, their diversity, and applications to human evolution. Prerequisite: course M185 or consent of instructor. S/U grading.

264. Seminar in Invertebrate Zoology (2 units). Mr. O'Lague

265. Seminar in Invertebrate Zoology (2 units). Mr. Merriam, Ms. Spence (Sp alternate years)

266. Seminar in Vertebrate Zoology (2 units). Mr. Meier, Mr. McPherson

267. Seminar in Marine Biology (2 units). Mr. McPherson

268. Seminar in Population Genetics. Lecture, three hours. Prerequisites: course M185 or course M258A or equivalent. Seminar in current topics in population genetics. May be repeated for credit. S/U or letter grading.

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.

272. Seminar in Plant Physiology (2 units). Mr. Laties

273. Seminar in Comparative Physiology (2 units). Mr. Gordon, Mr. Narins

274. Seminar in Physiology and Biochemistry of Arthropods (2 units). Mr. Engellman

275. Seminar on Topics in Ultrastructure (2 units).

276. Seminar on Current Aspects of Photosynthesis (2 units). S/U grading. Mr. Thorner

277. Seminar in Neophytophysiology (2 units). Mr. O'Lague

278. Seminar in Biological Applications of Flow Cytometry (2 units). Lecture, two hours; demonstration, one hour. Prerequisite: graduate standing or consent of instructor. Initial lecture focuses on instrumentation design and operation. Subsequent lectures present specific biological paradigms whose unresolved questions can best be answered by means of fluorescent flow cytometry. The latter portion of the seminar is topical and varies from year to year.

279. Seminar in Molecular Endocrinology (2 units). Mr. Macinnis

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. Feigelson, Mr. Ray

282. Major Histocompatibility Complexes: Genetics, Biochemistry, and Biology (2 units). (Same as Microbiology and Immunology M282.) Lecture, one hour; discussion, one hour. Prerequisites: course M185 or equivalent; genetics, biochemistry. Lectures and discussion of key papers underlying the present concepts of MHC structure and function. Emphasis on the murine MHC (H-2), but where appropriate and illustrative, the human MHC discussed. Mr. Clark (W)

283. Seminar on Topics in Cell Biology (2 units). A discussion of various topics on the biology of eukaryotic cells. Topics vary from year to year and include bioenergetics, motility, organelle DNA, membrane structure and function, oncogenic transformation, nuclear organization and function. Mr. Simpson

284. Seminar in Structural Macromolecules (2 units). Lecture, one hour; discussion, three hours. Prerequisites: courses 138, 144, and/or consent of instructor. In-depth analysis of current problems in the biology, biochemistry, and molecular biology of structural macromolecules, involving critical evaluation of recent findings and publications on the biosynthesis, structure, and biodegradation of these molecules. Mr. Feigelson

285. Seminar in Protein Synthesis (2 units). Discussion, three hours. Prerequisites: course 144 and/or consent of instructor. A detailed analysis of the current understanding of the structural and functional events occurring during protein synthesis. Mr. Lake

286. Seminar in Plant Development (2 units). Lecture, one hour; discussion, two hours. Prerequisites: a course in plant physiology, at least one advanced undergraduate or graduate course in plant development; 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. Casparano, Mr. James
the specific requirements for this specialization, must be fulfilled within 228 units. When you have successfully completed all 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 1987 (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, Computer Science 141, Anthropology 186A, 186B, Economics 141, 147A, 147B, Geography 171, Political Science 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, 178, Sociology 152.

- **Business Logistics:** Geography 145, 148, 149.

- **Cognitive Science:** Linguistics 1 or 100, 10, Materials Science and Engineering M107A or Psychology M153, Psychology 110, 111, 120, 121, 187.

- **Contemporary Administration:** Anthropology 150, Geography 148, Political Science 173, 190, Psychology 148, Sociology 141.

- **Contexts:** Honors Collegium 57, 60, 61.

- **Government and Business:** Political Science 142, 173.


- **Labor Studies:** History 155A, 155B, Political Science 174, 185, Psychology M137E, 148, Sociology 128.

**National and International Business and Administration:** History 125E, 148C, 149B, Political Science 124, 129, 130, 186.

**Urban and Metropolitan Administration:** Anthropology 160, 160F, 167, Geography 145, 150, Political Science 180, 182A, 182B, Psychology 175, Sociology 125.

**United States Business Institutions:** History 149A, Political Science 173, Sociology 121, 141.

**Subspecialization in International Business and Administration**

For details on this program, contact the College Counseling Service, A316 Murphy Hall.

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**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. Bauer, 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)
- Steven G. Clarke, Ph.D. (Biochemistry)
- Donald J. Cram, Ph.D. (Paul Winstin 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)
- Christopher S. Fouto, Ph.D. (Organic Chemistry and Biochemistry)
- William M. Gelbard, Ph.D. (Physical Chemistry)
- Jay D. Gralla, Ph.D. (Biochemistry)
- Michael E. Jung, Ph.D. (Chemistry)
- Herbert D. Kaesz, Ph.D. (Inorganic and Organometallic Chemistry)
- Daniel Kivelston, Ph.D. (Physical Chemistry)
- Charles M. Knobler, Ph.D. (Physical Chemistry)
- Harold G. Martinson, Ph.D. (Biochemistry and Molecular Biology)
- William G. McMillan, Jr., Ph.D. (Chemical Physics)
- Malcolm F. Nicol, Ph.D. (Physical Chemistry)
- Emil Reister, 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)
- 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)
- Charles A. West, Ph.D. (Biochemistry)
- R. Stanley Williams, Ph.D. (Physical Chemistry)
- Jeffrey I. Zink, Ph.D. (Inorganic and Physical Chemistry)
- Francis E. Blacet, Ph.D., D.Sc., Emeritus
- Paul S. Farrington, Ph.D., Emeritus
- Clifford S. Garner, Ph.D., D.Sc., Emeritus
- E. Russell Hardwick, Ph.D., Emeritus
- Thomas L. Jacobs, Ph.D., Emeritus
- Roberts A. Smith, Ph.D., Emeritus

*Associate Professors*

- François N. Diederich, Dr.rer.nat. (Organic and Bioorganic Chemistry)
- John M. Jordan, Ph.D. (Biochemistry)
- Douglas C. Rees, Ph.D. (Biochemistry)

*Assistant Professors*

- Robert W. Armstrong, Ph.D. (Organic and Bioorganic Chemistry)
- Robert E. Cohen, Ph.D. (Biochemistry)
- David Farrell, Ph.D. (Theoretical Chemistry)
- Juli F. Fegong, Ph.D. (Biochemistry)
- Peter M. Felker, Ph.D. (Chemical Physics)
- William H. Hersh, Ph.D. (Organic and Organometallic Chemistry)
- Richard B. Kaner, Ph.D. (Inorganic and Solid-State Chemistry)
- Robert L. Whetten, Ph.D. (Physical Chemistry)

*Lecturers*

- Norma J. Juster, Ph.D. (Chemistry)
- 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 D or below was received in a prerequisite, or if in the opinion of the department the student shows other evidence of inadequate preparation.

Transfer students with more than 84 quarter units are accepted into the departmental majors only if they have completed the following courses or their equivalents: the entire Chemistry 11 series, Mathematics 31A, 31B, 32A, 32B, 32C, 33A, 33B; 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 are 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, 32B, 32C, 33A, 33B; 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 it is a prerequisite for a more advanced course for which you already have credit.

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 22, 1987; Wednesday, October 28, 1987; Wednesday, February 3, 1988; and Saturday, June 4, 1988.

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

This program is 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.

The Major

Required: Chemistry 110A, 110B, 113A, 114 (or 114H), 133A, 133B, 133C, 173, and two other upper division or graduate courses in the department, including at least one laboratory course from 136, 144, 154, 174, 184.

Bachelor of Science in Biochemistry

This program is for students preparing for careers in biochemistry or other fields requiring extensive preparation in both chemistry and biology.

Preparation for the Major

Required: Chemistry 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; Biology 5, 8, 8L.

*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 90024-1569.

Admission
An excellent undergraduate record is required in addition to the University minimum requirements. Graduate Record Examination (GRE) General and Subject 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 members 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 coordinat-ed 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, 248, or 278 may be applied toward the graduate course requirement and the total course requirement.

Ph.D. Degrees

Course Requirements
Chemistry Ph.D.: Candidates in each area of specialization should normally complete as a minimum the coursework indicated below. Some of these requirements can be met on the basis of orientation examinations and courses taken prior to entry into the graduate program. If your projected research falls in an area which differs appreciably from that anticipated by the field requirements listed below, you may be permitted appropriate modifications. Required coursework must be completed prior to advancement to candidacy.

Inorganic Chemistry
(1) Required background material: Chemistry 173, (2) two courses from C276A, 276B, 277; (3) two courses from 174, 207, 217A through 217Z, 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, C276A; (4) one additional course from physical chemistry (C215A, 221A through 221Z, C223A) or inorganic chemistry (173, 174, C275, 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 course of 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 146, Physics 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, 113A, 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 total. Students concentrating in bio-physical chemistry or other specialized areas may want to modify the core. In these cases, six units of the core courses may be replaced subject to consultation with and consent of the graduate adviser.

(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 normally not applicable.

4. Chemistry 258 in the first four 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 are normally 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 examination, (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. Prerequisite: course 11A with a grade of C- or better or course 11B, and consent of instructor. An honors course parallel to course 11A. Mr. El-Sayed, Mr. McMillan (Sp)

11CH. General Chemistry (Honors) (3 units). Lecture, two hours. Prerequisites: course 11BL with a grade of B- or better or course 11C, and consent of instructor. An honors course parallel to course 11C. Mr. El-Sayed, Mr. McMillan (Sp)

11CL. General Chemistry Laboratory (2 units). Laboratory, eight hours. Prerequisite: course 11BL with a grade of C- or better. Corequisite: course 11C (or must already have been passed with a grade of C- or better). Enrollment priority, if needed, to those taking course 11C concurrently. Rates of reactions; quantitative volumetric analysis; qualitative inorganic analysis; inorganic composition; column chromatography; colorimetric analysis. (F, W, Sp)

15. Organic Chemistry and Biochemistry for Pre-nursing and Kinesiology. Prerequisite: 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 prepediatric 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. Mr. Lamb (F)

21. Organic Structure and Reactions. Lecture and discussion. Prerequisites: courses 11C, 11L (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 group interconversions, more advanced structure, and stereochemistry of organic compounds. Mr. Cram, Mr. Hersh (F, W, Sp)

23. Biorganic 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 structures and reactions of biochemical interest. The classes of compounds most important to biological functions: amino acids, carbohydrates, etc. Sulfur, phosphorus, nitrogen and their chemistry. Methods of separation, purification, and analysis of organic compounds: extraction, crystallization, distillation, and chromatography. Mr. Charlie, Mr. Jordan, Ms. Lamb (F, W, Sp)

25. Elementary Biochemistry. Lecture, three hours; discussion, one hour; laboratory, four hours. Prerequisite: course 23 with a grade 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. Pollution and characterization of biological macromolecules; spectrophotometry; catalysis; enzyme kinetics; gel filtration and paper chromatography; gas chromatography; utilization of radioactive isotopes. 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). May be repeated for a maximum of eight units. (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 31A, 31B, 32A or, for life science majors, Mathematics 3C. An understanding of partial differentiation, such as that obtained in Mathematics 3C or 32A is very desirable. Properties of gases; laws of thermodynamics; free energy, entropy, chemical potential and chemical equilibrium; thermodynamics of solutions C1210C.

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 or 6C, Mathematics 31A, 31B, 32A or, for life science majors, Mathematics 3C. Solution to statistical thermodynamics, kinetic theory of gases, chemical kinetics, phase equilibria, chemical equilibria in solutions, electrochemistry.

Mr. Kivelson, Mr. McMillan, Mr. Reiss (W, Sp)

C1210C. Physical Chemistry: Charges, Fields, and Matter. (Formerly numbered 110C.) Lecture, three hours; discussion, one hour. Prerequisite: course 110A. Topics include electromagnetic fields in matter — susceptibilities, molar polarization and refraction, multipoles, van der Waals forces; electric, EM waves — propagation, refraction, scattering, absorption, optical rotation and rotatory dispersion, magnetic effects; radiation — multipoles, black-body, Einstein coefficients, lasers; scattering and diffraction. Rayleigh, Mie, Raman, X-ray, magnetic, nuclear moments; intermolecular forces; magnetic, nuclear, and molecular structure by particle, molecules, lattices; resonance phenomena — light, EPR, NMR, NOR, Mössbauer; electrolytes — ion activity, conductivity, rate effects. May be concurrently scheduled with course C1210C.

Mr. McMillan (Sp)

113A. Physical Chemistry: Introduction to Quantum Chemistry. Lecture, four hours; discussion, one hour. Prerequisite: course 11C, Physics 6C or 6C, Mathematics 31A, 31B, 32A or, for life science majors, Mathematics 3C. Emphasis on 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)

C1210B. Physical Chemistry: Introduction to Molecular Spectroscopy. Lecture, five hours. Prerequisite: course 113A or equivalent. Spectroscopic applications of basic quantum chemistry, including light-matter interaction, origin of selection rules, rotation-vibration and electronic spectra, electronic energy levels, ligand-field and ligand-field theory. Mr. Anet, Mr. Foote (W, Sp)

Mr. Bayes, Mr. Gelbart, Mr. Scott (F, Sp)

114. Physical Chemistry Laboratory. Lecture, two hours; laboratory, eight hours. Prerequisites: courses 11CL, 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 (W, Sp)

114H. Physical Chemistry Laboratory (Honors). Lecture, two hours; laboratory, eight hours. Prerequisites: courses 11CL, 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 related to advanced chemistry courses taken 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: course 113A, Mathematics 31A, 31B, 32A, 32B, 33A. Recommended: knowledge of differential equations equivalent to Mathematics 135A or Physics 131 and of analytic mechanics equivalent to Physics 105A. Course C115A or Physics 115B is prerequisite to C115B. Students entering course C115A are normally expected to take course C115B the following quarter. Designed for chemistry majors with a serious interest in quantum chemistry. Postulates and systems of nonrelativistic quantum mechanics; expansion theorems; wells; oscillators; angular momentum; hydrogen atom; matrix techniques; approximate methods; molecular and electronic structure problems; helium atom; matrix mechanics; spectroscopy; magnetic resonance; chemical bonding. May be concurrently scheduled with courses C215A-C215B.

Mr. Frearly, Mr. Gelbart (W, C115A; Sp, C115B)

121. Special Topics in Physical Chemistry. Prerequisite: course 110B. Recommended: course 113A, Physics 8D. Topics of considerable research interest presented at a level suitable for students who have completed the junior-year courses in physical chemistry.

Mr. Reiss, Mr. Scott (F, 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. Prerequisites: courses 21, 23, and 25 (may be taken concurrently), 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, four hours. Prerequisite: course 133A with a grade of C or better. Lectures include reactions and mechanisms of 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 (F, W)

133C. Intermediate Organic Chemistry II. Lecture, two hours; laboratory, eight hours. Prerequisite: course 133B with a grade of C or better. Lectures include reactions, mechanisms, and synthesis in organic chemistry; complex molecules and natural products. Laboratory includes methods of organic reactions, synthesis, isolation, and characterization.

Mr. Anet, Mr. Foote (W, Sp)

133CG. Intermediate Organic Chemistry II (2 units). Lecture/quiz, three hours. Open only with consent of graduate adviser (Chemistry) to graduate students who have not taken course 133C at UCLA.

Mr. Anet, Mr. Foote (W, Sp)

136. Organic Structural Methods. Lecture, two hours; laboratory, eight hours. Prerequisites: courses 133A, 133B, and 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; micro-analysis, mass spectrometry, infrared spectrometry.

Mr. Foote (F)

C143A. Structure and Mechanism in Organic Chemistry. Lecture, three hours; discussion, one hour. Prerequisites: courses 110B, 113A, and 133C (may be taken concurrently). Designed for chemistry majors with a serious interest in quantum chemistry. Postulates and systems of nonrelativistic quantum mechanics; expansion theorems; wells; oscillators; angular momentum; hydrogen atom; matrix techniques; approximate methods; molecular and electronic structure problems; helium atom; matrix mechanics; spectroscopy; magnetic resonance; chemical bonding. May be concurrently scheduled with course C243A.

Mr. Chapman (F)

C143B. Mechanism and Structure in Organic Chemistry. Lecture, three hours; discussion, one hour. Prerequisite: course C143A with a grade of C or better or consent of instructor. Mechanisms of organic reactions; structure and detection of reactive intermediates. May be concurrently scheduled with course C243B.

Mr. Chapman (W)

144. Laboratory Methods in Organic Synthesis. Lecture, one hour; 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 introduction to undergraduate semimicroscale and microscale 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. Bayes, Mr. Brown, Mr. Gelbart, Mr. Scott (W, Sp)

152. Biochemistry. Lecture, four hours; discussion, one hour. Prerequisite: course 25. Not open to students with credit for course 157A. Students with credit for this course are limited to two units of credit for course 157A. Survey of biochemistry. May not be applied toward the chemistry or biochemistry major.

Mr. Beyer, Mr. Smith (F)

154. Biochemical Methods. Lecture/quiz, two hours; laboratory, eight hours. Prerequisite: course 25. Recommended: course 152 or 157A. Application of biochemical procedures to metabolic reactions; properties of living systems; enzymes; proteins; nucleic acids and other tissue constituents.

Mr. Clarke, Mr. Gralla, Mr. Martinson (F, W, Sp)

155. Biophysical Chemistry. Lecture, four hours; discussion, one hour. Prerequisite: course 150A. 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, Sp)

157A. Biochemistry. Lecture, four hours; discussion, one hour. Prerequisites: courses 25, 110A, 133B (may be taken concurrently). A combination of courses 152 and 157A is limited to six units of credit. 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 mechanisms; synthesis of nucleic 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: course 110A. Recommended: courses 113A or 156, and 133B. Introduction of coordination 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. Kaesz, Mr. Zink (F, W, Sp)
174. Inorganic and Metalorganic Laboratory Methods. Lecture, two hours; laboratory, eight hours. Prerequisites: courses 133A, 133B, and 173, or consent of instructor. Survey of the practice of inorganic chemistry, including air-sensitive materials; dry-box, vacuum line, and high-pressure techniques; Schlenck methods; chromatographic and ion exchange separations. Mr. Hawthorne, Mr. Kaez (W)

C175. Inorganic Reaction Mechanics. Lecture/disscussion. Prerequisites: courses 110A, 110B, 113A, 113B, or equivalent. Survey of inorganic mechanisms; 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 C275. Mr. Hawthorne, Ms. Valentine (F)

C176. Group Theory and Applications to Inorganic Chemistry. Lecture, three hours; discussion, one hour. Prerequisites: courses 113A, 113B, or equivalent. Group theoretical methods; molecular orbital theory; ligand-field theory; electronic spectroscopy; vibrational spectroscopy. May be concurrently scheduled with course C276A. Mr. Strouse, Mr. Zink (F)

184. Chemical Instrumentation. Lecture/quiz, two hours; laboratory, eight hours. Prerequisite: course 110A. Theory and practice of instrumental techniques of chemical and structural analysis, including atomic absorption spectroscopy, gas chromatography, mass spectrometry, nuclear magnetic resonance, polarography, X-ray fluorescence, and other modern methods. Mr. Strouse, Mr. Wasson, Mr. Williams (F,Sp)

190. Undergraduate Thesis Research. Prerequisites: two quarters of course 199 on related material, consent of undergraduate adviser and research director. Final quarter of an integrated one-year research project. May consist of experimental or theoretical research or, in some cases, a comprehensive review of a given area. A thesis embodying the totality of the year's work is to be submitted and an oral presentation made. Course suggested, but not required, for those seeking departmental honors at graduation. (F,Sp)

Special Courses in Chemistry (1 to 4 units). Prerequisite: consent of undergraduate adviser (Chemistry). (F,Sp)

199A-199ZZ. Directed Individual Study or Research for Undergraduate Students (2 to 8 units each). To be arranged with faculty member who will direct the research. Prerequisites: advanced junior standing and a 3.0 or higher senior status in the major, consent of department chair. A proposal must be received one week prior to the first day of the quarter. Additional details on requirements and application may be obtained from the undergraduate counselor. P/NP grading. (F, W, Sp)

Graduate Courses

207. Organometallor. Chemistry. Lecture/discussion, three hours. Prerequisite or corequisite: course C243A or consent of instructor. Survey of synthesis, structure, and reactivity (emphasizing a mechanistic approach) of compounds containing carbon bonded to elements selected from the main group metals, the metaloids, and the transition metals, including olefin complexes and metal carbonyls; applications in catalysis and organic synthesis. Mr. Hawthorne (Sp)

C210C. Physical Chemistry: Charges, Fields, and Matter. Lecture, three hours; discussion, one hour. Prerequisite: course 110A. Topics include electrostatic fields in matter — susceptibilities, molar polarization and refraction, multipole, van der Waals forces; classical EM waves — propagation, refraction, scattering, absorption, optical rotation and rotatory dispersion, magnetic and electric fields; radiation; multipole, binary, and Einstein coefficients; lasers; scattering and diffraction — Rayleigh, Mie, Raman, X-ray, electron, neutron, nuclear — by particles, molecules, lattices; resonance phenomena — light, EPR, NMR, NQR. Course concludes with applications of the concept of activity conductivity, rate effects. May be concurrently scheduled with course C110C. S/U or letter grading. Mr. McMillan (Sp)

C213B. Physical Chemistry: 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, wave, ESR, NMR, laser spectroscopy, and radiationless transitions. May be concurrently scheduled with course C113B. Independent study project required of graduate students. Mr. Williams (W)

C215A-C215B. Quantum Chemistry: Methods. Lecture, four hours; discussion, one hour. Prerequisites: course 113A, Mathematics 31A, 31B, 32A, 32B, 33A. Recommended: knowledge of differential equations equivalent to Mathematics 105A. May consist of quantum chemistry selected from molecular and atomic physics, quantum mechanics, quantum chemistry, quantum electrodynamics: probability, ensembles, partition functions, independent molecules, and the perfect gas. Applications of classical and statistical thermodynamics, statistical mechanics, and quantum mechanics to the solid and fluid states, phase equilibria, electric and magnetic effects, ortho-para hydrogen, chemical equilibrium, reaction rates, the imperfect gas, nonelectrolyte and electrolyte solubilities, and chemical reactions. High polymers, gravimetry. May be concurrently scheduled with courses C123A-C123B. Mr. Reiss, Mr. Scott (F, C223A; W, C223B)

223C. Statistical Mechanics. Lecture, three hours; discussion, one hour. Prerequisites: courses C215B, C223B, Physics 131, or equivalent. Fundamentals of statistical mechanics; classical equations of state; Coulomb systems; phase transitions; quantum statistical mechanics; quantum corrections to the equation of state; density matrix; second quantization. S/U or letter grading.


228. Chemical Physics Seminar (2 units). Seminars presented by staff, outside speakers, postdoctoral fellows, and graduate students. May be repeated for credit. S/U grading.

M230A. Structural Molecular Biology (2 units). (Same as Biology M230A and Microbiology 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, Ms. Kasamatsu, Mr. Lake (alternate years)

M230B. Structural Molecular Biology. (Same as Biology M230B and Microbiology M230B.) Lecture, two hours; discussion, one hour. Prerequisite: Physics 6C, Mathematics 3C, consent of instructor. Selected topics from the principles of biological structure: structures of globular proteins and RNAs; structures of fibrous proteins, nucleic acids, and polysaccharides; harmonic analysis and Fourier transforms; principles of electron, neutron, and X-ray diffraction; optical and computer filtering; three-dimensional reconstruction. S/U or letter grading.

M230C. Structural Molecular Biology Laboratory. (Same as Biology M230C and Microbiology 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, Mr. Lake, Mr. Laube (alternate years)

M230D. Structural Molecular Biology Laboratory (2 units). (Same as Biology M230D.) Laboratory, 10 hours. Corequisite: course M230B. Methods in structural molecular biology, including experiments utilizing single crystal X-ray diffraction, low angle X-ray diffraction, electron diffraction, optical diffraction, optical filtering, three-dimensional reconstruction from electron micrographs, and model building. Mr. Eiserling, Mr. Lake (W)
262. Biological Energy Transductions. Lecture, three hours. Prerequisite: course 157B or equivalent. Molecular basis of energy-transducing processes, including oxidative and photosynthetic phosphorylation, other energy-linked oxidative functions, membrane transport, muscle contraction, and special sensory functions. Mr. Boyer (W)

M263. Metabolism and Its Regulation. (Formerly numbered M255.) (Same as Biological Chemistry M263.) Lecture, three hours. Prerequisites: course 110A, one course from 156, 157A, 157B or Biological Chemistry 101A or 101B, or equivalent, or consent of instructor. Thermodynamic and kinetic aspects of metabolism; regulatory properties of enzymes; metabolic regulation; consideration of comparative aspects of metabolism in relation to the 1538 and 1539 function. Mr. Atkinson, Mr. Weiss (Sp)

M264A-M264B-M264C. Molecular Basis of Atherosclerosis: Selected Topics (2 units each). (Same as Biological Chemistry M264A-M264B-M264C.) Prerequisite: course C243A or equivalent or consent of instructor. The biochemistry, morphology, and physiology of atherosclerosis. Emphasis on the chemistry of lipoproteins and the role of plasma lipids on the regulation of atherosclerotic disease. Special topics in atherosclerosis and the development of atherosclerosis. Each course may be taken independently for credit. (F, M264A, W, M264B; Sp, M264C)

266. Seminar in Techniques for the Study of Gene Regulation (2 units). Prerequisite: course 259 or consent of instructor. The techniques of molecular biology, particularly experimental approaches being taken in the study of gene regulation. Emphasis on the special biochemical techniques being used to study regulatory protein-DNA interactions in diverse biological model systems.

M267. Macromolecular Metabolism and Subcellular Organization (6 units). (Same as Biological Chemistry M267.) Lecture or recitation, five hours. Prerequisites: courses 157A and 157B or Biological Chemistry 101A-101B or 201A-201B, or equivalent, consent of instructor. The biochemistry, morphology, and physiology of atherosclerosis. Emphasis on the chemistry of lipoproteins and the role of plasma lipids on the regulation of atherosclerotic disease. Special topics in atherosclerosis and the development of atherosclerosis. Each course may be taken independently for credit. S/U grading.

271A-271Z. Advanced Topics in Inorganic Chemistry (2 to 4 units each). Prerequisite: consent of instructor. Each course encompasses a recognized specialty in inorganic chemistry, generally taught by a staff member whose research interests embrace that specialty. May be repeated for credit. S/U grading.

C275. 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 rearrangement 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)

C276A. Inorganic Chemistry: Group Theory and Spectroscopy. Lecture, three hours; discussion, one hour. Prerequisites: courses 110A, 110B, 113A, 173, or equivalent. Group theoretical methods; molecular orbital theory; ligand-field theory; electronic spectroscopy; vibrational spectroscopy. May be concurrently scheduled with course C176. S/U or letter grading.

Mr. Strouse, Mr. Zink (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.

Chicano Studies
(Interdepartmental)

3121 Campbell Hall, (213) 825-2363

Professors
Rosina Becerra, Ph.D. (Social Welfare)
Juan Gómez-Quañones, Ph.D. (History)
John Garcia, Ph.D., Emeritus (Psychology)

Associate Professors
Leobardo Estrada, Ph.D. (Urban Planning)
Raymund A. Paredes, Ph.D. (English)
Raymond A. Rocco, Ph.D. (Political Science)
Simon González, Ed.D., Emeritus (Education)

Assistant Professors
Guillermo Hernández, Ph.D. (Spanish)
Sylvia Rodríguez, Ph.D. (Anthropology)

Lecturer
Richard Chabran, M.L.S. (Library and Information Science)

Scope and Objectives
Today there is a demand for individuals with extensive knowledge of the Chicano community. Opportunities are developing in both the public and private sector that call for men and women academically prepared and aware of the history, culture, and current problems facing Mexican communities. The Chicano studies major provides students with the language and cross-cultural studies background that will enhance their qualifications for positions in schools, governmental organizations, and private enterprise.

The program, coordinated through the Chicano Studies Research Center, is multidisciplinary and leads to the Bachelor of Arts degree.

Bachelor of Arts Degree
The B.A. program in Chicano Studies is designed to provide systematic instruction for liberal arts and preprofessional majors who wish concentrated study of the Chicano experience. Viewed as developmental, the program subjects the Chicano reality to critical investigation, including the social, economic, educational, historical, political, and psychological analysis of the Chicano.

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, M106, 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, 186, 190, 191; Psychology 127, 130, 134, 135, 136A, 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 the committee in charge of the major to include in the major concentration area 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 the completion 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 Chicano 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 origins 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 artists.
M105. The Chicano Experience in Literature. (Same as English M105.) Prerequisite: satisfaction of Subject A requirement. The study of literature in English 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
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 and analysis of a number of important scholarly and critical statements pertaining to the characteristics and development of the Chicano literary corpus.
Ms. Hernandez
M147. Minority Group Politics. (Same as Political Science M147.) Lecture, three hours; discussion, one hour. Prerequisites: Political Science 1 and one of the following: one additional 140-level political science course or one upper division course on race or ethnicity, psychology, 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-operation, 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 in the United States through the 20th century, with special focus on labor and politics. Provides an integrated understanding of change 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. Gomez-Quiniones

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

Classics
7349 Bunche Hall, (213) 825-4171
Professors
Michael W. Haslam, Ph.D.
Philip Levine, Ph.D.
Bengt T.M. Lofstedt, Ph.D.
Jean Puwithel, Ph.D.
Milton V. Anastos, Ph.D., Emeritus
Paul A. Clement, Ph.D., Emeritus
Albert H. Travis, Ph.D., Emeritus
Associate Professors
Ann L. Bergren, Ph.D.
David L. Blank, Ph.D.
Andrew R. Dycyk, Ph.D.
Bernard D. Frischer, Ph.D., Chair
Katherine C. King, Ph.D.
Steven Lattimore, Ph.D.
Assistant Professor
Sander M. Goldberg, Ph.D.
Lecturers
Helen C. Caldwell, M.A., Emeritus
Barbara E. Killiam, M.A., Emeritus
Evelyn Venable Mohr, M.A., Emeritus
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 is 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 195A-195B-195C 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 133 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

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 145A, Philosophy 101A, 101B, 102, Greek 121, 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-200C and Latin 200A-200B-200C. 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.

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 143 and either 141 or 142; (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 145A, Philosophy 101A, 101B, 102, Greek 121, 122, 123, 124), Byzantine civilization (Classics M170A, M170B), medieval Latin literature (Latin 131, 133). Total courses required: 16.

Bachelor of Arts in English/Greek

Preparation for the Major
Required: English 4, 10A, 10B, 10C, Greek 1, 2, 3.

The Major
Required: (1) Seven courses from English 140A through 190 selected in consultation with an adviser in the Department of English; (2) seven upper division or graduate courses in Greek, including courses 100 and either 101A or 101B, selected in consultation with an adviser in the Department of Classics (of these seven courses, at least two must be in poetry and two in prose). Total courses required: 14.

Bachelor of Arts in Classics (Greek and Latin)

Preparation for the Major
Required: Greek 1, 2, 3 and Latin 1, 2, 3, or equivalent.

The Major
Required: (1) Twelve upper division courses, six in Greek and six in Latin, including Greek 110 and Latin 110; (2) one course from Classics 141, 142, 143; (3) one course in Greek or Roman history (History 115B, 115C, 116A, 116B, 117A, 117B); (4) one additional course in two of the related areas: classical archaeology (Classics 151A, 151B, 151C, 151D), classical linguistics (Classics 180), classical mythology (Classics 161, 162, 168), Greek and Roman religion (Classics 166A, 166B), ancient philosophy (Classics 145A, Philosophy 101A, 101B, 102, Greek 121, 122, 123, 124), Byzantine civilization (Classics 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-200C and Latin 200A-200B-200C. 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.

Bachelor of Arts in Classics (Classics 180), classical mythology (Classics 161, 162, 168), Greek and Roman religion (Classics 166A, 166B), ancient philosophy (Classics 145A, Philosophy 101A, 101B, 102, Greek 121, 122, 123, 124), Byzantine civilization (Classics M170A, M170B), medieval Latin literature (Latin 131, 133). Total courses required: 16.

Bachelor of Arts in Classics (Latin 131, 133). Total courses required: 16.
Bachelor of Arts in English/Latin

Preparation for the Major

Required: English 4, 10A, 10B, 10C, Latin 1, 2, 3.

The Major

Required: (1) Seven courses from English 140A through 190 selected in consultation with an adviser in the Department of English; (2) seven upper division or graduate courses in Latin, including courses 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 may grant provisional admission, requiring additional coursework or a written examination. Applicants for the Classics M.A. program who are deficient in Greek (or Latin) may be admitted to the Latin (or Greek) program, then permitted to transfer into the classics program when the deficiencies have been removed. The department uses the same application form as the Graduate Admissions Office, which may be obtained from the Department of Classics (7349 Bunche Hall, UCLA, Los Angeles, CA 90024-1475) or Graduate Admissions.

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.

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.) and the history of Greek and Latin literature (Greek or Latin for the Greek or 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.

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 uses the same application form as the Graduate Admissions Office, which may be obtained from the department or Graduate Admissions.

A UCLA M.A. degree in Classics (Greek and Latin), Greek, or Latin, with distinction, or an equivalent degree is required. In cases of doubtful equivalency to the UCLA M.A. degree, the department may allow provisional admission.

Major Fields or Subdisciplines

The department offers the Ph.D. degree in Classics with the following areas of specialization: classical literature and philology, classical linguistics, ancient history, ancient philosophy, classical archaeology, patristic and Byzantine studies, medieval Latin studies.

Foreign Language Requirement

New students in the doctoral program will normally have demonstrated proficiency in French, German, or Italian as described in the requirements for the M.A. degree. During the first year of study in the Ph.D. program, you must demonstrate proficiency in either French (Italian may be substituted with consent of the regular departmental faculty) or German, whichever was not used to satisfy the M.A. requirement. If Italian or French was used to satisfy the M.A. requirement, German must be taken.

Course Requirements

At least one full year of graduate study (normally eight to nine courses) is required as preparation for the qualifying examinations. You may choose any of the areas of specialization listed above and, if entering with a UCLA M.A. in Classics or the equivalent, may take courses entirely within the area of specialization; if you specialize in classical literature and philology, you may concentrate on Greek or Latin as research interests dictate. If you enter with a UCLA Greek M.A. or the equivalent, you must take, in addition, Latin 210, one course from the Latin 200A-200B-200C series, and one course from the Latin 201 through 229 series if you have not previously taken these courses. If you enter with a UCLA Latin M.A. or the equivalent, you must satisfy identical course requirements in Greek.

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 C. Phil. degree on advancement to candidacy for the Ph.D.

Final Oral Examination
An oral defense of the dissertation, which is written under the supervision of the individual adviser and must contribute significantly to research on the subject, may be required or waived at the discretion of the doctoral committee.

Classics

Lower Division Courses
10. Survey of Classical Greek Culture. Knowledge of Greek 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.

Mr. Blank, Mr. Lattimore (F,W)


Mr. Blank, Mr. Frischer, Mr. Goldberg (W.Sp)

50F. Power and Imagination in Ancient Rome. Lecture, 90 minutes; discussion, 90 minutes. Prerequisite: consent of instructor. A freshman seminar designed to survey the major aspects of Roman civilization, including art, religion, literature, and politics. P/NP or letter grading. Mr. Frischer (F.W.Sp)

M70. Survey of Medieval Greek Culture. (Same as History M70.) Lecture, three to four hours. Classical roots and medieval manifestation of Byzantine civilization, political, religious, and legal history, history of literature, and the renaissance (including the discovery of America).

Mr. Dyck

88A. Socrates. (Formerly numbered 45F.) Discussion, three hours. Examination of the evidence for Socrates' life and thought, through texts from Plato, Xenophon, and Aristophanes, in an attempt to see how Socrates worked and affected those around him.

Mr. Blank (Sp)

88B. Power and Imagination in Byzantium. (Formerly numbered 71F.) Discussion, three hours. Prerequisite: freshman standing. A study of the relations of authority and the intelligentsia in the highly centralized Byzantine Empire. Topics include criticism of the emperor, iconoclasm, intellectual freedom, and art forms at reform.

Mr. Dyck (F.W.Sp)

88C. Lower Division Seminar on Comparative Mythology. (Formerly numbered 68F.) Discussion, three hours. Ways of studying myth through history, especially in ancient Near Eastern and Indo-European cultures. Comparison of myths on both diffusionary and genetic models. Reconstruction of proto myths common to prehistoric Western Asia and Europe.

Mr. Puhvel (F.W.Sp)

Upper Division Courses

141. A Survey of Greek Literature in English. Prerequisite: course 10 or 20 or equivalent. A study of classical Greek literature, exclusive of the drama, with readings in English.

Mr. Haslam, Ms. King

142. Ancient Drama. Lecture, three to four hours. Prerequisite: course 10 or 20 or equivalent. A study of Greek and/or Latin drama in translation.

Mr. Dyck, Mr. Goldberg, Mr. Haslam, Ms. King

143. A Survey of Latin Literature in English. Prerequisite: course 20 or History 1A. A study of classical Latin literature, exclusive of the drama, with readings in English.

Mr. Blank, Mr. Dyck, Mr. Frischer, Mr. Goldberg

144. A Survey of Greek and Roman Epic in Translation. Lecture, three hours. Prerequisite: course 10 or 20 or equivalent. Homer’s Iliad and Odyssey, Vergil’s Aeneid, and Ovid’s Metamorphoses, studied in translation.

Ms. Bergren, Ms. King

145A. Ancient Greek and Roman Philosophy. (Formerly numbered 145.) Lecture, two hours; discussion, one hour. A study of some of the major Greek and Roman philosophical texts, including those of the Pre-Socratics, Plato, Aristotle, and Hellenistic philosophers, with emphasis on the historical and cultural setting of the texts, their literary form, interrelations, and contribution to the discussion of basic philosophical issues.

Mr. Blank

145B. Later Ancient Greek Philosophy. Lecture, two hours; discussion, one hour. Prerequisite: course 145A or 100A, 101B, or 102, or consent of instructor. A study of some of the major Greek philosophical texts, including those of Stoics, skeptics, philosophers of science, Hellenists, etc. P/NP or letter grading.

Mr. Blank

150A. Origins of the Western View of Women: The Female in Greek Thought. Lecture, three hours. Prerequisites: course 10 or equivalent, consent of instructor. An interdisciplinary study of the concept of the female in 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.

Mr. Dyck

150B. Origins of the Western View of Women: The Female in Roman and Early Christian Thought. Lecture, three hours. Prerequisites: course 20 or equivalent, consent of instructor. 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.

Ms. Bergren

151A. Classical Archaeology: The Aegean Bronze Age. Lecture, three to four hours. Prerequisite: course 10 or History 1A. Knowledge of Greek and Latin not required. A survey of the prehistoric art and archaeology of the Greek lands.

151B. Classical Archaeology: Greco-Roman Architecture. Lecture, three to four hours. Prerequisites: courses 10 and 20, or History 1A, or equivalent. Knowledge of Greek and Latin not required. A general introduction to the study of Aegean, Greek, and Roman architecture.

Mr. Lattimore

151C. Classical Archaeology: Greco-Roman Sculpture. Lecture, three to four hours. Prerequisite: course 10 or History 1A or equivalent. Knowledge of Greek and Latin not required. A general introduction to the study of Aegean, Greek, and Roman sculpture.

Mr. Lattimore

151D. Classical Archaeology: Greco-Roman Painting. Lecture, three to four hours. Prerequisite: course 10 or History 1A or equivalent. Knowledge of Greek and Latin not required. A general introduction to the study of Aegean, Greek, and Roman painting.

Mr. Lattimore

152. The Ancient City. Lecture, three to four hours. Prerequisites: courses 10 and 20, or History 1A, or equivalent. A study of urban planning in the ancient world, with particular attention to the cities of classical Greece and Rome, but with consideration at 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 means and building materials, and of the provision of public amenities by detailed reference to significant archaeological sites and contemporary sources.

Mr. Frischer, Mr. Lattimore

161. Introduction to Classical Mythology. Lecture, three to four hours. Prerequisite: course 10 or History 1A or equivalent. An introduction to the origins of classical myths and to the substance of divine myth and heroic saga; the place of myth in religion; a survey of the study of classical mythology.

Mr. Lattimore, Mr. Puhvel

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. Prerequisite: course 10 or History 1A or equivalent. A study of ancient Greek and Roman athletics and their connections with religion, politics, literature, and art.

Mr. Lattimore

166A. Greek Religion. A study of the religion of the ancient Greeks.

Mr. Blank, Mr. Dyck

166B. Roman Religion. A study of the religion of the ancient Romans.

Mr. Frischer

168. Introduction to Comparative Mythology. Prerequisite: course 161 or consent of instructor. The religious, mythical, and historical traditions of Greece and Rome compared with each other and with those of other ancient Near Eastern and European societies.

Mr. Puhvel


Mr. Dyck


Mr. Puhvel

195A-195B-195C. Senior Paper (4 units, 2 units, 2 units). (Formerly numbered 195.) 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. In Progress grading.

199. Special Studies in Classics (2 to 8 units). Prerequisites: senior standing, consent of instructor.

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 Millenia B.C. Readings in Hittite, Palae, Luwian, Hieroglyphic, Lycian, and Lydian texts. Anatolian-Greek relations and survivals in classical and Hellenistic times.

Mr. Puhvel

244. Etrusco-Italian Studies. Prerequisite: consent of instructor. A survey of scholarly research on Etruscan language and culture, with analysis of epigraphic material.

Mr. Puhvel
Graduate Courses

The 200-series courses which are designated A and B (e.g., 201A-201B) are double courses. Course A is a preseminar and is normally required for preregistration in course B, a seminar. A and B (e.g., 201A-201B) are double courses.

M. Blank, Mr. Dyck

201A. Homer: Iliad. Ms. Bergren, Mr. Haslam, Ms. King
201B. Homer: Odyssey. 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. Haslam

206. Sophocles. Mr. Frischer, Mr. Haslam, Ms. King

207A-207B. Euripides. Mr. Frischer, Mr. Haslam, Ms. King
208A-208B. Aristophanes. Mr. 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. Mr. Blank
212A-212B. Thucydides. Mr. Haslam, Mr. Lattimore

213. Seminar in Greek Historiography. Mr. Haslam

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 its relationship to the development of the epic and drama. Mr. Haslam

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. Mr. Haslam, Ms. Bergren

220. Seminar in the Greek Novel. Lecture, three hours. A study of the Greek romance and its place in Greek literature. Two texts: (Chariton: Chaereas and Callirhoe; Longus: Daphnis and Chloe) studied in some detail. Ms. Bergren, Mr. Dyck

221. Seminar in the Pre-Socratic Philosophers. Mr. Blank, Mr. Frischer

222A-222B. Plato. Ms. Bergren, Mr. Blank
223A-223B. Aristotle. Mr. Blank, Mr. Dyck, Mr. Frischer

224. Seminar in Post-Aristotelian Philosophy. Mr. Blank, Mr. Frischer

231A-231B-231C. 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 to 240B. Postclassical, archa- eval, and modern Greek. Mr. Dyck

241. Greek Epigraphy. A survey of Greek historical inscriptions, chiefly Attic. Mr. Dyck

242. Greek Dialectic and Historical Grammar. Prerequisite: consent of instructor. The linguistic situation in early Greece. Readings in classical Greek dialectal texts. Greek grammar in the context of common Greek and Indo-European linguistics. Mr. Puhvel

243. Mycenaean Greek. Prerequisite: consent of instructor. Script, language, and grammar of the Linear B inscriptions; their relevance to ancient Greek linguistics and culture. Mr. Puhvel

244. Greek Papyrology. Prerequisites: reading knowledge of Greek, consent of instructor. An introduction to Greek papyri, considered both as historical documents and as carriers of literature. Mr. Haslam

245. Greek Paleography. Studies in the development of the book hand in Greek manuscripts earlier than the invention of printing. Mr. Blank

596. Directed Individual Study or Research (2 to 8 units).

597. Study for M.A. Comprehensive Examination or Ph.D. Qualifying Examinations (2 to 8 units).

599. Research for Ph.D. Dissertation (2 to 8 units).

Greek

Lower Division Courses

1. Elementary Greek. Lecture, five hours. (F)
2. Elementary Greek. Lecture, five hours. Prerequisite: course 1. (W)
3. Elementary Greek. Lecture, five hours. Prerequisite: course 2. (Sp)

4. The Greek Element in English. Knowledge of Greek not required. A study of the derivation and usage of English words of Greek origin: analyses into their component elements directed toward understanding of form and meaning. Mr. Blank

Upper Division Courses

Note: Greek 3 is prerequisite to 100, which is prerequisite to 101A through 106 and 110 through 124.

100. Readings in Greek Prose. Prerequisite: course 3. Reading of Plato's Apology or a text of comparable difficulty. Ms. Bergren, Mr. Haslam

101A. Homer: Odyssey. Mr. Haslam, Ms. King, Mr. Puhvel
101B. Homer: Iliad. Mr. Haslam, Ms. King, Mr. Puhvel

102. Lyric Poets. Selections from Archilochus to Bacchylides. Ms. Bergren, Mr. Haslam
103. Aeschylus. Ms. Bergren, Mr. Blank, Mr. Haslam
104. Sophocles. Ms. Bergren, Mr. Haslam, Ms. King
105. Euripides. Mr. Frischer, Mr. Haslam, Ms. King
106. Aristophanes. Ms. Bergren, Mr. Haslam
107. Hesiod. Lecture, three hours. Prerequisite: course 100. Reading of Theogony and excerpts from Works and Days, with emphasis on Hesiod's place in Greek literature and his role in the transmission of Greek mythology. Mr. Goldberg, Mr. Janko
110. The Study of Greek Prose. Work in reading and grammatical analysis of Attic prose texts; writing Attic prose. Mr. Blank, Mr. Haslam
111. Herodotus. Mr. Blank, Mr. Lattimore
112. Thucydides. Mr. Haslam, Ms. King, Mr. Lattimore
113. Attic Orators. Mr. Dyck, Mr. Haslam, Mr. Lattimore

115. Plato. Mr. Blank, Mr. Frischer, Ms. King
116. Plato: Republic. Ms. Bergren, Mr. Blank, Mr. Haslam
123. Aristotle: Poetics and Rhetoric. Mr. Blank, Mr. Haslam
124. Aristotelian: Ethics. Mr. Blank, Mr. Dyck, Mr. Frischer

131. Readings in Later Greek. Prerequisite: course 100. Topics vary from year to year and include "Longinus," On the Sublime; Marcus Aurelius; Arrian; the Second Sophistic; Plutarch; later epic; epic; epistollography Graecae. Mr. Blank, Mr. Dyck, Mr. Haslam
133. Readings in Byzantine Literature. Prerequisite: course 100. Readings based on (1) Anthology of Byzantine Prose, ed. Nigel Wilson and (2) Oxford Book of Medieval and Modern Greek Verse, ed. C.A. Trapanis, or if unavailable, Poeti bizantini, ed. R. Cantarella. In addition, necessary historical and cultural background provided by readings and lectures. Mr. Dyck

199. Special Studies in Greek (2 to 8 units). Prerequisites: senior standing, consent of instructor.

Graduate Courses

The 200-series courses which are designated A and B (e.g., 201A-201B) are double courses. Course A is a preseminar and is normally prerequisite to course B, a seminar.

200A-200B-200C. 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. Sophiea. Mr. Haslam, Mr. Lattimore

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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.
4. Elementary Latin: Intensive (8 units). All the declensions of nouns and adjectives, all conjugations in the indicative mood, and the primary uses of the subjunctive mood. Emphasis on the development of the ability to read easy selections of classical prose.
5. The Latin Element in English. Knowledge of Latin not required. A study of the derivation and usage of English words of Latin origin; analysis into their component elements directed toward understanding of form and meaning. Mr. Lattimore

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. Frischer, Mr. Levine
101. Plautus. Mr. Goldberg, Mr. Lofstedt
102. Terence. Mr. Goldberg, Mr. Lofstedt
103. Lucretius. Mr. Blank, Mr. Frischer, Mr. Levine
104. Ovid. Ms. Bergren
105. Vergil: Selections from Aeneid I-VI. (Formerly numbered 105A). Mr. Frischer, Mr. Haslam, Ms. King, Mr. Levine
106. Catullus. Mr. Haslam, Mr. Levine
107. Horace. Mr. Frischer, Mr. Levine
108. Roman Elegy. 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. Frischer, Mr. Levine
110A-110B. The Study of Latin Prose. (Formerly numbered 110.) Discussion, three hours. Course 110A is prerequisite to 110B. Work in sight reading and grammatical analysis of classical prose texts; writing of classical prose. Mr. Blank, Mr. Levine, Mr. Lofstedt
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. Caesar. Mr. Dyck
116. Petronius. Mr. Frischer, Mr. Lofstedt
117. Sallust. Mr. Lofstedt
118. Seneca. A selection of Seneca’s works read in Latin. Mr. Blank, Mr. Lofstedt
120. The Vulgate. Lecture, three hours. Prerequisite: course 3 or consent of instructor. Reading of selected chapters of St. Jerome’s translation of the Bible, with emphasis on unclausal features of the Latin. 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 usages 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. History of Latin Literature. Prerequisite: consent of instructor. Lectures on the history of Latin literature, supplemented on the part of the students 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.
202. Seminar in Catullus. A detailed consideration of the entire Catullan corpus. Mr. Levine
203A. Elegiac Poetry. Mr. Frischer, Mr. Levine
203B. Propertius. Mr. Frischer, Mr. Levine
204A-204B. Vergil’s Aeneid. Mr. Frischer, 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. Mr. Frischer
210. Advanced Latin Prose Composition. Prerequisite: course 110 or equivalent. Mr. Frischer
211A-211B-211C. Seminar in the Roman Historians. A study of considerable portions of the writings of:
211A. Sallust. Mr. Frischer
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. Frischer
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 Institutio), with attention to its place in the rhetorical tradition. May be repeated with topic change. Mr. Dyck, Mr. Frischer
220. Cicero’s Orations. 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 philological 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.
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. Lofstedt
242. Italic Dialects and Latin Historical Grammar. Prerequisite: consent of instructor. The linguistic situation in early Italy. Readings in Osco, Umbrian, and early Latin texts. Latin grammar in the context of Italic and Indo-European linguistics. Mr. Puhvel
243. Seminar in Latin Paleography. Studies in the development of the book hand in Latin manuscripts earlier than the invention of printing. Mr. Leeming
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.
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
565. Directed Individual Study or Research (2 to 8 units).
597. Study for M.A. Comprehensive Examination or Ph.D. Qualifying Examinations (2 to 8 units). 599. Research for Ph.D. Dissertation (2 to 8 units).

Related Courses in Other Departments

Ancient Near East (Near Eastern Languages) 170. Introduction to Biblical Studies
272. Semitic Background of the New Testament
Art History (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
**Communication Studies**

(Interdepartmental)

232 Royce Hall, (213) 825-3303

**Professors**
Gordon L. Berry, Ed.D. (Education)
Patricia M. Greenfield, Ph.D. (Psychology)
Neil M. Malamuth, Ph.D., Chair
Donald E. Hargis, Ph.D., Emeritus

**Associate Professors**
Andrew Christensen, Ph.D. (Psychology)
Patrice French, Ph.D.
Paul I. Rosenthal, Ph.D.

**Assistant Professors**
Christine L. Borgman, Ph.D. (Library and Information Science)
Donald O. Case, Ph.D. (Library and Information Science)

**Lecturers**
Jeffrey I. Cole, Ph.D.
L. Geoffrey Cowan, LL.B.
Robert Meadow, Ph.D.
Janet Weathers, Ph.D.

**Scope and Objectives**

The major in communication studies is an interdisciplinary program leading to a Bachelor of Arts degree. It seeks to provide students with a comprehensive knowledge of the nature of human communication, the symbol systems by which it functions, the environments in which it occurs, its media, and its effects. Employing critical and empirical approaches, the major draws its resources from the social sciences, humanities, and fine arts. Two areas of specialty are offered: the specialization in mass communication centers on formal and institutional communication systems and the macrocosmic social contexts in which they function; the specialization in interpersonal communication centers on face-to-face communicative interaction in the small group environment.

**Bachelor of Arts Degree**

Students selecting the major in communication studies must complete the required lower division prerequisites and a minimum of 15 upper division courses as set forth below. Enrollment in the major is limited. Admission to the major is by application to the committee in charge. Applications are available in the program office.

Students officially admitted to the communication studies major for Fall Quarter 1988 and thereafter must fulfill the following requirements. Those admitted prior to Fall Quarter 1988 have the option of fulfilling either the following requirements or those listed in the 1986-87 UCLA General Catalog.

**Preparation for the Major**

**Required:** Communication Studies 10, Psychology 10, Sociology 1, Speech 1, Anthropology 33 or Linguistics 1, Computer Science 5 or Program in Computing 1, one course from Economics 40, Mathematics 50, or Sociology 18.

**Writing Requirement**

**Required:** English 131D.

**The Major**

**Required Core Courses:** Communication Studies 100 and 101 and one course from Anthropology M140, Communication Studies 102, or Linguistics 100.

**Specializations**

**Mass Communication:** (1) Required — Communication Studies 140, 152, and one course from Political Science 141, Psychology 137B, or Sociology 150; (2) systems, institutions, and policies — two courses from Communication Studies 153, 155, 165, 170, 180, 187, either Communication Studies 147 or Sociology 122; (3) media content/criticism/history — two courses from Communication Studies 160, 171, Motion Picture/Television 106A, 108, 110A, either Communication Studies 175 or Motion Picture/Television 116; (4) language theory — Communication Studies 150, Linguistics 100, 170, Philosophy 172, Psychology 123; (5) social systematics — Anthropology 133P, 133R, 135A, 135B, 142A, 142B, Sociology C144A, C144B, either Anthropology 134 or Sociology 151.

**Interpersonal Communication:** (1) Required — four courses (at least one of which must be Communication Studies 115 or 120) from Communication Studies 115, 120, Sociology C144A, C144B, either Psychology 135 or Sociology 154, either Psychology 137A or Sociology 152; (2) heterogeneous groups communication — three courses from Anthropology 141, Communication Studies 130, Psychology 125, 137C, M165, 174, 177, 178, either Sociology 124 or 155 or Anthropology 166; (3) interpersonal electives — two courses from Communication Studies 140, 152, 153, 155, 165, 170, 180, 187, either Communication Studies 147 or Sociology 122; (4) general electives — two courses from one of the following groups: (a) media content/criticism/history — Communication Studies 160, 171, Motion Picture/Television 106A, 108, 110A, either Communication Studies 175 or Motion Picture/Television 116; (b) language theory — Communication Studies 150, Linguistics 100, 170, Philosophy 172, Psychology 123; (c) social systematics — Anthropology 133P, 133R, 135A, 135B, 142A, 142B, Sociology C144A, C144B, 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.

Mr. Cole (F,W,Sp)

**Upper Division Courses**

100. Communication Theory. Prerequisite: course 10 or Linguistics 1 or Sociology 1 or Psychology 10 or consent of instructor. Analysis of the fundamental nature of human communication: its physical, linguistic, psychological, and sociological bases. Study of theoretical models explicating the process and constituents of the communicative act.

Ms. French, Ms. Weathers

101. Freedom of Communication. Analysis of legal, political, and philosophical issues entailed in the rights of free expression, access to an audience, and access to information. Study of court decisions governing freedom of communication in the United States.

Mr. Cowan, Mr. Rosenthal (F,Sp)

102. The Code of Human Communication. Prerequisite: course 10 or Sociology 1 or Psychology 10 or 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.

Ms. French, Ms. Weathers

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.

Ms. Weathers
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 discussions. Ms. Weathers

130. Cultural Factors in Interpersonal Communication. Prerequisite: course 100 or consent of instructor. Study of cultural factors as they affect the quality and processes of interpersonal communication; exercises in the participation, analysis, and criticism of real-time and recorded conversations in the small group configuration. Ms. Weathers

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; integration of theoretical materials drawn from relevant disciplines of the humanities and social sciences. Mr. Rosenthal

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 works in the theory of rhetoric.

143. Modern Communication and Social Systems. Prerequisite: course 100 or consent of instructor. Comparative analysis of major theories about relationships between mass media and social systems from the interpersonal to the international level; emphasis on empirical research.

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. Ms. Greenfield, Mr. Malamuth

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. Mr. Malamuth

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 radio, television, wired telecommunication, cellular, microwave, and satellite communication. Mr. Case, Mr. Cole

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; as a force for change in existing institutions and policies in a democratic society. Intensive study of selected agitational movements and the technique and content of their communications.

Comparative Literature (Interdepartmental)

334D Royce Hall, (213) 825-7650

Professors
Michael J. B. Allen, Ph.D., D.Litt. (English)
Arnold J. Band, Ph.D. (Hebrew and Comparative Literature)
A. R. Braunmuller, Ph.D. (English)
Frederick L. Burowick, Ph.D. (English)
Daniel G. Calder, Ph.D. (English)
Margherita Cottino-Jones, Ph.D. (Italian)
Hassan el Nouty, Docteur ès Lettres (French)
Eric Gans, Ph.D. (French)
Peter Haidu, Ph.D. (French)
Carroll B. Johnson, Ph.D. (Spanish)
Henry A. Kelly, Ph.D. (English)
Richard D. Lehan, Ph.D. (English)
C. Brian Morris, Litt. D. (Spanish)
Maximilian F. Novén, Ph.D. (English)
Joseph N. Riddel, Ph.D. (English)
Ross P. Shideler, Ph.D. (Scandinavian and Comparative Literature)
Stephen I. Yenser, Ph.D. (English)
Pier-Maria Pasinetti, Ph.D., Emeritus (Italian and Comparative Literature)

Associate Professors
Edward I. Condren, 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), Chair
Robert M. Maniquis, Ph.D. (English)
Shirleen S. Wong, Ph.D. (Chinese)

Assistant Professor
Lucia Re, Ph.D. (Italian and Comparative Literature)

Scope and Objectives
Standing at the forefront of innovative literary analysis and criticism, comparative literature is one of the most exciting fields in the humanities. As a discipline it requires exceptional linguistic ability and high intellectual caliber. UCLA’s graduate interdepartmental program offers students the opportunity to work with faculty in any of the University’s language and literature departments as well as with the Comparative Literature Program faculty.

Comparative literature at UCLA focuses on those elements which define literature in general, such as genre, period, theme, language, and theory. Courses are designed to provide students with a historical understanding of the concepts of genre and period by studying specific genres and periods or literary movements. Paradigmatic or thematic courses offer an other-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 90024-1356). 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 a 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.

Of the above required courses, eight units at most may be in the 500 series. Course 596 or 597 may be applied toward the minimum course requirement and the graduate course requirement.

Comprehensive Examination Plan

The examination for the M.A. is both written and oral, testing both historical knowledge and comprehension of methodology. There are three possible results of the examination: you may receive an M.A. degree and be allowed to progress toward the Ph.D.; be granted a terminal M.A., or fail the examination altogether.

The program allows a maximum of two attempts to pass the M.A. examinations.

The written examinations test your skill in literary analysis and detailed knowledge of specified works in the major and minor literatures. The examinations are based on reading lists from the works of at least 15 authors in the major literature 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 must 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. Course work 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.

The doctoral dissertation must demonstrate original critical work in the field. Although a topic comparing literatures is commonly undertaken, comparative literature students may write a dissertation on a single subject in a single field provided that their wide range of knowledge is demonstrated by the quality of the work.

Candidate in Philosophy Degree
You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

Graduate Courses

200. The Methodology of Comparative Literature (6 units). Seminar, four hours. Prerequisite: consent of instructor. A study of the methodology of comparative literature and the theory of literature.

201. Contemporary Theories of Criticism. Prerequisite: coursework 200 or equivalent. An advanced course in the theory of literature focusing on structuralist, psychoanalytic, and Marxist approaches.

202. Problems in the Theory of Literature. Prerequisite: reading knowledge of French or German, course 201 or equivalent. A study of specific topics in the theory of literature for advanced students in criticism and literary theory. May be repeated for credit.

203. Problems of the Sign in Literature. An inquiry into the theoretical bases and implications of the sign as metaphysical, logical, and grammatical categories. Many texts central to Western thinking dwell on the sign as a concept-tool in order to focus on the relationship between words and things, language and reality, the linguistic medium in its meaning-producing functions. Excerpts from Plato, Aristotle, Augustine, Locke, Vico, and Hegel lead to a discussion of the sciences” described by Saussure (semiology) and Peirce (semiotics) and propounded by contemporaneous theorists such as Barthes, Hjelmslev, and Greimas.

204. Psychoanalytic Approaches to Literature. Prerequisite: coursework 200 or the equivalent criticism course in English. A study of the development of modern psychoanalytic approaches to literature, with particular stress on affective theories of criticism. Readings include Freud and the early psychoanalytic critics, contemporary psychoanalytic critics of literature, and modern British and American psychoanalytic theorists (Winnicott, Schaffer) whose work is applicable to literary theory. Mr. Hutter

205. The Comic Spirit. Prerequisite: reading knowledge of one appropriate foreign language. Literary masterpieces, both dramatic and nondramatic, selected to demonstrate the varieties of comic expression. May be concurrently scheduled with Humanities C105. Graduate students required to prepare papers based on texts read in the original language and to meet as a group one additional hour each week. Mr. Band

206. Reception Theory and Literary Hermeneutics. The major premises of reception theory and literary hermeneutics presented and analyzed in a seminar by one of the foremost proponents in the field. Students read some of the professor’s major published texts as well as parts of works in progress and discuss them within the context of modern literary theory. Seminar paper required.

209. The Classical Tradition: Epic. Seminar, three hours. Prerequisite: reading knowledge of Greek, Latin, or Italian. Analysis of the Iliad, the Odyssey, the Aeneid, the Germanenre Liberata, and Paradise Lost both in relation to their contemporary societies and literary traditions. Emphasis on how poets build on the work of their predecessors. May be concurrently scheduled with Humanities C107. Graduate students 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

210. The Crisis of Consciousness in Modern Literature. Prerequisite: reading knowledge of one appropriate foreign language. Study of modern European and American works which are concerned both with subject matter and artistic methods with the growing self-consciousness of human beings and their society, focusing on the works of Kafka, Rilke, Woolf, Sartre, and Camus. Graduate students required to prepare papers based on texts read in the original languages and to meet as a group one additional hour each week. Ms. Komar

229. Archetypal Heroes in Literature. Lecture, three hours. Prerequisite: reading knowledge of one appropriate foreign language. Survey and analysis of the function and appearance of such archetypal heroes as Achilles, Ulysses, Prometheus, Oedipus, and Orpheus in literature from antiquity to the modern period. Concurrently scheduled with Humanities C129. Graduate students required to prepare papers based on texts read in the original language and to meet as a group one additional hour each week. Ms. King

230. Translation Workshop. Prerequisites: solid reading knowledge of at least one foreign language, consent of instructor. Open to qualified undergraduates with proper language preparation. The theory and practice of literary translation. Analyses of significant translations into English and into the student’s language, focusing on translation criticism and techniques. Mr. Heim

238. Medieval Epics. Prerequisite: reading knowledge of one appropriate foreign language. Survey 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 required to write papers based on texts read in the original languages and may meet as a group one additional hour each week. Mr. Caldar

240. Medieval Epics. Prerequisite: reading knowledge of one appropriate foreign language. Consideration of five medieval epics (Beowulf, El Cid, Chanson de Roland, Nibelungenlied, and Náisagsa), 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 required to prepare papers based on texts read in the original languages. Mr. Condon

241. The Literary Mediation of History in the Renaissance. Seminar, three hours. Prerequisite: reading knowledge of one appropriate foreign language. An analysis 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. May be concurrently scheduled with Humanities C141. Graduate students required to prepare papers based on texts read in the original languages and may meet as a group one additional hour each week. Ms. Re
C245. Renaissance Drama. Prerequisite: reading knowledge of one appropriate foreign language. A broad introduction to the subject matter and types of plays in the Renaissance, with consideration of his torical and literary influences on the plays. Readings include works of such dramatists as Tasso, Machiavel, Lope de Vega, Racine, Jonson, and Shakespeare. May be concurrently scheduled with Humanities C145. Graduate students required to prepare papers based on texts read in the original languages and to meet as a group one additional hour each week.

Mr. Burwick

C265. 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 contacts 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 required to prepare papers based on texts read in the original languages and may meet as a group one additional hour each week.

Mr. Manquis

C268. Romantic Autobiography. Discussion, three hours. The evolution of the autobiography from spiritual (Augustine) and secular (Ctellini) sources to the vision, and the satirical sketches of man's abnormality. May be concurrently scheduled with Humanities C265. Graduate students required to prepare papers based on texts read in the original languages and may meet as a group one additional hour each week.

Ms. Fackler

C271. Dramatic Theory and Criticism in German and English Romanticism. (Formerly numbered 271.) Seminar, three hours. Prerequisite: reading knowledge of German. The generic conception of drama in the critical theory of Schlegel, de la Motte, and Lipsius is developed. May be concurrently scheduled with Humanities C170. Graduate students may be required to prepare papers based on texts read in the original languages and to meet as a group one additional hour each week.

Mr. Burwick

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 aesthetic of the fantastic, the macabre, and the satirical sketches of man's abnormality and perversity. May be concurrently scheduled with Humanities C172. Graduate students required to prepare papers based on texts read in the original languages and to meet as a group one additional hour each week.

Mr. Burwick

C273. Theory and Texts of the Fantastic. Seminar, three hours. Prerequisite: reading knowledge of one appropriate foreign language. The fantastic as a theoretical genre separate from the wider genre of fantasy. Critical texts by Todrov 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 required to prepare papers based on texts read in the original languages and may meet as a group one additional hour each week.

Ms. Re

C274. The Search for Organic Forms. Prerequisite: reading knowledge of French or German. A seminar devoted to the theories of the "organic" in 19th and 20th-century novels. Emphasis on Rousseaue and Goethe. Studies of the transition made between theories of nature and theories of state.

Mr. Manquis

C275. The 19th-Century Novel. Seminar, three hours. Prerequisite: reading knowledge of French or German. A comparative study of the 19th-century novel in England and on 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, Machiaveli) to 19th- and 20th-century novels by authors such as Stendahl, Verga, Tomasi di Lampedusa, Carpenter, and Kundera. Use of fictional methods by historians. Emphasis on how aesthetic, ideological, and psychological facets are balanced and how authorial and use of historical material. May be concurrently scheduled with Humanities C176. Graduate students required to prepare papers based on texts read in the original languages.

Mr. Pasneti, Ms. Re

C278. Darwinism and Literature. Seminar, three hours. Prerequisite: 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 scientific and medical fiction, 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 Humanities C178. Graduate students 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 German. A study of the symbolist tradition in 19th- and 20th-century French literature. The course moves from the aesthetic of the fantastic to 19th- and 20th-century novels by authors such as Mann, Sartre, Camus, Stevens, and Skinner. May be concurrently scheduled with Humanities C178. Graduate students 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 surrealist poets as Apollinaire and Breton, imagists, and major individual poets such as Pound, Eliot, Valery, Rilke, George, and Stevens. May be concurrently scheduled with Humanities C180. Graduate students 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, Ms. Shideler

C284. The Alternate Tradition: In Search of a Female Voice in Contemporary Literature. Seminar, three hours. Prerequisite: reading knowledge of one appropriate foreign language. Investigation of narrative texts by contemporary French, German, English, American, and African writers. Historical and cultural context of the fantastic as a cross-cultural perspective. Common themes, problems, and techniques. May be concurrently scheduled with Humanities C184. Graduate students required to prepare papers based on texts read in the original languages whenever possible.

Ms. King, Ms. Komar

C285. The Modern Continental Novel. Lecture, three hours. Prerequisite: reading knowledge of at least one appropriate foreign language. Study of the novel's development from naturalism toward a mythic or symbolic level. Use of authors such as Gide, Proust, Mann, Joyce, Nabokov, and Grass to focus on the development of themes such as primitivism, purity, change vs. stability, and the self-conscious narrative. Concurrently scheduled with Humanities C185. Graduate students required to prepare papers based on texts read in the original languages and to meet as a group one additional hour each week.

Mr. Lehan

C286. The Postmodern Novel. Lecture, three hours. Prerequisite: reading knowledge of one appropriate foreign language. Study of the postmodern novel as it developed out of modernism. Postmodernism defined as a mixture of the fantastic and surrealism. May be concurrently scheduled with Humanities C186. Graduate students required to meet as a group one additional hour each week.

S/U grading.

C297. The Novel. Prerequisite: reading knowledge of French. A study of mystery and detective fiction in England, France, and the United States. Development of the form, influence of mystery fiction through close readings of selected works. May be concurrently scheduled with Humanities C177. Graduate students required to prepare papers based on texts read in the original languages and to meet as a group one additional hour each week.

C375. 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.

C495. Preparation for the Teaching of Literature and Composition. Lecture, three hours. Seminar on problems in reading and writing literary texts as exemplary materials in the teaching of composition. Deals with theory and classroom practice and involves individual counseling and faculty evaluation of TA's performance. May not be applied toward the M.A. course requirements. S/U grading.

C596. Directed Individual Study or Research (2 to 12 units). Prerequisite: graduate standing in comparative literature. Necessary for students in comparative literature who need additional individual study and research. May be repeated for credit. S/U grading.


Computing, Program in

See Mathematics

Cybernetics (Interdepartmental)

4731 Boelter Hall, (213) 825-7482

Professors
Jack W. Carley, Ph.D. (Computer Science)
Edward C. Carterette, Ph.D. (Psychology)
Joseph J. DiStefano III, Ph.D. (Computer Science and Medicine), Chair
John Hanley, M.D., in Residence (Psychiatry)
Stephen E. Jacobsen, Ph.D. (Electrical Engineering)
Peter N. Ladefoged, Ph.D. (Linguistics)
Jacques J. Vidal, Ph.D. (Computer Science)
Donald M. Wiberg, Ph.D. (Electrical Engineering)

Associate Professors
Elliot M. Landau, M.D., Ph.D. (Biomathematics)
Peter M. Narins, Ph.D. (Biology)

Scope and Objectives

The major in cybernetics is designed primarily for highly motivated undergraduates interested in interdisciplinary activities in life sciences, behavioral sciences, and engineering and computer sciences. Preparation for the major consists of a broad foundation in basic sciences — chemistry, biology, physics, and mathematics, plus introduction to psychology and computing. The major itself provides an introduction to modeling, information processing, control and system analysis, with emphasis on quantitative ideas and methodologies. Mathematical and other analytical skills are essential in the major.

Cybernetics majors have three options for in-depth studies: life sciences, behavioral sciences, or engineering and applied mathematical sciences. The major is appropriate preparation for employment or for graduate study in any of these areas, with emphasis on interdisciplinary activities. It is also appropriate preparation for professional school study in medicine, public health, management, dentistry, and engineering.

Bachelor of Science Degree

Pre-Cybernetics Major

You may apply for the pre-cybernetics major via petition if you are a sophomore and have taken at least three of the premajor mathematics courses with a 2.7 GPA or better and three other premajor courses. Together, all preparation for the major courses, including mathematics, must be completed with at least a 3.0 GPA and a minimum grade of C in all courses. Transfer students must meet the same academic requirements, based on all courses transferred from another institution which satisfy premajor requirements.

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, 9B, and 9C; Psychology 10; Program in Computing 10A. Additional recommended course lists are available in the program 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 preparation for the major courses and requirements (2.7 GPA in mathematics, 3.0 GPA overall, and a minimum grade of C in all courses). The major consists of a methodology core (five and one-half courses), a specialization area (seven courses), and a cybernetics breadth requirement (three courses). Each course in the major must be completed with a grade of C or better.

Methodology Core: Four subject areas as follows:

1. One overview course: Computer Science 196A.
2. Two courses in probability and statistics from one of the following groups: (a) Mathematics 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. Three courses in signals and control systems (one from each group): (a) Computer Science 1170, 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 M196B.

Applications/Specialization Areas: A minimum of seven courses in either life sciences, behavioral sciences, or engineering and applied 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, chemistry, and biochemistry, as well as in departments of the School of Medicine. Courses in the behavioral sciences area are in psychology, 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/specialization areas selected from the current approved list.

Specialization in Computing

You may select this area as an option in the existing applications/specialization areas. Program in Computing 10B, 10C, 30, and Computer Science 141 are required, in addition to six courses selected from an approved list. You graduate with a bachelor's degree in cybernetics and a specialization in computing.

Honors Program

Junior and senior majors who have completed all preparation for the major courses and have an overall grade-point average of 3.0 or better and a 3.5 or better in required major courses may apply for admission to the honors program, in which honors-designated sections of selected courses are required. Students pursing highest honors must, in addition, complete a senior thesis based on an approved research topic. Those who successfully complete the program (3.0 GPA or better overall, 3.5 or better in major coursework, and a grade of B or better in required honors courses) are awarded a degree with honors. At the discretion of the faculty sponsor and the interdepartmental committee, students demonstrating exceptional ability on the senior research thesis are awarded highest honors.

Upper Division Course


Development Studies (Interdepartmental)

11351 Bunche Hall, (213) 825-8682

Professors
Edward A. Alpers, Ph.D. (History)
Charles F. Bennett, Ph.D. (Geography)
E. Bradford Burns, Ph.D. (History)
Lucie C. Cheng, Ph.D. (Sociology)
John Friedmann, Ph.D. (Urban Planning)
Peter B. Hammond, Ph.D. (Anthropology), Cochair
John N. Hawkins, Ph.D. (Education)
Philip C. Huang, Ph.D. (History)
Michael E. Lofchie, Ph.D. (Political Science)
Antony R. Orme, Ph.D. (Geography)
Merrick Posansky, Ph.D. (Anthropology and History)
Louis Sabagh, Ph.D. (Sociology)
Damodar S. SarDesai, Ph.D. (History)
Susan C. Scrimshaw, Ph.D. (Anthropology and Public Health)
Richard L. Sklar, Ph.D. (Political Science), Cochair
Hartmut Walter, Ph.D. (Geography)
James W. Wilkie, Ph.D. (History)
The major consists of six parts: foreign language requirement. (For quantitative Development Studies 100A-100B, and Economics courses (including the four core courses, Development courses are accepted in place of upper servers.) To earn the credential, you must complete the Teacher Credential Program in the College of Letters and Science. The Diversified Liberal Arts Program (DLAP) is a program designed to provide a liberal education in relation to the critical issues and problems common to developing countries from a global or theme-oriented perspective. It is designed for students who are interested in careers related to international development in academia or in public or private agencies.

Bachelor of Arts Degree

Preparation for the Major
You must be a sophomore in good standing to enter the major. No specific courses are required as preparation for the major, but you should have some beginning experience in the social sciences at the college level.

The Major

Required: Fifty-six units of upper division courses (including the four core courses, Development Studies 100A-100B, and Economics 110 or 111), taken for a letter grade, and the foreign language requirement. (For the quantitative methods requirement, some lower division courses are accepted in place of upper division courses.) Courses applied toward the major may be selected from the list in item 5 below. Substitutions may be made only with consent of the faculty advisor.

The Major consists of six parts:
(1) Development Studies 100A-100B.
(2) Economics 110 or 111*.
(3) Four core courses (two should be from the same discipline) from Anthropology 130, 150, Economics 112*, 191*, Geography 121, 133, Political Science 115, 167, 168L or 168S, Sociology 112, 120.
(4) One course in quantitative methods from Anthropology 186A, 186B, Economics 40, Geography 171, Mathematics 50, Political Science 6, Public Health 100A, Sociology 18, 109, 116, 118.
(5) Twenty-four units of elective courses on at least two of the world's developing areas (e.g., Africa, Latin America, the Near East) as follows: 12 units in each of two major world areas.

-to complete the Area 1 requirements with additional composition and grammar, the courses must be selected from English 130, Linguistics 1, 100.

Area 1. English
Composition and Grammar (Required): Two courses: English 120A plus one course in satisfaction of the English Composition requirement. If you wish to complete the Area 1 requirements with additional composition and grammar, the courses must be selected from English 130, Linguistics 1, 100.

Literature (Required): One course from English 10A, 10B, 10C, 70, 75, 80, 85, 90, 112, 113, Humanities 1A, 1B, 1C, or any other upper 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.

**Speech (Required):** One course from Com-
munication Studies 10, 100, Speech 1, 2, 107.
You may complete more than one course from
this list to fulfill the Area 1 course requirement.

**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.

**Physical or Life Sciences (Required):** A
minimum of 12 units in physical sciences and/
or life sciences, apart from mathematics.

The remaining courses for Area 2 may be se-
lected from any courses in the physical or life
sciences that satisfy the general education re-
quirements (mathematics courses may be in-
cluded).

**Area 3. Social Sciences**

**History (Required):** One course from History
7A, 7B. Other courses which may satisfy the
Area 3 requirement are those listed as fulfilling
the social science general education require-
ments.

**Area 4. Humanities, Fine Arts, and Foreign Language**

Although there are no specific course require-
ments, courses applied toward this area must be
selected from those courses listed as fulfilling
the humanities general education require-
ments. The following may also be applied to-
ward Area 4: any courses in foreign language;
Dance 1A, 1B, 1C; English 4, 30; Music 1A,
1B, 113A, 113B; Theater 118A, 118B, 119A.

**Earth and Space Sciences**

3806 Geology. (213) 825-3880

**Professors**

Orson L. Anderson, Ph.D. (Geophysics)
Peter Bird, Ph.D. (Geophysics and Geology)
Donald Carlisle, Ph.D. (Geology and Mineral
Resources)
John M. Christie, Ph.D. (Geology)
Paul J. Coleman, Jr., Ph.D. (Geophysics and Space
Physics)
Donald J. DePaolo, Ph.D. (Geochemistry and
Geology)
Wayne A. Dollase, Ph.D. (Geology)
W. Gary Ernst, Ph.D. (Geology and Geophysics)
Clarence A. Hall, Jr., Ph.D. (Geology)
Raymond V. Ingersoll, Ph.D. (Geology)
David D. Jackson, Ph.D. (Geophysics)
Isaac R. Kaplan, Ph.D. (Geology and Geochemistry)

William M. Kaula, M.S. (Geophysics)
Margaret G. Kivelson, Ph.D. (Space Physics)
Robert L. McPherron, Ph.D. (Space Physics and
Geophysics)
Arthur Montara, Ph.D. (Geochemistry and
Geophysics)
Clemens A. Nelson, Ph.D. (Geology)
Gerhard Oertel, Dr.rer.nat. (Geology)
John L. Rosendal, Ph.D. (Geology)
Bruce N. Runnegar, Ph.D. (Paleontology)
Christoph T. Russell, Ph.D. (Space Physics)
J. William Schopf, Ph.D. (Paleobiology)
Gerald Schubert, Ph.D. (Geophysics and Planetary
Physics)
Ronald L. Shreve, Ph.D. (Geology and Geophysics)
John T. Wasson, Ph.D. (Geochemistry and
Chemistry)
Robert E. Holzer, Ph.D., Emeritus
Helen Tappan Loebich, Ph.D., Emeritus

**Associate Professors**

Paul M. Davis, Ph.D. (Geophysics)
Michael J. DeNiro, Ph.D. (Geochemistry)
William I. Newman, Ph.D. (Planetary Physics)
Walter E. Reed, Ph.D. (Geology)

**Assistant Professors**

Mark D. Barton, Ph.D. (Geochemistry and Geology)
David A. Paige, Ph.D. (Planetary Science)

**Lecturers**

Robert E. Jones, B.S. (Geology)
Paul M. Merfield, Ph.D. (Environmental Geology)
Floyd F. Sabins, Jr., Ph.D. (Geology)
Gerhard Stummer, B.S. (Geology)
Takeo Suzuki, D.Sc. (Geology)
David A. Winter, B.S. (Chemistry)

**Scope and Objectives**

The disciplines of geology, geochemistry, and
geosciences are concerned with the structure and
evolution of the solar system, the earth, and
life: essentially, the physical environment and
its interaction with biota. These studies entail the
application of fundamental physics and
chemistry to a broad subject area stretch-
ing from astronomy at one extreme to biology
at the other. Areas which are emphasized at
UCLA include isotope and trace element anal-
yses, petrology and mineralogy, sedimentology,
paleobiology and organic geochemistry,
structural geology and tectonophysics, the
earth’s interior, planetary physics, space plas-
as, and economic geology.

The variety of techniques applied lead to sev-
eral specializations within the three main disci-
plines. Students completing their studies with
a B.S. or M.S. degree usually are employed by
industry. The greatest number go to oil com-
panies, but many are also employed in other
types of mineral exploitation, construction, and
environment-related activities.

**Bachelor of Science in Geology**

**Engineering Geology Specialty**

**Preparation for the Major:** Earth and Space
Sciences 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, 121A-121B, 135, M139; Civil
Engineering 108, 120, 121, 128L, 150; one
course from Earth and Space Sciences 136C,
137, 141, 150, Geography 100, Civil Engineer-
ing 151, 155.

**Geochemistry Specialty**

**Preparation for the Major:** Earth and Space
Sciences 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, 121A-121B, 135, M139;
Chemistry 110A, 110B, 114 (or Chemistry 23
and 25 or 184 or Earth and Space Sciences
132); three courses from Chemistry 23, Earth
and Space Sciences 119, 121A-121B, 128A,
128B; two earth and space sciences or chem-
istry courses with consent of adviser.

**Geology Specialty**

**Preparation for the Major:** Earth and Space
Sciences 1 or 1H, 2, 51A, 51B, 51C, 61; Biology
2; Chemistry 11A, 11B/11BL, 11C; Math-
ematics 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–.

**The Major:** Earth and Space Sciences 103A,
103B, 103C, 111, 112, 121A-121B, 135,
and four additional courses from 114, 119,
122, 128A, 128B, 130, 131, 132, 133, 136C,
137, M139, 141, 144, 150.

**Nonrenewable Natural Resources Specialty**

**Preparation for the Major:** Earth and Space
Sciences 1 or 1H, 2, 51A, 51B, 51C, 61; Biology
2; Chemistry 11A, 11B/11BL, 11C; Math-
ematics 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–.

**The Major:** Earth and Space Sciences 103A,
103B, 103C, 111, 112, 121A-121B, 128A or
128B. 135, 136C, 137, and two additional
courses from 128A or 128B, 138, M139, 141,
150.

**Paleobiology Specialty**

**Preparation for the Major:** Earth and Space
Sciences 1 or 1H, 2, 51A, 51B, 51C, 61; Biology
5, 5L, 6; Chemistry 11A, 11B/11BL, 11C/
11CL, 21, 23; Mathematics 31A, 31B, and
32A, or 3A, 3B, and 32A; 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/11B1, 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 249.

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 90024-1567. Application forms and a brochure giving information about the department may be obtained from the graduate adviser. Students who wish to apply for fellowships or teaching assistantships should be aware that these are allocated in February for the following academic year; completed applications should be received by January.

Major Fields and Subdisciplines

The Department of Earth and Space Sciences offers programs leading to the M.S. and Ph.D. degrees in Geochemistry, in Geology, and in Geophysics and Space Physics. The program in geochemistry offers study in 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, paleobiology, 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), plan- etology (orbital dynamics, planetary interiors, surfaces and atmospheres, solar-system origin), and space physics (magnetosphere, radiation belts, solar wind, magnetic fields, cosmic rays). Other comparable areas of study are also possible.

Foreign Language Requirement

Advising committees may require one or more foreign language in special individual cases. The committees determine how the requirement is to be fulfilled.

Master of Science in Geochemistry

Admission

A bachelor's degree in chemistry, geology, physics, or a related field is required. Applicants must have outstanding records in the basic sciences, physics, chemistry, and mathematics. The Graduate Record Examination (GRE) Subject Test may be in any appropriate field of science.

Course Requirements

A minimum of nine courses is required for the degree, at least six of which must be graduate-level courses. Each course of study is worked out individually between you and the advising committee. You are expected to attain, either through prior training or through prescribed coursework, a common mastery of the subject matter 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 prepares and administers 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 your 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 260). 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, 258, 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) Subject 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 courses 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 mastery of the subject matter of Earth and Space Sciences 111, 112, 122, 136A, 136B, 136C, Physics 105A, 105B, 110A, 110B, and 114. Exceptions may be allowed, but in particular, deficiency in geophysical fieldwork must be made up.

Course Requirements: Courses applied toward the 36-unit minimum requirement must include Earth and Space Sciences 200A and 202, plus at least two courses from 203, 204, 205, 222. Eight additional units of graduate-level courses are required; courses 200B, 208, M224A, M224B are recommended. Eight units of 500-series courses (596, 598) may be applied toward the graduate course requirement.

Thesis Plan: A thesis is required for this specialization. A qualifying examination on the suitability of the proposed thesis should be taken by your fourth quarter in residence. You are also required to take a final examination on the adequacy of your completed thesis.

Ph.D. in Geochemistry

Admission
Admission requirements are the same as those for the M.S. in Geochemistry.

Course Requirements
Each course of study is worked out individually in consultation with your advising committee. You are expected to complete at least the minimum number of courses which are required for the M.S. in Geochemistry and to attain, either through prior training or through prescribed coursework, a common mastery of the subject matter of Earth and Space Sciences 51A, 51B, 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.

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 may be given in either a question-answer format or in a proposal format, at your discretion. Contact the department for details of each format. In case of failure, an examination of either format may be repeated at the discretion of the examining committee.
Final Oral Examination
The final oral examination is normally required.

Ph.D. in Geophysics and Space Physics

Admission
Admission requirements are the same as those for the M.S. in Geophysics and Space Physics.

Course Requirements
There are no specific requirements.

Qualifying Examinations
In this program the written qualifying examination is divided into three stages: (1) the fundamentals of physics examinations, (2) the hensive examination, and (3) the field examination. Examinations 1 and 2 must be passed before undertaking examination 3. Students not passing these examinations within three years, two years, and four years, respectively, after entering the program are subject to dismissal. Contact the department for details on each of the three stages.

You must nominate the 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 option 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 1/H 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. Rosenfield (F, W).

2. Earth History. Lecture, three hours; laboratory, three hours; fieldwork. Prerequisite: course 1 or 1/H. 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. Ingersoll (W).

3. Earth Science and Society: Geologic 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 (F, W).

4. Geology of California. Lecture, three hours; laboratory, two hours; field trips. Emphasis on field-based learning related to geological aspects of natural history. Mr. H. H. (W)

5. Mineralogy. Lecture, three hours; laboratory, two hours; field trips. Introduction to rock and mineral identification. Mr. Nelson (Sp).

6. Petrology. Lecture, three hours; laboratory, two hours; field trips. Study of igneous rocks and metamorphic rocks. Mr. Dollase (F).

7. Geology of the Pacific Ocean. Lecture, three hours; laboratory, two hours; field trips. Emphasis on field-based learning related to integrated aspects of natural history. Mr. H. H. (W)

8. Geology of the Western United States. Lecture, three hours; laboratory, two hours; field trips. Emphasis on field-based learning related to integrated aspects of natural history. Mr. H. H. (W)

9. Geology of the Mediterranean. Lecture, three hours; laboratory, two hours; field trips. Emphasis on field-based learning related to integrated aspects of natural history. Mr. H. H. (W)

10. Geology of the Arctic. Lecture, three hours; laboratory, two hours; field trips. Emphasis on field-based learning related to integrated aspects of natural history. Mr. H. H. (W)

11. Geology of the Antarctic. Lecture, three hours; laboratory, two hours; field trips. Emphasis on field-based learning related to integrated aspects of natural history. Mr. H. H. (W)

12. Geology of the Andes. Lecture, three hours; laboratory, two hours; field trips. Emphasis on field-based learning related to integrated aspects of natural history. Mr. H. H. (W)

13. Geology of the Andes. Lecture, three hours; laboratory, two hours; field trips. Emphasis on field-based learning related to integrated aspects of natural history. Mr. H. H. (W)

14. Geology of the Andes. Lecture, three hours; laboratory, two hours; field trips. Emphasis on field-based learning related to integrated aspects of natural history. Mr. H. H. (W)

15. Geology of the Andes. Lecture, three hours; laboratory, two hours; field trips. Emphasis on field-based learning related to integrated aspects of natural history. Mr. H. H. (W)

16. Geology of the Andes. Lecture, three hours; laboratory, two hours; field trips. Emphasis on field-based learning related to integrated aspects of natural history. Mr. H. H. (W)

17. Geology of the Andes. Lecture, three hours; laboratory, two hours; field trips. Emphasis on field-based learning related to integrated aspects of natural history. Mr. H. H. (W)

18. Geology of the Andes. Lecture, three hours; laboratory, two hours; field trips. Emphasis on field-based learning related to integrated aspects of natural history. Mr. H. H. (W)

19. Geology of the Andes. Lecture, three hours; laboratory, two hours; field trips. Emphasis on field-based learning related to integrated aspects of natural history. Mr. H. H. (W)

20. Geology of the Andes. Lecture, three hours; laboratory, two hours; field trips. Emphasis on field-based learning related to integrated aspects of natural history. Mr. H. H. (W)

21. Geology of the Andes. Lecture, three hours; laboratory, two hours; field trips. Emphasis on field-based learning related to integrated aspects of natural history. Mr. H. H. (W)

22. Geology of the Andes. Lecture, three hours; laboratory, two hours; field trips. Emphasis on field-based learning related to integrated aspects of natural history. Mr. H. H. (W)

23. Geology of the Andes. Lecture, three hours; laboratory, two hours; field trips. Emphasis on field-based learning related to integrated aspects of natural history. Mr. H. H. (W)

24. Geology of the Andes. Lecture, three hours; laboratory, two hours; field trips. Emphasis on field-based learning related to integrated aspects of natural history. Mr. H. H. (W)

25. Geology of the Andes. Lecture, three hours; laboratory, two hours; field trips. Emphasis on field-based learning related to integrated aspects of natural history. Mr. H. H. (W)

26. Geology of the Andes. Lecture, three hours; laboratory, two hours; field trips. Emphasis on field-based learning related to integrated aspects of natural history. Mr. H. H. (W)

27. Geology of the Andes. Lecture, three hours; laboratory, two hours; field trips. Emphasis on field-based learning related to integrated aspects of natural history. Mr. H. H. (W)

28. Geology of the Andes. Lecture, three hours; laboratory, two hours; field trips. Emphasis on field-based learning related to integrated aspects of natural history. Mr. H. H. (W)

29. Geology of the Andes. Lecture, three hours; laboratory, two hours; field trips. Emphasis on field-based learning related to integrated aspects of natural history. Mr. H. H. (W)

30. Geology of the Andes. Lecture, three hours; laboratory, two hours; field trips. Emphasis on field-based learning related to integrated aspects of natural history. Mr. H. H. (W)
Upper Division Courses

100. Principles of Earth Science. Lecture, three hours. Design for nonmajors. Not open to students with credit for course 1 or 1H. Fundamentals of physical geology and earth history; major processes of geology, such as continental drift and development of large-scale features of the earth; physical and biological evolution.

Mr. Montana (W)

101. Introduction to Geophysics and Space Physics. Lecture, three hours; laboratory, three hours; field trips. Prerequisites: courses 51A, 61, 111G, 112; Mathematics 31A, 31B, 32A, 32B, 32C. 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.

Mrs. Kivelson, Mr. Shubert (Sp)

103A. Igneous Petrology. Lecture, two to three hours; laboratory, six hours; field trips. Prerequisites: courses 51A, 51B, 51C, Chemistry 114B, Mathematics 31B, Physics 8B. Recommended: Mathematics 32A. Mineralogy, chemical composition, and field occurrence of igneous rocks with reference to their origin by melting in the earth. Introduction to thermodynamics as applied to petrology. The formation of magma, its movement, eruption, crystallization, and chemical evolution. Petrologic structure of the crust and mantle and its relation to seismology. Overview of the petrological and chemical evolution of the earth, moon, and other planets from their origin to the present day.

Mr. DePaolo (F)

103B. Sedimentary Petrology. Lecture, two to three hours; laboratory, six hours; field trips. Prerequisite: course 103A. Recommended: course 61. Study of sedimentary rocks with emphasis on the character of sedimentary particles and the dynamics of depositional processes. Lectures focus on development of depositional facies models, and laboratories emphasize recognition of sedimentary deposits from major depositional environments and setting.

Mr. McPherron (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 1H or consent of instructor. Topics include geological and economic characteristics of mineral resources, exploration, recovery, risks, exhaustibility, mineral law, land-use conflicts, taxation, and environmental concerns.

Mr. Carlisle

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.

Mr. Shreve (Sp)

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, orientation, and kinematic and dynamic analysis. Examples and patterns of strength, fracture, and rheological properties of rocks.

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 geological bodies, the stresses that cause them, and their rheological behavior. Stress and strain fields in folds, near faults, and in and near intruding magma bodies.

Mr. Oertel

115. Principles of Paleontology. Lecture, three hours; laboratory, two hours; field trips. Principles governing the evolution and distribution of fossils; the geologic history of plants, invertebrates, and vertebrates.

(F,W,Sp)

M118. Paleobotany. (Same as Biology 118) Lecture, three hours; laboratory, three hours. Prerequisite: course 112 or consent of instructor. A course in biological sciences or consent of instructor. Recommended: course 2 or equivalent. Survey of morphology, paleobiology, and evolution of vascular and nonvascular plants during Phanerogamic 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 (courses 1, 101, 103, 104, or equivalent), or consent of instructor. Classical concepts of sedimentation and tectonics. Alfred Wegener’s theory of continental drift and ensuing controversy. Physiography of continents and oceans. Geophysical evidence regarding the nature of the ocean floor. Magnetic stratigraphy. Seafloor spreading. The plate tectonic model and its driving mechanisms. Tectonic, igneous, and metamorphic processes at plate boundaries.

Mr. Christie (Sp)

120. Rubey Colloquium: Major Advances in Earth Science. Lecture, three hours. Prerequisite: upper division standing. Lectures on major advances in earth science offered by distinguished authorities (including regular faculty). Supervision of continuity and assessment of student performance by a faculty member. Content varies from year to year. If laboratory work is required, course 199 must be taken concurrently.

121121B. Advanced Field Geology (6 units each). Fieldwork, eight weeks. Prerequisites: courses 101, 103B, 111. Courses 121A and 121B must be taken concurrently. Problems in field geology: preparation of geologic maps and cross-sections; preparation of written geologic reports in the field and a final written summary geologic report of selected areas.

Mr. Barton, Mr. Ingersoll (Sum)

122. Physics of the Earth. Lecture, three hours; discussion, one hour. Prerequisites: Physics 8A, 8B, 8C, Mathematics 31A, 31B, 32A, and Program in Computing 3 or 10A, or consent of instructor. Application of physics to the structure and evolution of the solid earth. Seismology, convection and heat flow, gravity, geomagnetism, rock magnetism, and the relation of these topics to plate tectonics and other problems of current geophysical interest.

Mr. Kaula (W)

128A. Mineral Deposits. Lecture, three hours; laboratory, three hours. Prerequisite: course 51C. Origin and occurrence of important mineral deposits, with emphasis on chalcophile elements and their deposits. (Alternates yearly with course 128B.)

Mr. Barton

128B. Mineral Deposits. Lecture, three hours; laboratory, three hours. Prerequisite: course 51C. Origin and occurrence of important mineral deposits, with emphasis on siderophile and lithophile elements and their minerals. (Alternates yearly with course 128A.)

Mr. Carlisle (Sp)

130. Isotope Geochemistry. Lecture, three hours; discussion, one hour. Prerequisites: junior or senior standing in physical or biological science, consent of instructor. Theoretical aspects of geochronology, particularly carbon 14 dating. Application of radiotopes to the hydrologic cycle and to atmospheric circulation, study of sedimentary rocks in natural systems, and exchange mechanisms and their applications to paleotemperatures, hydrology, mineral formation, and origin of biological deposits. (Alternates yearly with course 134.)

Mr. DeNiro (Sp)

131. Geochemistry. Lecture, three hours; discussion, one hour. Prerequisite: junior or senior standing in chemistry, physics, or earth and space sciences. Origin and abundance of the elements and their isotopes; stability and isotopic evolution of the elements in the earth, oceans, and atmosphere; chemistry of the earth’s interior, phase transformations at high pressure and temperature. (Alternates yearly with course 130.)


Mr. DeNiro

133. Regional Geology. Lecture, three hours; discussion, two hours. Prerequisites: courses 61 and 111. Prerequisite: consent of instructor. Application of geologic, stratigraphic, paleontologic, and tectonic principles to a specific province or provinces. Emphasis on tectonic evolution of selected regions.

W

134. Computing in Earth and Space Sciences. Lecture, two hours; laboratory, four hours. Prerequisites: Programming 1, 18B, 18C, Programming 135 or 136A, consent of instructor. Application of seismic, gravity, magnetic, and other geophysical data to problems in structural geology, paleomagnetism, and other aspects of geophysical exploration. Introduction to software used in research and industry.

Mr. Bird (Sp)

135. Introduction to Applied Geophysics. Lecture, three hours; laboratory, one hour. Prerequisites: Mathematics 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 gravimetric, seismic, magnetic, and other geophysical methods for exploration of ores, petroleum, and other economic minerals. Laboratory experiments and computer modeling from fundamental equations to explore implications; probabilistic testing of models against data. Examples and exercises from the earth and space sciences. Introduction to software used in research and industry.

Mr. Jackson (F)

136A. Physical Geosciences. Lecture, three hours; laboratory, field trips, three hours. Prerequisites: Physics 8A, 8B, 8C, 8D, Mathematics 33A, Mathematics 33B, 33C, 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, vibroseis, synthetic seismograms, marine seismics, seismic interpretation, gravity and magnetic fields, inversion uniqueness and depth rules.

Mr. Davis (F)

136B. Applied Geophysics. Lecture, three hours; laboratory, field trips, six hours. Prerequisites: courses 61, 103A, 111, 136A and Program in Computing 3 or 10A, or 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, electromagnetism, magnetotellurics, magnetometers.

Mr. McPherron (W)

136C. Field Geophysics (6 units). Lecture, three hours; discussion, one hour; laboratory, two hours; fieldwork, 10 hours. Prerequisites: courses 135 or 136A, consent of instructor. Application of seismic, gravimetric, magnetic, electrical, and other geophysical methods to geologic and engineering problems. Principles of geophysical exploration, including planning, data collection, data reduction, and interpretation. Fieldwork on unsolved problems (week-long field trip).

Mr. Jackson (Sp)
3. Field Geology for Graduate Students (2 units). Field mapping; preparation of a geologic report. Two hours; prerequisite: course 135 or consent of instructor. Mr. Nelson (F)

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 Solar System and Planets. Three hours. Prerequisites: Physics 105A, 110A, 112, and 131, or consent of instructor. Geochemistry, cosmochemistry, and petrology; geoelectrons; gravity field; seismology; heat transfer, thermal and mechanical evolution of the earth core and geomagnetism; lunar and planetary interiors.

Mr. Bird (F)

200B. Introduction to Geophysics and Space Physics II: Oceans and Atmospheres. Lecture, three hours; field trip. Prerequisites: Physics 105A, 110B, 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. Paige (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. Solar surface features, heating and expansion of corona, solar wind, plasma and magnetic fields, interaction of the solar wind with the earth, magnetospheric phenomena.

Mr. Russell (Sp)


Mr. Schubert


Mr. Schubert

203. Electrodynamics. Prerequisite: upper division electromagnetism. Linear theory of instability; finite amplitude theories of turbulent flows by variational techniques. Baroclinic instability, Eady model. Inviscid flows, Taylor-Proudman theorem, Taylor columns. Mr. Hall

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. Mr. Newman

205. Inverse Theory and Data Interpretation. Lecture, two hours; laboratory, six hours. Prerequisite: course 115 or advanced standing in biological science. Inversion applied to the solutions of geological and geophysical problems, including continental heat flow, cooling of oceanic lithosphere, solidification of magmas, thermal and subsidence history of sediment basins, tectonics on fault bounded elements, mantle geotherms, temperature in descending slabs, thermal convection in geothermal regions.

Mr. Schubert

208. Geothermics. Lecture, two and one-half hours; discussion, 30 minutes. Prerequisite: Mathematics 33A or consent of instructor. Basic concepts of heat transfer applied to the solutions of geological and geophysical problems, including continental heat flow, cooling of oceanic lithosphere, solidification of magmas, thermal and subsidence history of sediment basins, tectonics on fault bounded elements, mantle geotherms, temperature in descending slabs, thermal convection in geothermal regions.

Mr. Runnegar (Sp)

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 why organisms are extirpated and replaced; past: study of habitats and habitats of animals, changes in habits and habitats, and the distribution of animals and plants 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 terrestrial and marine biological 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 isotope ratios; dietary reconstruction from paleoecological analyses; determination of provenance of archaeological materials; analysis of aspects of the biochemistry and physiology of fossil animals.

Mr. DeNiro

M214. Rotating Fluids and Geophysical Fluid Dynamics. (Formerly numbered M214.) (Same as Mathematics M227E.) Lecture, three hours. Prerequisites for earth and space sciences students: courses 200B, 202, consent of instructor; for mathematics students: Mathematics 277A, consent of instructor. The mathematics of Coriolis forces on fluid behavior, inviscid flows, Taylor-Proudman theorem, Taylor columns, motion bodies. Inertial waves in spheres and spherical shells, Rossby waves. Ekman layers, spin-up. Shallow water theory, wind-driven ocean circulation. Effects of stratification, Bénard convection, Baroclinic instability, Eady model.

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 of fossil plants, including ferns and conifers, gymnosperms, and angiosperms. Mr. Runnegar (Sp)

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, with emphasis on foraminifera, radiolarians, ostracods, and radiolarian cysts. Mr. Sigal (W)

190. Earth and Space Sciences Colloquium (1 unit). Lecture, 90 minutes. Prerequisites: consent of instructor. Current topics of research in the department. May be repeated for credit. P/NP grading.

Mr. Schubert (W)
219. Planetary and Orbital Dynamics. Study of 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 (Sp)

220. Principles of Paleobiology. Lecture-discussion, three hours. Prerequisite: graduate standing in science. Offers of biological, geologic, and chemical perspectives on the origin and evolution of life, and the interrelations of biochemical, genetic, and cosmological evidence. Content varies from year to year. May be repeated for credit. Mr. Schopf

221. Field Geology. Lecture, one hour; discussion, one hour; fieldwork, 10 days. Prerequisites: course 121B, or 195G and consent of instructor. Planning, execution, and presentation of geologic mapping projects at the professional level. Resolution of problems in Southern California geology from synthesis of new and published research. Field area varies from year to year. May be repeated for credit. Mr. DePaolo

222. Introduction to Seismology. Lecture, three hours. Types of seismic waves; travel-time seismology; epicenter location; amplitude variations; seismograms and phases; seismic waves in media; geophysical conditions; surface wave analysis; microseisms and tsunamis. Mr. Davis

M224A. 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)

M224B. Elastic Wave Propagation II. (Same as Mechanical, Aerospace, and Nuclear Engineering M257B.) Prerequisite: course M224A. Diffraction and scattering of elastic waves by isolated cracks and inclusions; normal mode theories for the vibration of finite elastic bodies; dynamic theories of fracture; representative applications in engineering and seismology. Mr. Knopoff (W)

225A. Physics and Chemistry of Planetary Interiors I. Chemical compositions of the earth and planets; high pressure and temperature effects, phase transitions, and equations of state; variation of density and temperature with depth; thermal and compositional evolution. Mr. Anderson (W)

225B. Physics and Chemistry of Planetary Interiors II. Lateral inhomogeneities in the earth; seismic velocities, petrology, geothermal and gravitational variations; evidences of motion; remnant magnetism; seismic motions; postglacial rebound; plate tectonics; rheology of mantle; thermal convection. Mr. Schubert (Sp)

226. Theoretical Geomorphology. Lecture, three hours. Prerequisites: Mathematics 33A and one course in elementary probability theory, or consent of instructor. Analysis of the intellectual foundations 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 (approximately every third year)

227. Resource Evaluation Field Methods. Lecture, one hour; laboratory, three hours; field trips. Prerequisites: courses 111B and 128A or 128B 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. Dynamo Theory. (Formerly numbered 229.) Senior, Mathematics (F/R) 2220.) Lecture, three hours. Prerequisites for earth and space sciences students: course 200C, consent of instructor; for mathematics students: Mathematics 272C, consent of instructor. Motivation; planetary and stellar magnetism; dynamo equations; generating models; magnetic dynamos; antidynamo theorems, working models. Mean field electrodynamics, dynamo waves, solar cycle. Magnetohydrodynamic dynamo theory, Taylor's condition, convective dynamo test models, numerical attempts. Crude self-reversing dynamos. The challenges today.

229. Planetary Atmospheres. Lecture, three hours. Prerequisite: course 200B or consent of instructor. Planetary atmospheric structure, dynamics, and composition. Thermodynamic and kinetic properties of inert gases, water vapor, and other minor constituents; inferences from spacecraft observations; origin and evolution of atmospheres; photochemistry, radiation mechanisms, and transport; atmospheric waves and general circulation; wave-mean flow and turbulence; remote sensing and inversion techniques. Mr. Newman

230. X-Ray Crystallography. Lecture, three hours; laboratory, three hours. Prerequisite: course 51C. Point, translation, and space group symmetry, diffraction from periodic lattice; use of x-ray methods, diffraction symmetry and elementary crystal structure analysis. (Alternates yearly with course 231.) Mr. Dollase

231. Crystal Chemistry and Structure of Minerals. Lecture, three hours. Prerequisite: consent of instructor. Interrelationships of the physical properties of rock-forming minerals; optical properties, intercalations, polymorphic transformations, isotopy, thermal and positional disorder; survey of the structures of the common minerals, and relation of physical and chemical properties to crystal structure. (Alternates yearly with course 230.) Mr. Dollase

233. Mineral Physics and Equations of State. Lecture, three hours. Prerequisite: consent of instructor. Questions of particular interest: spatial distribution of minerals; rock-forming elements; the equation of state of the earth; wave transport in the earth; the nature of seismic velocity profiles; rock mechanics; rock deformation; rock fluid properties; rock physics. Mr. Anderson

234A. Thermodynamic and Geometric Principles of Phase Equilibria. Prerequisite: course 51C and Chemistry 110B, or consent of instructor. Principles governing homogeneous and heterogeneous equilibria, with selected applications to mineral stability relations in igneous and metamorphic rocks (fractional crystallization, partial melting, hydrothermal reactions, element partitioning), and to physical phases. Mr. Ernst (W)

235A-235B. 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 space sciences. May be repeated for credit. S/U grading. Mr. Hein (F/W)

236. Igneous Petrology. Lecture, two hours; laboratory, six hours. Prerequisites: introductory course in petrology and geochemistry, knowledge of differentiation diagrams. Unusual rhyolitic, igneous rocks based on geochemo, tectonophysico, and other geological evidence and principles. Mr. DePaolo (W)

237. Geochemistry of Solutions. Lecture, three hours. Prerequisites: courses 103A and 103C, Chemistry 110A and 110B, 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 the study of reaction mechanisms. Mr. Bardsley

238. Metamorphic Petrology. Lecture, three hours; laboratory, six hours. Prerequisite: introductory course in petrology and geochemistry, or consent of instructor. Interpretation of metamorphic rocks in the light of observations, experimental, petrographic, and chemical relations, petrographic evidence, metamorphic zoning, thermodynamics of phase equilibria, projections, chemographic relationships, use of piezo-electric haloes, Rayleigh depletion model, isotopic fractionation, environmental factors of metamorphism. Laboratory study of representative metamorphic rocks and suites of rocks selected to illustrate topics discussed in lectures. Mr. Rosenfeld (Sp)

239. Structural Petrology of Deformed Rocks. Discussion, three hours; laboratory, three hours. Prerequisites: courses 51C, 112. Recommended: courses 245A-245B, 249. Use of universal stage. Microscopic study of structures, textures, and preferred orientation of inclusions in limestones. Determination of strain: kinematic relations, petrographic evidence, metamorphic zoning, thermodynamics of phase equilibria, projections, chemographic relationships, use of piezo-electric haloes. Rayleigh depletion model, isotopic fractionation, environmental factors of metamorphism. Laboratory study of representative metamorphic rocks and suites of rocks selected to illustrate topics discussed in lectures. Mr. Christe

240. Space Plasma Physics. Lecture, three hours. Prerequisites: 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; magnetospheric convection; substorm processes; magnetic merging; field-aligned currents and magnetosphere-ionosoucoupling; ring current dynamics; and wave particle instabilities. Mr. Russell

241. Sedimentary Petrology. Lecture, two hours; laboratory, six hours. Prerequisites: courses 51C, 103B. Texture, composition, structure, and modes or origin of the sedimentary rocks. Content varies from year to year. Mr. Need

242. Sandstone Petrology. Lecture, two hours; laboratory, four hours. Prerequisite or corequisite: course 141. Petrographic study of sandstones, with emphasis on provenance, petrofacies, and paleoecologic reconstructions. Mr. Ingersoll (Sp)

244. Tectonics of Sedimentary Basins. Lecture, two hours; discussion, two hours; field trips, six hours. Prerequisites: courses 103B, 119. Recommended: course 141. Plate-tectonic settings of sedimentary basins. Basin analysis, stratigraphy, paleoenvironments, sedimentology, and related subjects in the context of plate-tectonic controls on basin evolution. 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, strain rate; Mohr's circle construction and other graphical methods; flow laws. Mr. Oertel (F/W)

246. Stress in the Lithosphere. Lecture, three hours. Prerequisites: course 202 or 245A or Civil Engineering 108 or consent of instructor. Overcoring, hydrofracture, fault plane solutions, seismic stress drops; geologic controls on each; rock types, sedimentology, tectonography, and density anomalies. State of stress in plate boundaries and interiors. Application of finite element and analytic methods to stress determination. Mr. Bird
247. Glaciology, 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; catastrophe. Mr. Shreve (Sp, every third year)

248. 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. Oertel (Sp)

249. Structural Analysis of Deformed Rocks, Discussion, three hours; laboratory, three hours. Prerequisites: courses 111A, 111B, 112, or consent of instructor. Recommended: course 248. Geometrical analysis of megascopic structures in terranes with complex or multiple deformations. Analysis of strain from deformed primary features; interpretation of structural history in metamorphic terranes. Alternates yearly with course 239. Mr. Christie

250. Seminar in Mineralogy, Lecture, three hours. Examination of groups of rock-forming minerals (e.g., feldspars), integrating such aspects as crystal structure, chemical composition, isomorphism, and crystal chemistry. Crystal equilibrium and phase transformations. Mr. Dollase (Sp)

251. Seminar in Geochemistry, Lecture, two hours; discussion, two hours. Phase equilibria under crustal conditions, chemistry of ocean waters, recent and ancient sedimentary rocks, and fissionTrack dating. Mr. Kaplan (W/Sp)

252. Seminar in Petrology, Lecture, three hours. Problems of igneous or metamorphic petrology: methods of evaluating physical conditions of metamorphism; diffusion mechanisms; origin of ultramafic rocks and problems of the mantle; element fractionation among coexisting phases; other current subjects in the field. S/U grading. Mr. Rosenfeld

253. Seminar in Sedimentology, Lecture, three hours. Processes of sediment transport and deposition; deep sea sediments; deltas and estuaries; petrology of carbonates, sandstones, and limestones; stratigraphy; paleoenvironmental studies. Mr. Reed (F)

254. 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 terrains, volcanoes, and consolidated or unconsolidated sediments. Modern concepts of the oceanic basins; processes leading to segregation of continental-type rocks. Mr. Christie (F)

255. Seminar in Glaciology and Geomorphology, Lecture, three hours. Glacial physics, theoretical geomorphology, river mechanics, statistical models. Mr. Shreve

256. Seminar in Paleontology, Lecture, three hours. Current biogeographic literature and research: evolution of selected groups of animals and plants, numerical taxonomy, organism-environmental relationships, origin and development of life, biostratigraphy, paleoecology, biogeography, and biostatistics. Mr. Shreve

257. Seminar in Paleobotany, Lecture, three hours. Problems of fossil plants and pollen, and study of emergence of angiosperms, conifers, and formation of coal deposits. Mr. Barton

258. Seminar in Mineral Deposits, Lecture, three hours. Problems of ore deposits, mineral deposits and their economic significance. Mr. Barton, Mr. Kaplan (W/Sp)

259. Seminar in Paleontocritics, (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 Phanerozoic of the western United States. Mr. Ingallson

260. Seminar in Advanced Topics in Geology (2 to 4 units). Formerly numbered 259. Topics vary. May be repeated for credit.

261. Topics in Magnetostratigraphic Plasma Physics, Lecture, discussions, and exercises on specific advanced topics in magnetostratigraphic plasma physics. Previous courses examined magnetic storms, magnetospheric substorms, ultralow frequency waves, and adiabatic particle motion in the earth's radiation belt. Mr. McPherron

265. Instrumentation, Data Processing, and Data Analysis in Space Physics, Lecture, three hours. Principles, testing, and operation of magnetometers and other instruments. Data processing, display, and archiving. Time series analysis techniques, including filtering. Fourier series, eigenanalysis, and power spectra. Mr. McPherron

266. Seminar in Resource Analysis, Lecture, three hours. Prerequisite: consent of instructor. Geological, geophysical, economic, and technological factors in studies of optimum use of mineral and energy resources. Emphasis on different mineral or energy sources from time to time. Mr. Carlisle (F)

270A-M270B-M270C. Seminar in Climate Dynamics (2 to 4 units each). (Same as Atmospheric Sciences M270A-M270B-M270C and Geography M270A-M270B-M270C.) Lecture, two hours. Prerequisite: consent of instructor. The archaeological, geochemical, micropaleontological, and stratigraphic evidence of climate change throughout the geologic past. Rheology and dynamics of climatic sub-systems: 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. Ghil, Mr. Schubert

282. Seminar in Geophysics, Lecture, two hours; discussion, two hours. Prerequisite: consent of instructor. Seismology, geophysical prospecting, electromagnetic prospecting. Selected topics in earth physics. Content varies from year to year. May be repeated for credit. Mr. Davis (Sp)

286A-M286B-M286C. Seminar in Planetary Science (2 to 4 units each). Problems of current interest concerning the moon, planets, and meteorites. May be repeated for credit. S/U grading. Mr. Kaula, Mr. Newman

288A-M288B-M288C. Seminar in Space Physics (2 to 4 units each). Problems of current interest concerning particles and fields in space. May be repeated for credit. S/U grading. Mr. Jackson (Sp)

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. Application of teaching apprenticeship under the active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated. S/U grading.

501. Cooperative Program (2 to 8 units). Prerequisite: consent of UCLA student advisor and graduate dean, and host campus instructor, department chair, and graduate dean. 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.


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East Asian Languages and Cultures

290 Royce Hall, (213) 206-8235

Professors
Robert C. Epp, Ph.D. (Japanese)
William R. LaFleur, Ph.D. (Japanese), Chair
Peter H. Lee, Ph.D. (Korean)
E. Perry Link, Jr., Ph.D. (Chinese)
Hartmut E. F. Scharfe, Ph.D. (Sanskrit)
Kan Lao, B.A., Emeritus
Richard C. Rudolph, Ph.D., Emeritus

Associate Professors
Noriko Akatsuka, Ph.D. (Japanese)
Ben Betu, Ph.D. (Japanese)
Herbert E. Plutschow, Ph.D. (Japanese)
Robert E. Strassberg, Ph.D. (Chinese)
Shirleen S. Wong, Ph.D. (Chinese)

Assistant Professor
Robert E. Buswell, Ph.D. (Chinese)

Lecturers
Lisa Chang Ahnert, M.A. (Chinese)
Y. C. Chu, M.A. (Chinese)
Ikuyo Nishide, M.A. (Japanese)
Ku-yi Pao (Unerseken), M.A., M.S., Emeritus

Visiting Professor
Chungmin Lee, Ph.D. (Korean)

Scope and Objectives

The Department of East Asian Languages and Cultures aims to provide students with an exposure to the rich cultural heritage of East Asia. This is accomplished through courses in language, literature, thought, religion, archaeology, and other aspects of culture. For
undergraduates the department offers a program leading to the B.A. degree in Chinese or Japanese, in which the emphasis is on the language and culture of China or Japan. The language program aims to develop the four skills of speaking, aural comprehension, reading, and writing in a balanced and mutually supportive manner.

At the graduate level, the department offers a program leading to an M.A. degree in several fields of East Asian culture. The program aims to give students a solid mastery of these fields preparatory to careers in teaching or in areas such as journalism, business, banking, or government service. The Ph.D. program, which is very selective, trains research scholars for academic careers in specialized fields.

**Bachelor of Arts in Chinese**

**Preparation for the Major**

**Required:** East Asian Languages and Cultures 1A-1B-1C, 1A-1B-1A, 40A, History 9B-9C. Anthropology 22, East Asian Languages and Cultures 113A, and English 4 are recommended.

**The Major**

**Required:** A total of 11 1/2 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 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.

**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 11 1/2 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, C161, 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.

**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 are admitted to the Department of East Asian Languages and Cultures. Applicants with the B.A. must also take a test in translation examination.

**English Language Requirements**

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.

**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
Students entering the program with an M.A. in a different field, or in the same field but from another institution, must meet the standards of the department's M.A. coursework in addition to fulfilling Ph.D. course requirements. A minimum of five courses (not including courses taken to meet the language requirements listed below) beyond the M.A. degree is required. In addition, students majoring in Chinese must take three years of modern Japanese or the equivalent (i.e., one course beyond East Asian Languages and Cultures 119B); those majoring in Japanese must take two years of classical Chinese or the equivalent (i.e., three courses beyond East Asian Languages and Cultures 113C). Those majoring in Buddhist studies must also take appropriate courses in Sanskrit or Pali. A grade of B or better is required in courses taken to fulfill the language requirements.

Qualifying Examinations
You must take three written examinations, as follows:

(1) For students in Chinese literature:
   (a) A general examination in Chinese literature.
   (b) Examinations in two of the following approved fields which cannot be from the same group: (1) Chinese poetry, Chinese drama, Chinese fiction, modern Chinese literature; (2) ancient Chinese civilization, Chinese Buddhism or another field of Chinese thought or religion; (3) Japanese literature; (4) a field offered in another department or interdepartmental program.

(2) For students in Japanese literature:
   (a) A general examination in Japanese literature.
   (b) Examinations in two of the following approved fields which cannot be from the same group: (1) ancient, medieval, early modern, or modern Japanese literature; (2) Japanese Buddhism or another field of Japanese thought or religion; (3) Chinese literature; (4) a field offered in another department or interdepartmental program.

(3) For students in Buddhism, ancient Chinese civilization, or Japanese linguistics:
   (a) An examination in your major language area.
   (b) A general examination in your major field.
   (c) An examination in an approved subfield within your major field.
   (d) A general examination in another approved field inside or outside the department.

The qualifying examinations must be taken within a four-week period after satisfying all language and course requirements. With consent of the department, you may repeat the examinations once.

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 whose knowledge of Chinese disqualifies 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. 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
3A-3B-3C. Elementary Modern Korean. Lecture, five 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. Mr. C. Lee
4A-4B-4C. Elementary Modern Japanese. Lecture, two hours; discussion, three hours. Not open to students who have learned, from whatever source, enough Japanese to qualify for more advanced courses. An introduction to modern Japanese with attention to conversation, grammar, and the written forms. Conversation drill based on material covered in class. Ms. Akatsuka
11A-11B-11C. 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. Plutschow
15A-15B-15C. Intermediate Spoken Japanese (2 units each). Lecture, three hours. Prerequisites: course 9C, consent of department. Limited to students with credit for courses 9A-9B-9C. May be taken concurrently with courses 19A-19B-19C. Conversational Japanese. Mr. Nishide
17A-17B-17C. Intermediate Korean. Prerequisite: course 7C or equivalent. A continuation of courses 7A-7B-7C. Conversation, composition, and readings with structural analysis in modern Korean. Mr. C. Lee
19A-19B-19C. Intermediate Modern Japanese. Lecture, three hours; laboratory, two hours. Prerequisites: 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 required. A survey of the development of the outstanding aspects of Chinese culture from prehistoric to modern times. Mr. Chou
41. Introduction to Buddhism. (Formerly numbered 172.) Lecture, three hours. Knowledge of Asian languages not required. A general survey of the development of Buddhism in India, focusing on those religious doctrines and meditative practices most essential to the various Asian traditions of the religion. Mr. Buswell
42. The Tea Ceremony: An Introduction to the History of Japanese Culture in Theory and Practice. Lecture, three hours; demonstration. The history and cultural significance of the tea ceremony and the practice of the Tea Ceremony. Topics include Buddhism, aesthetics, calligraphy, painting, architecture, gardens, ceramics, and politics. Mr. Plutschow

Upper Division Courses
113A-113B-113C. Introduction to Classical Chinese. (Formerly numbered 13A-13B-13C and 113A-113B.) Lecture, three hours. Prerequisite: course 1C or consent of instructor. Grammar and readings in selected texts. Mr. Wong
121A-121B-121C. Advanced Modern Chinese. Prerequisite: course 11C. Readings in modern prose and newspaper style. Mr. Chu
122A-122B. Readings in Modern Chinese Literature. Lecture, three hours. Prerequisite: course 121B or consent of instructor. Readings and discussion of works of modern Chinese literature. 122A. Poetry and Prose; 122B. Drama and Fiction. Mr. Link
124A-124B-124C. Readings in Modern Expository Chinese. Lecture, three hours. Prerequisite: course 121B or consent of instructor. Readings in the social sciences, including Chinese Communist materials. 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
151A-151B. Readings in Traditional Chinese Fiction. Prerequisite: course 11C or equivalent or consent of instructor. Selected readings from the classic 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 collaborative readings. Selected readings are a selection 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. Mr. Pao

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 texts. Mr. Scharfe

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 Chinese Literary 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. 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 Ibusuke Masajuro, Maruyama Kusori, Ozaki Kanzo, Tsuboi Sekae, and Yokomitsu Fichi. 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. Mr. Mou

170A. Introduction to Chinese Archaeology. Early Chinese study of their own past, types of artifacts, antiquarianism, and the beginnings of scientific archeology in China before 1949. Mr. Chou

170B. Archaeology in the People’s Republic of China. Survey of major excavations of sites of all periods, carried out under the intensive archaeological program of the PRC, and the interpretation of the archaeological findings. Mr. Chou

171. Buddhist Meditation Traditions. Lecture, three hours. Knowledge of Asian languages not required. A survey of the theory and practice of meditation in Buddhism, with emphasis on the Theravada and Zen schools. Topics include various typologies of meditation, the symbolic relationship between meditation and soteriology, and the processes by which doctrinal innovation prompts changes in meditative practice. Mr. Buswell

173. Chinese Buddhism. Knowledge of Asian languages not required. The introduction and development of Buddhism in China, interaction between Buddhist and Chinese culture, rise of the Chinese schools of Buddhism such as Pure Land and Zen, contributions to Chinese culture. Mr. Buswell

174. Japanese Buddhism. Knowledge of Asian languages not required. The development of Buddhism in Japan and its influence on Japanese culture, with emphasis on the arts. Mr. LaFleur

175. Korean Buddhism. Lecture, three hours. Knowledge of Asian languages not required. The introduction and development of Buddhism in Korea, interactions between indigenous Korean culture and the Sinic traditions of Buddhism, Korean syntheses of imported Buddhist theological systems and mediative techniques, and the independent Son (Zen) schools of Korea. Mr. Buswell


C178. Introduction to Shiga Naoya. (Formerly numbered 153B.) Lecture, three hours. Prerequisite: course 177A or 134B. Reading and discussion of Shiga’s short stories, with special emphasis on his I-novel technique until 1918. Concurrently scheduled with course C278. Mr. Epp (W, even years)

179A. Readings in Medieval Japanese Literature. Lecture, three hours. Prerequisite: course 129 or consent of instructor. Readings and discussion in the prose, poetry, and drama to 1600. Mr. Plutschow

179B. Readings in Edo Literature. Lecture, three hours. Prerequisite: course 129. Readings and discussion in the prose, poetry, and drama from 1600 to 1868. Mr. Befu

C181. Readings in the Japanese Family System. (Formerly numbered 142A.) Lecture, three hours. Prerequisite: course 153B 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)

C182. Human Problems in the Modernization of Japan. (Formerly numbered 142B.) Lecture, three hours. Prerequisite: course 119B or equivalent. Analysis and discussion of articles dealing with the definition of modernization in Japanese society and the relation of modernization to traditional values, self-awareness, and the role of the intellectual. Concurrently scheduled with course C282. Mr. Epp (Sp)

183. Introduction to Chinese Thought. Lecture, three hours. Knowledge of Asian languages not required. A general survey of indigenous Chinese thought from the Chou period to circa 1800, covering Confucianism, Taoism, Mo-tzu, the legalists, the influence of Buddhism, the development of Neo-Confucianism, and neo-Confucianism.

184. Introduction to Japanese Thought. Lecture, three hours. Knowledge of Asian languages 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, Confucianism, 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 raising the philosophical ideals of critical treatises through mastery of the traditional materials and elements of landscape. Mr. Strassberg

190. Special Studies in East Asian Languages and Cultures (2 to 4 units). Prerequisites: senior standing in department or advanced 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. Mr. Buswell

214A-214B. Palis and Prakrits. Prerequisites: knowledge of Sanskrit equivalent to course 161, consent of instructor. Grammatical studies and reading of texts. Comparative considerations. Mr. Scharfe

221A-221B. Introduction to Panini's Grammar. Prerequisites: course 162, or equivalent. Emphasis on raising the selected passages of the text, with an introduction to Panini's technique. Mr. Scharfe

222A-222B. Vedic. (Same as Iranian M222A-M222B.) Prerequisites: knowledge of Sanskrit equivalent to course 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

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

225A-225B. 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: 242A. Prose and Poetry to 1600. 242B. Prose and Poetry from 1600 to 1868. May be repeated for credit with consent of instructor. Mr. Befu

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. Ms. Akatsuka

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 generic, hennemelical, and historical approaches. Topics in fiction include classical Chinese plays and novels of three periods: Li Shih-Ch'ien, Han Shih-Ch'ien, and Chou through the Ch'ing periods. Topics in drama selected from tsa-cha and ch'uan-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.

246. Modern Japanese Poetry. Lecture, three hours. Studies of individual poets who became established between World War I and World War II and who consciously illustrated the transitional artists attempting 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.

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. Plutschow

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

255. Seminar: Selected Topics in Buddhist Studies. Coverage varies. May be repeated for credit. Mr. Buswell

261A-261B. Seminar in Classical Chinese Poetry. Prerequisites: courses 152A and/or 152B, or consent of instructor. 261A. Chinese poetry from the Shih-ch'ing phase to the 6th century, with emphasis on the evolution of the lyric form during the Southern dynasties (ca. 400-600). 261B. The development of shih and t'zu from the T'ang period (ca. 600-900) and onward; traditional and modern critical approaches to classical Chinese poetry. Ms. Wong

262. 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 Bokasa Matsui, Marykawa Kunio, Ozaki Kanzo, Tatsuno Sakae, and Yokomitsu Shih. Concurrently scheduled with course C166. Graduate students write a research paper and present written or oral reports on outside readings. Mr. Epp

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 archaeological finds. May be repeated for credit. Mr. Chou

275. Seminar: Selected Topics in Chinese Cultural History. Prerequisite: consent of instructor. Discussion and research on the major problems related to Chinese culture, such as beginnings of the Chinese civilization and the Chinese dynamic 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 K-1 novel technique until 1918. Concurrently scheduled with course C178. Graduate students write a research paper and present written or oral reports on outside readings. Mr. Epp (W, even years)

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 literature (including the definition of 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, every second or third year)

285. Selected Topics in Buddhist Culture. May be repeated for credit with consent of instructor. Mr. LaFleur

295. Bibliography and Methods of Research in Chinese. Required of all graduate students in Chinese. 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

296. 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.

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.

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: consent of UCLA graduate adviser and graduate dean, and host campus instructor, department chair, and graduate dean. 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. Early Art of India 114C. Japanese Art 114D. Later Art of India 114E. Arts of Korea 114F. Arts of Southeast Asia C115A. Advanced Indian Art C115B. Advanced Chinese Art C115C. Advanced Japanese Art C115D. Art of Early China, Neo-Loth to A.D. 906 C115E. Chinese Art of the Sung and Yuan Dynasties, 906-1368 C115F. Chinese Art from the Ming Dynasty to the Present 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


Law 278. Comparative Law: Chinese Law


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. Baerwald, Ph.D. (Political Science) Richard D. Baum, Ph.D. (Political Science) Philip C. Huang, Ph.D. (History)

Associate Professors
Herbert E. Potsch, 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-11B-11C or 19A-19B-19C. Students planning to pursue classical Chinese in the major need East Asian Languages and Cultures 113A-113B-113C in addition to the above courses.

The Major

This consists of three parts:


(2) Five courses from the following: any upper division courses in the Department of East Asian Languages and Cultures not being used to satisfy that requirement; any upper division courses in the Department of East Asian Languages and Cultures not being used to satisfy other parts of the major requirements; any new upper division courses relevant to East Asian or Asian American studies (including no more than three CED courses) which may be approved by the Executive Committee of the college on the recommendation of the advisory committee; Art History 114C, 114E, C115B, C115C; Music 140C, 141, 145, 146A, 146B, 146C, 147A, 147B*.

(3) The prescribed courses in one of the following areas (courses offered to satisfy this requirement may not be applied toward other parts of the major requirements): (a) archaeology: any four courses from East Asian Lan-

guages and Cultures 170A, 170B, Anthropology 112*, 1150*, 115R*; (b) geography: Geography 133, 186, and two additional upper division geography courses; (c) history: four upper division or graduate courses in East Asian or Southeast Asian history (History 182A, 182B, 182C, 183, 184, 186, 187A, 187B, 187C, 190A, 190B, 197 when in the East Asian field); (d) political science: Political Science 115* and three courses from 135, 136, C137A, C137B, 137B, 159, 160, 161, C197 when in the East Asian field; (e) sociology: Sociology 124* and three courses from 113*, 126*, 134*, 151*, 154.

Economics

2263 Bunche Hall, (213) 825-1011

Professors

Associate Professors
Sebastian Edwards, Ph.D. David K. Levine, Ph.D. George G. S. Murphy, Ph.D. Kenneth Sokoloff, Ph.D.

Assistant Professors
Trudy Cameron, Ph.D. David R. Dollar, Ph.D. Suile Oszler, Ph.D. Sunit Sharma, Ph.D. Carol Simon, Ph.D. Guido Tabellini, Ph.D. Michael Waldman, Ph.D.

*Courses so marked have prerequisites which are not included among the courses mentioned here.
Scope and Objectives

UCLA's Economics Department is ranked among the top 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 their fields of specialization and to undertake advanced research in those areas. A Master of Arts program is also offered, which involves coursework and comprehensive examinations designed for the Ph.D. student.

Bachelor of Arts in Economics

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 results in automatic denial of admission to the major. Transfer credit for any of the above is subject to department approval; consult the undergraduate counselor before enrolling in any courses for the major.

The Major

Required: 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 120A and/or 120B 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, 135, 136); 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 and is designed to prepare students for careers in business and for graduate education in business, economics, and law. The program requires students to include specific courses offered by the department and the John E. Anderson Graduate School of Management (see "The Major").

Admission

Enrollment in the program is limited. 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) and a 3.0 average in all preparation courses except English. A 3.0 average is necessary in both upper division economics and management courses, computed separately, that you may have taken prior to admission.

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 results in automatic denial of admission to the major. Transfer credit for any of the above is subject to department approval; consult the undergraduate counselor before enrolling in any courses for the major.

The Major

Required: Economics 101A, 101B, 102, and at least two courses from 104, 173, 174, 184; four other upper division courses in economics in at least two different fields; four upper division courses from Management 108, 120A, 120B, 122, 123, 124, 127, 130, 133, 140, 175. Learning Center courses or courses transferred from other institutions, including UCLA Extension, may not be applied toward the management part of the major. All major courses must be completed for a letter grade. Transfer credit for any of the major courses is subject to department approval; consult the undergraduate counselor before enrolling in any courses for the major.

You must maintain a UCLA 3.0 grade-point average throughout your program and must have a 3.0 GPA (computed separately) for both upper division management and upper division economics courses in order to remain in the major (i.e., a grade-point deficiency in economics courses cannot be offset by grade points earned in management courses and vice versa when computing the upper division grade-point minimum).
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 adviser 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 results in automatic denial of admission to the major. Transfer credit for any of the above is subject to department approval; consult the undergraduate counselor before enrolling in any courses for the major.

The Major

Required: A total of 15 upper division courses selected from economics and the list of “Approved Noneconomics Courses” below. Elev-
en 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 120A and/or 120B 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 the economics courses) 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 courses for the major.

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) General Test and the Subject Test in Economics.

The Department of Economics (2263 Bunche Hall, UCLA, Los Angeles, CA 90024-1477) 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 complete, 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, math-
ematics, 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 quantitative methods examination and in each half of the theory comprehensive. If you achieve a B+ average in Economics 203B and 203C, 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 are 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:

1. Quantitative Methods: The requirement may be satisfied in any of the following ways:
   - (a) achieving a B+ average in Economics 203B and 203C;
   - (b) achieving a B average in at least two quarters of the advanced econometrics sequence (courses 231A, 231B, M232A);
   - (c) passing the quantitative methods waiver examination administered at the beginning of Fall Quarter.

2. U.S. or European Economic History: You must take one upper division undergraduate course in either United States or European economic history with a grade of B or better. Economics 181A, 181B, or 183 may be taken to satisfy this requirement.

3. History of Economic Theory: You must take one upper division undergraduate course in the history of economic theory with a grade of C or better. Economics 107 may be taken to satisfy this requirement.

You may petition the graduate committee to substitute any one of the above requirements with comparable coursework taken at a previous institution.

Qualifying Examinations

You are responsible for contacting the graduate adviser for additional regulations covering these examinations.

You are expected to take the theory comprehensive at the end of the Spring Quarter of your first year or in the beginning of the Fall Quarter of your second year. During the second and third years, you 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 expected 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 is 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.

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 aggregate economics, including national income, monetary and fiscal policy, and international trade.

3. Introduction to Statistical Methods. Lecture, three hours; discussion, three hours. Not open to students with credit for course 101. An introduction to the principles of economic analysis, economic institutions, and issues of economic policy. Emphasis on aggregate economics, including national income, monetary and fiscal policy, and international trade.


5. Advanced Study in Economics. Lecture, three hours; discussion, three hours. Limited to 10 students. Advanced study in economics.

6. Advanced Study in Economics. Lecture, three hours; discussion, three hours. Limited to 10 students. Advanced study in economics.

7. Advanced Study in Economics. Lecture, three hours; discussion, three hours. Limited to 10 students. Advanced study in economics.

Upper Division Courses

Courses 1 and 2, or 100 are prerequisite to all upper division courses in economics.

100. Economic Principles and Problems. Lecture, three hours. Not open to students with credit for course 1 or 2. The principles of economics with application to current economic problems. May not be used to fulfill entrance requirements for any Economics Department major.

Mr. Murphy (F, W, Sp)
101A. Microeconomic Theory. Lecture, three hours; discussion, one hour. Prerequisites: courses 101A or consent of instructor. The laws of demand, supply, and price; equilibrium, marginal analysis, output determination in different market situations. Mr. Hirshleifer, Mr. Ostro, Mr. Riley

101B. Microeconomic Theory. Lecture, three hours; discussion, one hour. Prerequisite: course 101A. Theory of factor pricing and income distribution, general equilibrium. Applications of the price process for the optimum allocation of resources; interest and capital. Mr. Hirshleifer, Mr. Ostro

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. Cower, 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 proliferation of nuclear weapons and economic aspects of nuclear energy treating technological, bargaining, and stability issues. Mr. Intrainigator (alternate years)

103B. Economics of Energy. Prerequisites: courses 101A, 101B, 102. Topics include pricing and taxation of exhaustible resources, interactions between energy and the economy, institutions such as OPEC and oil price controls, oil debt and the balance of payments, energy conservation, and future technologies.

104. Managerial Economics. Lecture, three hours. Prerequisite: course 101A. Enrollment priority to economics/business students. Application of economic principles to business decisions. Allocating joint costs. Implicit costs of capacity constraints. Problems in capital budgeting, financing, and pricing. The role of interest rates in business decisions. Mr. Riley

107. History of Economic Theory. Lecture, three hours. Prerequisite: course 1 or 100. 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. Prerequisite: course 1 or 100. 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 leaders. Possible roles of developed countries. May not be applied to 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

112. Introduction to Urban and Regional Economics. Lecture, three hours. Prerequisite: course 101A or consent of instructor. A survey of the broad range of policy issues that arise in urban and regional 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. Ellickson, 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. The 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


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 mechanisms. Topics include the free-rider problem, voting and majority choice, demand revelation, and public bargaining.

Mr. Rogowski, Mr. Stein, Mr. Wallerstein

M136. Economic Models of Political Conflict and Conflict Resolution. (Formerly numbered M135B.) (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. Biological, cultural, political, and psychological theories 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

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 classical and Bayesian approaches. Application of decision theory to inventory problems. The value of information and implications for sampling design.

Mr. Ellickson, Mr. Hirshleifer, Mr. McCali, Mr. Ostro

142. Probabilistic Microeconomics. Lecture, three hours. Prerequisites: courses 40, 101A, 101B. Combination of the basic probability introduced in course 40 with the microeconomic models presented in courses 101A and 101B in order to explain phenomena such as insurance, job search, and stock market behavior. Optimal production under consumption uncertainty. A review of probability and an introduction to alternative measures of risk and risk aversion.

Mr. McCali

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); autoregressive models, dummy variables. Emphasis on practical experience with regression analysis and interpretation; matrix algebra not required. Ms. Cameron

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 supply, demand, household behavior, the firm, capital theory, and economic dynamics. Mr. Ellickson, Mr. Intrainigator, Mr. Riley

145. Topics in Mathematical Economics. Lecture, three hours. Prerequisite: course 144. Possible topics include theory of economic growth; competitive equilibrium analysis; examination of market failure and the role for market intervention.

Mr. Ellickson, Mr. Ostro

146. Linear Models in Economics. Lecture, three hours. Prerequisites: courses 101A, 101B, or MATH 152. Not open for credit to students with credit for Mathematics 144, Electrical Engineering 136, or former Electrical Engineering 129A. Possible topics include the duality theory of linear programming and the simplex algorithm; output analysis, and two-person zero-sum games.

Mr. McCall, Mr. Ostro (Sp)

147A. Introduction to Econometrics. Lecture, three hours. Prerequisites: two courses in calculus and one of the following: MATH 151, 152, 156-158, 151A-152A, 151B-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; estimation and hypothesis testing; and an introduction to simultaneous equations models. Original econometric paper required.

Mr. Ellickson, Mr. Intrainigator, Mr. Levine

147B. Applications of Econometrics. Lecture, three hours. Prerequisites: course 147A. Econometric models and data; forecasting, policy analysis, estimation of simultaneous equations models, applications of econometrics. Major original econometric paper required.

Mr. Ellickson, Mr. Intrainigator, 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. Waldman

151. Labor, Wages, and Income. Lecture, three hours. Prerequisite: course 150 or consent of instructor. Selected topics in labor theory; income distribution; business cycles and unemployment; investments in human capital and life cycles; migration; human fertility; marriage and divorce, etc.

152. Trade Unions and Professional Associations. Lecture, three hours. Comparative behavior of unions and professional associations; criteria for wage maximization; quantification of gains; analysis of legal framework applying to such organizations.

Mr. Hirschleifer

160. Money and Banking. Lecture, three hours. Recommended prerequisite: course 102. Principles of money and banking in the United States; legal and institutional framework; money supply process; instruments, effects, and practice of monetary policy.

Mr. Darby
161. Monetary Theory. Lecture, three hours. Prerequisite: course 104. 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. (Formerly numbered 241A-241B.) Mr. Day, Mr. Cline

170. Monopoly and Competition. Lecture, three hours. Prerequisite: course 101A. A comparison of economic and legal treatments of the competitive process. Monopoly and cartels; price discrimination as economic theory, as antitrust doctrine, and as fact. Source of monopoly. Predatory behavior. Misleading practices in theory and policy. The general problem of the relationship between price competition and monopolistic competition. Mr. Demsetz, Mr. Klein

171. Industrial Organization: Theory and Tactics. Lecture, three hours. Prerequisite: course 101A. Study of pricing and output decisions of firms under conditions of least threats to perfect competition or monopolistic competition; theories of oligopoly and monopolistic competition; determination of the equilibrium position of the firm in the long run and short run. Mr. Demsetz, Mr. Klein

181A. Development of Economic Institutions in Western Europe. Lecture, three hours. Prerequisite: course 101A. A study of the problems of centralized and decentralized systems of economic organization. The nature of growth and change in the economic institutions of the Western European countries. Mr. Murphy

181B. Development of Economic Institutions in Western Europe. Lecture, three hours. Prerequisite: course 101A, 101B. Political and economic development of Great Britain and Continental Europe. Policies of the leading governments of Western Europe during the 17th and 18th centuries and the theories of economic thought that were developed during this period. Mr. Demsetz

182. Centralized Economics Systems. Lecture, three hours. Prerequisites: courses 101A, 101B. Introduction to the theory of central systems and an examination of some centralized economics. Consideration of the role of the economist in the study of centralized economics. Mr. Demsetz, Mr. Klein

183. Development of Economic Institutions in the United States. Lecture, three hours. A study of the characteristics of the United States economic system and the evolution of these characteristics. Emphasis on the role of the United States in the international economy. Mr. Murphy

184. History of Enterprise and Entrepreneurship in the American Economy. Lecture, three hours. Emphasis on priority questions and events. A study of the role of innovation in the history of the American economy. Examination of specific episodes of salient entrepreneurial innovation, as well as general theoretical and empirical treatments. Mr. S. Hirschl

190. International Economics. Lecture, three hours. Prerequisite: course 101 or 1010. Limited to Non-Economics Department majors. Not open to students with credit for course 191 or 192. A general introduction to international economics which concerns itself with the theory of trade and the means and the significance of balance of payments adjustments, with analysis of major issues of international commerce and international monetary economic problems and policies of national and international agencies. May not be applied toward any Economics Department major. Mr. S. Hirschl

191. International Trade Theory. Lecture, three hours. Prerequisite: course 101B. Not open to students with credit for course 190. The theory of international trade: the bases, direction, terms, volume, and gains of trade. The effects of tariffs, quantitative restrictions, and international integration. The effects of the free and restricted trade on economic welfare and political stability. Mr. S. Hirschl

192. International Finance. Lecture, three hours. Prerequisite: course 102. Not open to students with credit for course 190. Emphasis on the interpretation of the balance of payments and the adjustment to national and international equilibrium through changes in price levels and exchange rates. Other topics include international payments, determination of exchange rates under various monetary standards, capital movements, exchange controls, and international monetary organization. Mr. S. Hirschl

199. Special Studies in Economics (2 or 4 units). Prerequisites: courses 101A, 101B. A comparative analysis of capitalist and socialist economic systems. Focus on the role of market and the role of government. Mr. Leijonhufvud (approximately every third year)

201A. Development of Economic Institutions in Western Europe. Lecture, three hours. Prerequisite: course 101A. A study of the problems of centralized and decentralized systems of economic organization. The nature of growth and change in the economic institutions of the Western European countries. Mr. Murphy

201B. Development of Economic Institutions in Western Europe. Lecture, three hours. Prerequisite: upper division standing. European economic history, 1700-1914. The industrial revolution in Britain and its spread to the continent. The rise of factories, industri-

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201B. Development of Economic Institutions in Western Europe. Lecture, three hours. Prerequisite: upper division standing. European economic history, 1700-1914. The industrial revolution in Britain and its spread to the continent. The rise of factories, industri
Economics

212B. Applied Game Theory. (Formerly numbered 204G.) Prerequisites: calculus, introductory probability. Use of the theory of Bayesian games to study bargaining, taxation, reputation, and oligopoly. Use of the theory of mechanisms to study auction design and imperfectly competitive markets.

Mr. Levine, Mr. Riley

213A-213B. General Equilibrium and Game Theory. (Formerly numbered 245A-245B.) Lecture, three hours. Prerequisite: course 204G or consent of instructor. Selected advanced theoretical topics of current interest and an introduction to modern mathematical economics, including general equilibrium theory and game theory. S/U or letter grading.

Mr. Ellickson, Mr. Ostrov, Mr. Shapley

214A-214Z. Topics in Mathematical Economics. (Formerly numbered 204A-204Z.) Lecture, three hours. Prerequisite: course 213B or consent of instructor. Current research in mathematical economics. Content varies. Ordinarily only two of the courses in this sequence are given every year. May be repeated for credit. S/U or letter grading:

214A. General Equilibrium Theory. (Formerly numbered 245C.) Prerequisite: course 204G or equivalent or consent of instructor. The core convergence theorem, the cooperative and noncooperative approach to competitive equilibrium theory, perfectly competitive equilibria, the no-surplus condition, and applications to mechanism theory and incomplete market models.

Mr. Ostrov

214B. Game Theory. (Formerly numbered 242A.) (Same as Political Science M242A.) Prerequisites: course 213A or suitable mathematics courses. Bargaining theory, the core solution concepts. Applications to oligopoly, general exchange and production economies, and the allocation of joint costs.

Mr. Shapley

214C. Large Economies. (Formerly numbered 242B.) (Same as Political Science M242B.) Prerequisites: course 213A or suitable mathematics courses. Consideration of economies with a continuum of consumers and with a continuum of goods. The basic model applied to perfectly competitive equilibria, the core, location models, and other models with nonconvex preferences and/or technology.

Mr. Ellickson

215. Topics in Applied Game Theory. (Formerly numbered 242G.) (Same as Political Science M241.) Lecture, three hours. Prerequisite: course 204G or equivalent or consent of instructor. Survey and applications of the major solution concepts to models of bargaining, oligopoly, cost allocation, and voting power. S/U or letter grading.

Mr. Shapley


Also see Management 200A (game theory and information economics), 203A (decision theory), 203B (economics of information)

Monetary Economics

221A. Monetary Economics I. (Formerly numbered 261.) Lecture, three hours. Prerequisite: course 202C. Emphasis on empirical studies in money and banking. Econometric implications of rational expectations, random vs. deterministic trends, unemployment, central bank operating procedures, and the evolution of monetary institutions. S/U or letter grading.

221B. Monetary Economics II. (Formerly numbered 262.) Lecture, three hours. Prerequisite: course 221A. Emphasis on theoretical aspects of monetary economics: banking panics, asset prices, volatility, contract theory, game theoretic models of policy, and "Keynesian" models with monopolistic competition, search, and coordination failures. S/U or letter grading.

222A-222Z. Topics in Monetary Economics. (Formerly numbered 204A-204Z.) Lecture, three hours. Prerequisite: current research in monetary economics. Content varies. May be repeated for credit. S/U or letter grading:

222A. Control and Coordination in Economics. (Same as Computer Science M222.) Prerequisite: graduate standing in economics or engineering or consent of instructor. Recommended: appropriate mathematics course. Stabilization: policy, feedback and stability analysis; decentralization, coordination in teams; certainty equivalence and separation theorems; stochastic and learning models. Bayesian approaches to price and output rate adjustment.

Mr. Shapley

222B-229B-229C. Workshop in Monetary Economics. (Formerly numbered 263A-263B-263C.) Lecture, three hours. Prerequisite: consent of instructor. Workshop for dissertation and predoctoral writers. Research in progress presented, discussed, and criticized by visiting experts, UCLA faculty members, advanced graduate students. Research paper required. S/U grading.

Mr. Darby, Mr. Leijonhufvud, Mr. Tabellini

Also see Management 239A, 239B, 239C (Ph.D. sequence in finance), 239D (advanced topics in finance), 239X-239Y-239Z (finance workshop)

Econometrics


232A-232Z. Topics in Econometrics. (Formerly numbered 204A-204Z.) Lecture, three hours. Prerequisites: courses 231A, 231B. Current research in econometrics. Content varies. Courses in this sequence not ordinarily given every year. May be repeated for credit. S/U or letter grading.

232A. Bayesian Econometrics. (Formerly numbered 249G.) (Same as Political Science M249.) Subjective probability, decision theory. Bayesian analysis of regression, sensitivity analysis, simulation models, solution methods. S/U or letter grading.

232B. Time Series. (Formerly numbered 249H.) Stationary stochastic processes, Box-Jenkins methods, spectral analysis, forecasting, rational expectation models, the analysis of macroeconomic data.

Mr. Sharma

239A-239B. Workshop in Econometrics. (Formerly numbered 204E-204F.) Lecture, three hours. Prerequisite: current research in econometrics. Content varies. May be repeated for credit. S/U or letter grading.

Public Finance

251A. Theory and Policy of Taxation. (Formerly numbered 231.) Lecture, three hours. Examination of the influence of taxation on economic efficiency and the incidence of taxation in first part of course. Topics include tax equivalences, Ramsey rules, and alternative forms of taxation. Special tax provisions, tax incentives, and progressivity in taxation in second part of course. S/U or letter grading.

Mr. Harberger

251B. Cost-Benefit Analysis of Public Projects and Programs. (Formerly numbered 232.) Lecture, three hours. Prerequisite: course 251A. Presentation of those aspects of applied capital theory that are relevant in decisions concerning investment projects in first part of course. Differences between social and private benefits and costs (shadow prices) for foreign exchange, property rights, and labor, with applications to public and private investment decisions, in second part of course. S/U or letter grading.

Mr. Harberger

252. Economics of Federalism. (Formerly numbered 234.) Lecture, three hours. Theories of perfect government. The role of government in promoting economic growth, collective goods, collective defense, local public goods, spillovers, and intergovernmental relations. S/U or letter grading.

Mr. Thompson

253A-253Z. Topics in Public Finance. (Formerly numbered 233.) Lecture, three hours. Current research in public finance. Content varies. Topics include Social Security taxes and programs, unemployment insurance, public provision of medical care, the theory of public goods, and the theory of public choice. May be repeated for credit. S/U or letter grading.

Labor Economics


Mr. Welch

261B. Labor Economics II. (Formerly numbered 252.) Lecture, three hours. Prerequisite: course 261A. Income and labor market incentives and work behavior, with particular emphasis on the recent literature examining the labor force behavior and experience of women. S/U or letter grading.

Mr. Welch
Industrial Organization


Mr. Demsetz

271B. Industrial Organization, Price Policies, and Regulation II. (Formerly numbered 272.) Lecture, three hours. Prerequisite: course 271A. Study of firm organization and pricing under conditions of less than perfect competition; information costs and advertising; economic and legal analysis of marketing practices, such as price discrimination, tie-in selling, and price maintenance, exclusive dealing, and territorial arrangements. S/U or letter grading.

Mr. Klein


Mr. Waldman

272A-272Z. Topics in Industrial Organization. (Formerly numbered 204A-204Z.) Lecture, three hours. Current research in industrial organization. Content varies. May be repeated for credit. S/U or letter grading.

273A. Public Utility Regulation. (Formerly numbered 273.) Lecture, three hours. Theory, practice, and consequences of regulation in electric power, gas, water, telecommunications, broadcasting, and other regulated industries. Experiences of unregulated monopoly and public enterprises by way of contrast. S/U or letter grading.

Mr. Hilton

273B. National Transport Policy. (Formerly numbered 275.) Lecture, three hours. Regulation of surface and air carriers, pricing and investment in public transport facilities, policy toward the merchant marine. S/U or letter grading.

Mr. Hilton


Also see Management 262 (pricing policy)

Development Economics

286A. Economic Development. (Formerly numbered 211.) Lecture, three hours. Theoretical and empirical analysis of the microeconomic relationships among countries. The determinants of commodity and factor flows, policies, and factor rewards. The effects of trade barriers. S/U or letter grading.

Mr. Edwards

Urban Economics

291A. Urban Economics. (Formerly numbered 213A, 215.) Lecture, three hours. Current research in urban and regional economics. Content varies. Serves as a forum for the presentation of papers on urban economics by students, UCLA faculty members, and visitors. May be repeated for credit. S/U or letter grading.

Mr. Cameron, Mr. Ellickson, Mr. Hirsch

Special Studies

299A-299B-299C. Workshop for Preparing a Dissertation Proposal. 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. Selection and development of a topic 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). Prerequisite: advanced to Ph.D. candidacy. Teaching apprentice is responsible for preparing and delivering lectures. Observation and evaluation of students and faculty. Teaching seminar. May be repeated for credit. S/U grading.

495. The Teaching of College Economics (2 units). Discussion, one hour; laboratory, three hours. Prerequisite: graduate standing. Required of all new teaching assistants. Classroom practice in teaching, with individual and group instruction on related educational methods, materials, and evaluation. May be repeated for credit. S/U grading.

596. Individual Study (2 to 8 units). Directed individual study or research. S/U grading.

597. Individual Study: Graduate Examinations (2 to 4 units). Directed individual study or research. S/U grading.


International Economics

281A. International Trade Theory. (Formerly numbered 291.) Lecture, three hours. Theoretical and empirical analysis of the microeconomic relationships among countries. The determination of commodity and factor flows, prices, and factor rewards. S/U grading.

Mr. Edwards


Mr. Darby, Mr. Dollar, Mr. Edwards

281C. International Economics. (Formerly numbered 204H.) Lecture, three hours. Theoretical and empirical analysis of the interrelation between flows of capital, people, and goods. Applications to current policies. S/U or letter grading.

282A-282Z. Topics in International Economics. (Formerly numbered 204A-204Z.) Lecture, three hours. Current research in international economics. Content varies. May be repeated for credit. S/U or letter grading.

283. Economics of Soviet External Intervention. (Formerly numbered 204G.) Lecture, three hours. Prerequisite: consent of instructor. The interrelations between the Soviet economy and the U.S.S.R.'s international behavior. Major topics, considered in the variation: (1) the extent of the U.S.S.R.'s global involvement, (2) domestic economic constraints on that involvement, and (3) external influences on Soviet domestic economic development. S/U or letter grading.

Mr. Becker

284. Soviet Economic Theory and Organization. (Formerly numbered 282.) Lecture, three hours. The overall strategy of planning used by the U.S.S.R. planners and specific planning methods, interpreted broadly to cover not only instructions and objectives but also institutional arrangements. Intended and unintended outcomes of the methods. S/U or letter grading.

Mr. Murphy


Mr. Edwards, Mr. Harberger

287A. Economic Development in East Asia. (Formerly numbered 213B.) The recent economic history of East Asia, focusing on the post-war development of Japan, Korea, and China. Emphasis on the role of international investment and trade, especially with the United States, in the area's economic development.

Mr. Dollar
The Major

Required: Fourteen 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 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 B. Allen, Ph.D., D.Litt.
Martha Banta, Ph.D.
Calvin Bernhard Bedient, Ph.D.
Charles Ashton Berst, Ph.D.
A. R. Braunsman, Ph.D., Vice Chair
Frederick Lorrain Burwick, Ph.D.
Daniel G. Calder, Ph.D., Chair
Michael J. Colacurcio, Ph.D.
Vinton A. Dearing, 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 Guilian, Ph.D.
Henry Ansar Kelly, Ph.D., Vice Chair
Jascha Kessler, Ph.D.
Robert Robert Kinsman, Ph.D.
Gordon L. Kleper, Ph.D.
V.A. Kolve, Ph.D., (The UCLA Foundation Professor)
Richard Alan Lanham, Ph.D.
Richard D. Lehman, 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 Roper, Ph.D.
George S. Rousseau, Ph.D.
William David Schaefer, Ph.D.
Paul Roland Sellin, Ph.D.
Paul Douglas Sheats, Ph.D.
Georg Bernhard Tennyson, Ph.D.
Peter Larsen Thorslev, Jr., Ph.D.
Alexander Welsh, Ph.D.
D. K. Wajc, Ph.D.
Thomas Richard Wortham, Ph.D.
Ruth B. Yeazel, 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 Falk, Ph.D.
Charles V. Hartung, Ph.D.
Paul Alfred Jorgensen, Ph.D.
Blake Reynolds Nevius, Ph.D.
Ada Blanche Nisbet, Ph.D.

Associate Professors

Walter Eidon Anderson, Ph.D.
Charles Linwood Batten, Jr., Ph.D.
Edward Ignatian Condren, Ph.D.
James Edward Goodwin, Ph.D.
Christopher Waldo Grose, Ph.D.
Albert David Hutter, Ph.D.
Jack Kolb, Ph.D.
Kenneth Robert Lincoln, Ph.D.
Robert M. Maniquis, Ph.D.
Joseph F. Nagy, Ph.D.
Michael Andrew North, Ph.D.
Barbara Lee Packer, Ph.D.
Raymund Arthur Parades, Ph.D.
Jonathan F. Post, Ph.D.
Karen Elizabeth Row, Ph.D.
Robert N. Watson, Ph.D.
Richard Alan Yarborough, Ph.D.

Assistant Professors

Susan Brienza, Ph.D.
King-Kok Cheung, Ph.D.
Donka Minkova, Ph.D.
Vincenzo 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 literar-
tive 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 literature 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, C145. 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 M197. English 140A is especially recommended if you plan graduate work in literature. You may wish to select several courses in the relevant classical and postclassical foreign literatures and 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 the 170 series, with at least one course from 170, 171, or 172, and no more than one course from 170 or 177; and one course pertaining to American studies selected from 187, 188, or 189, taken preferably in the senior year. Of the six upper division courses in other departments, four must be in a selected discipline (history, political science, sociology, etc.). One of the four courses must deal with the methodology of the discipline, while the other three must explicitly treat American culture. The courses must be selected in consultation with the English departmental counselor.

General Literature: This program consists of nine upper division courses in English or American literature and six upper division courses in foreign literatures (at least one of which must be taught in the original language). The nine English courses must include 142A and 142B; 141A, 141B, or 143; at least one course from the 150 series; and four electives selected from courses 140A through M197 (students intending graduate work in literature are especially encouraged to take English 140A). A listing of acceptable courses may be obtained from the department.

Creative Writing 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 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 years) score on the Graduate Record Examination (GRE) of 650 on both the verbal section of the General Test and the Literature in English Subject Test or a combined score of 1,300. Applicants holding the M.A. are expected to have a grade-point average of at least 3.7 in all graduate courses and correspondingly higher scores on the verbal GRE and the Literature in English Subject Test. A minimum of three letters of recommendation attesting to your ability to succeed in graduate study are also required. Care should be taken with the statement of purpose, since it is considered a sample of your writing ability. For a descriptive brochure, write to the Graduate Counselor, Department of English, 2225 Rolfe Hall, UCLA, Los Angeles, CA 90024-1530.

If you are limited on admission to the M.A. program, you may continue in the doctoral program by passing the first qualifying examination. If you elect the M.A. thesis option, you may, on completion of that course of study, petition to enter the doctoral program provided you have maintained a grade-point average of at least 3.7 in your graduate studies and are recommended by your thesis committee. Such petitions are not automatically approved and should be accompanied by appropriate supporting materials.

Foreign Language Requirement

If you are pursuing only the M.A. degree, you may fulfill the language requirement by demonstrating a reading knowledge of any foreign language. This requirement should be satisfied at the beginning of your first quarter in residence, but in any event no later than the mid-point of the quarter in which you complete all degree requirements.

If you are pursuing the Ph.D., you are normally expected to have a reading knowledge of two foreign languages, or to demonstrate a superior or proficiency in a single language. The departmentally approved languages are French, German, Italian, Spanish, Latin, and Greek, but other languages may be substituted by petition on the basis of a special research interest.

Course Requirements

Nine letter-graded English courses from the 200 series are required for the M.A., including one course in literary criticism (course 201). If you enter the program with an M.A. in English, you are presumed to have fulfilled the nine-course requirement but must take course 201 or its equivalent prior to the first qualifying examination. You are also urged to begin fulfilling the second-stage requirements at this time.

Qualifying Examinations

The doctoral program is divided into three stages, the first two of which culminate in the first and second qualifying examinations.

First Stage

First Qualifying Examination Option: If you select the examination option for the M.A. or are pursuing the Ph.D. degree, you take the first qualifying examination after passing the nine required courses and satisfying at least one of the foreign language requirements. The examination consists of four written tests of four hours each. The four parts are graded high pass, pass, low pass, or fail; in order to pass the examination as a whole, you must have maintained a passing grade on each of the parts. A grade of low pass on all four parts is considered a failure; the graduate faculty decides in each case whether to grant an M.A. and whether you will be admitted to the second stage of the Ph.D. program. Further details on breadth and philology requirements are available from the department.

Thesis Option: If you select the thesis option for the M.A., you must request a thesis committee (three faculty members) from the graduate counselor at least two quarters before completing the program. The committee then meets with you to consider your thesis proposal. Your thesis should not be less than 40 nor more than 60 pages in length.

Second Stage

In this stage of the program, you must take five courses from the 200 series in English, including a minimum of three seminars. You are encouraged to take as many seminars as possible (any graduate seminar may be repeated for credit), as well as suitable courses in other departments. When sufficiently well prepared and after satisfying the second language requirement, you take the second qualifying examination.

Second Qualifying Examination: The University Oral Qualifying Examination, at least two hours in length, consists of two parts. The first covers a 100-year period or longer in English or American literature. The second part deals with your prospectus, a substantially researched paper which has been approved by the committee chair and distributed to the committee at least one week before the scheduled examination. The committee must certify both that you are competent in the historical field and that the prospectus has been approved. If you fail one or both parts of the examination, you may, at the discretion of the committee, repeat it once only.

Third Stage

Once you have passed the second qualifying examination, you may advance to candidacy and, on application, receive the Candidate in Philosophy (C.Phil.) degree. You may then proceed with the writing of the dissertation.

Final Oral Examination

A final oral defense of the dissertation is optional 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."

C. English Composition, Rhetoric, and Language. See listing under "English Composition."

D. English Composition, Rhetoric, and Language (Honors). See listing under "English Composition."

E. Critical Reading and Writing. Prerequisites: satisfaction of Subject A requirement, course 3 or equivalent. 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 papers (three to five pages each).

F. Critical Reading and Writing (Honors). Discussion, three hours. Prerequisites: satisfaction of Subject A requirement, course 3 or equivalent, consent of department. 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 papers (three to five pages each).

10A. English Literature to 1660. Prerequisites: satisfaction 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.

Mr. Allen, Mr. Condren, Mr. Rodes

Mr. Batten, Mr. Burwick, Mr. Novak
10D. Introduction to Special Topics and Genres. Prerequisite: satisfaction of Subject A requirement. A study of a literary 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. Thorlev

100W. Intensive Writing (2 units). See listing under "English Composition."

100WH. Intensive Writing (Honors) (2 units). See listing under "English Composition."

101. The Short Story in England and America. (Formerly numbered 102.) 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

M102. Asian American Literature. (Same as Asian American Studies M102.) Prerequisite: satisfaction of Subject A requirement. A study of the work of a single poet, dramatist, novelist, or essayist. May be repeated for credit.

Mr. Rubin-Dorsky, Mr. Wortham

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. Nagy

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 during the 19th century, with emphasis on oral and written forms (folktales, spirituals, sermons; prose, poetry). Emphasis on the use of literature in the antislavery movement and the rise of black writing at the turn of the century. Writers studied include Frederick Douglass, Frances Harper, Frederick Douglass, Paul Laurence Dunbar, Charles W. Chesnut, 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 Afro-American Studies M104B.) Prerequisite: satisfaction of Subject A requirement. An introductory survey of the African American literary tradition from the present, including oral and written forms (ballads, blues, speeches; prose, poetry, drama). 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

M105. The Chicano Experience in Literature. (Same as Chicano Studies M105.) Prerequisite: satisfaction of Subject A requirement. A study of the literature of the Chicano experience, including oral and written forms (ballads, blues, speeches; prose, poetry, drama). Emphasis on the tastes, dreams, visions, and the images in writing about Native Americans (poetry, fiction, history, anthropology, sociology).

Mr. Lincoln

M107. Women in Literature. (Same as Women’s Studies M107.) Prerequisite: satisfaction of Subject A requirement. A survey of literature written 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. Brienza, Ms. Mellor, 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 Old Testament, focusing on 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 the study of the work of a single poet, dramatist, novelist, or essayist. May be repeated for credit.

Mr. Burwick, Mr. Manquís

110. Studies in Individual Authors. Prerequisite: satisfaction of Subject A requirement. The specialized study of the work of a single poet, dramatist, novelist, or essayist. May be repeated for credit.

110W. Intensive Writing for the Discipline. See listing under "English Composition."

M111A. The Literature of Myth and Oral Tradition. (Same as Folklore M111.) Prerequisite: satisfaction of Subject A requirement. A study of myth, dramatic origin, and ritual. A survey of folktales, myths, and ballads, emphasizing Indo-European and Semitic elements. Mr. Nagy

M111B. Anglo-American Folk Song. (Same as Folklore CM106.) Prerequisite: satisfaction of Subject A requirement, junior standing. A survey of Anglo-American folk songs, with an emphasis on historical development, ethnic background, and poetic and musical values.

Mr. Wilgis

M111C. British Folklore and Mythology. (Same as Folklore M121.) Prerequisite: 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 M122.) Prerequisite: Folklore 101 or consent of instructor. A study of the early material, 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 not required. A general course dealing with Celtic literature from the earliest times to the 14th century.

Mr. Ford

M111F. Celtic Folklore. (Same as Folklore M127.) Prerequisite: Folklore 101 or consent of instructor. The folktale traditions of modern Ireland, Scotland, and other Celtic countries, with attention to current techniques of folkloristic research.

Mr. Nagy

M111G. Oral Traditions in Africa. (Same as Folklore M111G.) Prerequisite: Folklore 101 or consent of instructor. A survey of the early materials, chiefly literary, of the oral traditions of African folk traditions: folktale, epic, heroic poetry, and folk song.

112. Children’s Literature. Prerequisite: satisfaction of Subject A requirement. A study of the historical backgrounds and development 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, including 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. Kinsman, Mr. Povey

115A. American Popular Literature. Prerequisite: satisfaction of Subject A requirement. A course designed for those interested in 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 broadsides to contemporary novels. An examination of the social functions of literature. Mr. Nagy

116. Science Fiction. Prerequisite: satisfaction of Subject A requirement. A study of science fiction and speculative literature. Mr. Condren, Ms. Minkovy

117. Detective Fiction. Prerequisite: satisfaction of Subject A requirement. A study of the current mainstream of popular fiction and the literature of detection. Mr. Hutter

118. Film and Literature. Prerequisite: satisfaction of Subject A requirement. A study of the basic relationship between film and literature, including theme and structure, and focusing on specific adaptations of literary works. Mr. Goodwin

120A. Language Study for Teachers: Elementary School. See listing under "English Composition.

120B. Language Study for Teachers of English. Secondary and Postsecondary. See listing under "English Composition.

120C. Language Study for Teachers of Subjects Other Than English: Secondary and Postsecondary. See listing under "English Composition.

121. The History of the English Language. Prerequisite: satisfaction of Subject A requirement. A study of the principal developments in the English language from its origin to the present day. The practical consequences of those positions. Possibility of repeating for credit.

Mr. Kolb, Mr. Pecora, Mr. Solomon

140B. Criticism: Special Topics. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. The major theoretical positions. Possibility of repeating for credit.

Mr. Pecora, Mr. Riddell, Mr. Dearing

141A. Chaucer: The Canterbury Tales. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. An extensive study of Chaucer, with special emphasis on the Chaucerian works, such as The Canterbury Tales, The House of Fame, The Parliament of Fowls, etc.

Mr. Condren, Mr. Kipling

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 major works, such as The Book of the Duchess, The House of Fame, The Parliament of Fowls, etc. Possibility of repeating for credit.

Mr. Condren, Mr. Keely, Mr. Ridley

142A. Shakespeare: The Poems and Early Plays. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. An intensive study of Shakespeare's major poems and his major dramatic works, such as the major poems of Shakespeare. Possibility of repeating for credit.

Mr. Braunmuller, Mr. Weiner

142B. Shakespeare: The Later Plays. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. An intensive study of Shakespeare's later plays, including the major poems of Shakespeare. Possibility of repeating for credit.

Mr. Allen, Mr. Cheung, Mr. Post

143. Milton. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. An intensive study of Milton's life and work, including the major works of Milton, with emphasis on Paradise Lost. Possibility of repeating for credit.

Mr. Grose, Mr. Guffey, Ms. Rowe

150. Later Medieval Literature. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. Reading and historical explication of the major works of the 14th and 15th centuries (e.g., the Gawain-poet, Langland, Gower, Malory, miracle and mystery plays, etc. Also the major poems of Chaucer). The more difficult texts read in modernized form. Mr. Condren, Mr. Kinsman, Mr. Kipling

151. Elizabethan Literature. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A study of English literature of the 16th century, with special emphasis on the development and inter-relationships of poetry, prose, fiction, and theoretical literature and criticism during the reign of Elizabeth I.

Mr. Kipling, Mr. Weiner

152. The Drama to 1642. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A study of English drama, excluding Shakespeare, from its beginning to the closing of the theaters, with special emphasis on plays of the Elizabethan and Jacobean periods.

Mr. Braunmuller, Mr. Kipling, Mr. Watson

153. Literature of the Early 17th Century, 1600-1660. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A study of the major works as literary documents and as products of 17th-century thought. Possibility of repeating for credit.

Mr. Grose, Mr. Gullans, Mr. Post

154. Literature of the Restoration and Earlier 18th Century, 1660-1730. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A study of English literature as literary documents and as products of the Restoration and earlier 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 study of the major works as literary documents and as products of later 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 survey of English drama from the Restoration to the Restoration Act.

Mr. Bekert, Mr. Novak, Mr. Rodes

157. The Novel, 1798-1822. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A survey of the major works of the English novelists from Scott through Scott.

Mr. Batten, Mr. Lehan, Mr. Rousseau

160. Earliest 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 Blake, Wordsworth, and Coleridge, with collateral readings from such authors as Godwin, Burke, Paine, Burns, Southey, Lamb, DeQuincey, and Scott.

Mr. Maniquis, Mr. Mellor, Mr. Sheats

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 collateral readings from such authors as Hazlitt, Hunt, Landor, Clare, Moore, and Peace.

Mr. Burwick, Mr. Maniquis, Mr. Thorslev

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 Victorian age from the Victorian age of the 18th century, with special emphasis on such authors as Tennyson, Browning, Arnold, Carlyle, Mill, and Newby. Possibility of repeating for credit.

Mr. Tennyson

163. Later 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 Victorian age from the Victorian age of Pre-Raphaelism through the aesthetic and decadent movements, along with other intellectual trends, including such authors as Ruskin, Swinburne, Pater, Hopkins, Hardy, Wilde, and Yeats.

Mr. Kolb, Mr. Tennyson
164. The Novel, 1832-1900. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A survey of the major English novelists from Dickens through Hardy.

Mr. Anderson, Mr. Hutter, Ms. Yeazell

165. 20th-Century British Poetry. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A survey of the major British poets, including Yeats, Eliot, Auden, and Hughes, from 1900 to the present.

Mr. Bedient, Mr. Koib, Mr. North

166. 20th-Century British Fiction. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A study of the contemporary novel and short story writers, including Conrad, Joyce, Woolf, and Lawrence, from 1900 to the present.

Ms. Brienza, Mr. Lincoln, Mr. Pecora

167. The Drama, 1842-1945. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A study of British and American drama, with its principal continental influences, from 1842 through World War II.

Mr. Berst, Mr. Braunmuller, Mr. Goodwin

168. The Drama, 1945 to the Present. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A study of American culture. Mr. Goodwin, Mr. Paredes

169. 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. Colacioppo, Ms. Rowe

170. American Literature, 1801-1865. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A historical survey of American literature from the end of the Civil War to the founding of Poetry magazine.

Ms. Banta, Mr. Rubin-Dorsky, Mr. Wortham

171. American Poetry, 1866-1912. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A historical survey of American literature from the end of the Civil War to the founding of Poetry magazine.

Ms. Banta, Mr. Rubin-Dorsky, Mr. Wortham


Mr. Bedient, Mr. Riddel, Mr. Yenser

173. American Fiction, 1912-1945. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A study of a contemporary American novel and a short story from 1912 through World War II, including the works of Hemingway, Fitzgerald, Faulkner, and Stein.

Mr. Goodwin, Mr. Lehan, Mr. Yarborough

174. American Poetry, 1945 to the Present. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A study of contemporary American poetry.

Mr. Riddel, Mr. Yenser

175. American Fiction, 1945 to the Present. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A study of a contemporary novel and short story.

Ms. Brienza, Mr. Goldberg

176. Perspectives in the Study of American Culture. (Formerly numbered 175.) 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. Paredes

Courses 180 through 189 are designed to permit a small number of students (normally 15) to engage in concentrated study in an area in which they have a particular interest and in which they have taken adequate upper division background courses. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. 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.

180. Specialized Studies in Medieval Literature...

183. Specialized Studies in Victorian Literature...

187. Specialized Studies in Colonial American 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

197. Topics in Afro-American Literature. (Same as Afro-American Studies M197.) A variable specialized studies course in Afro-American literature. Topics include the Harlem Renaissance, the American African writer, the contemporary African American fiction. May be repeated for credit.

Mr. Yarborough

197F. Rhetoric in Modern American Culture. See listing under "English Composition."

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.

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.

199H. Honors Seminar. Prerequisite: course 199A. 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. Prerequisites: course 199A, consent of instructor. A tutorial in which students write a thesis under the direction of a faculty member. In Progress grading.

(W, Sp)

199. Independent Study for Internships (2 to 4 units.) Prerequisite: consent of instructor. An independent study course to be supervised jointly by the business for which the student is doing the internship. P/NP grading.

(W, Sp)

171. Rhetoric of Franklin Roosevelt. Prerequisites: English 6, upper division standing. An intensive study of major speeches and fireside chats during Roosevelt’s presidency. The background and impact of these speeches. Mr. Phelps

172. Rhetoric of Harry S. Truman. Prerequisites: English 6, 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. Prerequisites: senior standing, one course from 170 or 171 or 172, consent of instructor. Intensive study of contemporary rhetorical theory, including Winans, Woolbert, Phillips, Bignanne, Blankenship, and others. Reports and papers.

Mr. Phelps

Graduate Courses

200. Approaches to Literary Research. The bibliographical tools of English and American literary scholarship: an introduction to descriptive bibliograpgy 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 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

205. 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. Special emphasis on the principal conceptual schemes and research orientations employed in the study of folklore in American society.

Mr. George, 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, lexicon, 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. Condren, Mr. Nagy

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. Condren, Ms. Minkova, Ms. Ridley

213. Early Modern English. (Not the same as course 213 prior to Fall Quarter 1985.) Detailed study of the phonology, morphology, 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. Ms. Minkova

215A-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 Mabogion 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. Kolve, Ms. Ridley

221. Readings in Renaissance Literature. Mr. Allen, Mr. Kinsman, Mr. Lanham

222. Readings in Earlier 17th-Century Literature. Mr. Guffey, Mr. Gulians, Mr. Sellin

223. Readings in Restoration and 18th-Century Literature. Mr. Novak, Mr. Roper, Mr. Rousseau

224. Readings in Romantic Literature. Mr. Burwick, Ms. Mellor, Mr. Thorslev

225. Readings in Victorian Literature. Mr. Ford, 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. Paredes, Mr. Riddell

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 is 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 nor any of the five courses required for the second qualifying examination.

239. Explication (2 units). Lecture, one hour; discussion, one hour. Recommended for first-stage Ph.D. candidates. Seminar to provide training in practical criticism. May be repeated for credit. S/U grading. Mr. Roper, Mr. Yensner

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 and modern), specific authors, or the contributions of specific groups of linguists to literary analysis. Ms. Brienza, Mr. Grosse, Mr. Lanham

243A. The Ballad. (Same as Folklore M243A.) Prerequisite: consent of instructor. A study of the English and Scottish popular ballads and their American derivatives, with some attention to European analogues. Mr. Wilgos

243B. Problems in Ballad Scholarship. (Same as Folklore M243B.) Prerequisite: course M243A or consent of instructor. Intensive investigation of a problem or problems in the study of the popular ballad. Mr. Wilgos

244. Old and Medieval English Literature. Studies in the poetry and prose of Old and Medieval English literature; limits of investigation set by individual instructor. Mr. Calder, Mr. Kelly, Mr. Kolve

245. Chaucer. Mr. Condren, Mr. Kelly, Ms. Ridley

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. Braunmuller, Mr. Fikes, Mr. Watson

248. Earlier 17th-Century Literature. Studies in the poetry and prose of 17th-century English literature up to the Restoration; limits of investigation set by individual instructor. Mr. Guffey, Mr. Gulians, Mr. Sellin

249. Milton. Studies in the poetry and prose of John Milton; particular emphasis set by individual instructor. Mr. Grosse, Mr. Post, Mr. Sellin

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. Mr. Kolb, Mr. Tennyson

253. Contemporary British Literature. Mr. Bedient, Mr. Kessler, Mr. Yensner

254. American Literature to 1900. Studies in Colonial and 19th-century American literature; limits of investigation set by individual instructor. Ms. Banta, Mr. Colacurcio, Ms. Packer

255. Contemporary American Literature. Studies in contemporary American poetry and prose; limits of investigation set by individual instructor. Mr. Lehan, Mr. Riddell, Mr. Yensner

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. Berst, Mr. Braunmuller, Mr. Foakes

257. Studies in Poetry. Studies in various themes and forms of poetry from Old English to the present; limits of investigation set by individual instructor. Mr. Bedient, Mr. Kessler, Mr. Riddell

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. Riddell

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. Mr. Guffey, Mr. Lincoln, Mr. Rousseau

260A. Topics in Asian American Literature. (Same as Asian American Studies M297A.) Lecture, three hours. A graduate seminar that examines and critically evaluates writings of Asian Americans.

261. Studies in African American English. (Formerly numbered M227.) (Same as Second Language M285K.) Prerequisite: consent of instructor. Special problems and trends of African literature in English. Mr. Povey (W)

262. Studies in Afro-American Literature. (Formerly numbered M273.) (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 Celtic literatures, chiefly Irish and 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 subspecial practice in the rhetorical analysis of literary texts. Mr. Lanham

265. Seminar in Literary Data Processing. Prerequisites: courses 200, 203. Subjects alternate between (1) team writing of a large program to solve or help solve problems proposed by a faculty member (who usually joins in supervising the seminar) and (2) compilation and interpretation of literary statistics (with cooperation of a member of the Statistical/Biomathematical Consulting Clinic).

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 — dance, art, song, religious and medicinal rituals — in selected Native American societies, as these traditional and tribal contexts have been translated into contemporary literary texts (fiction, poetry, essay, and drama). The course focuses on the sources, of interdisciplinary methodological approaches drawn from literary analysis, structural anthropology, folklore, linguistics, and ethnomusicology.

270A-270B. English for the Two-Year College. Prerequisite: courses 120B or 275. Discussion and practice of two-year college instruction 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. Lehan

274. The Teaching of English for Minority Groups. (Same as English as a Second Language M224.) 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 Chicano Spanish, relevant research, and educational implications. Ms. McGroarty

275. Stylistics and the Teaching of English. Strongly recommended for teaching assistants. An introduction to the study of language and style and its application to the teaching of English, including rhetoric, linguistics, and grammar. Ms. Brienza, Mr. Lanham
300. The Teaching of English. See listing under "English Composition."

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant. A teaching apprenticeship under the active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May not be substituted for any departmental enrollment requirements. May be repeated for credit. S/U grading.

495A-495B. Supervised Teacher Preparation (2 units each). See listing under "English Composition."

501. Cooperative Program (2 to 8 units). Prerequisite: consent of UCLA graduate advisor and graduate dean, and host campus instructor, department chair, and graduate dean. Used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596. Directed Individual Study. Prerequisite: graduate standing. For students preparing for first qualifying examination. May not be applied toward any course requirement for the degree. S/U grading.

597. Preparation for Ph.D. Examinations (4 or 8 units). For second-stage Ph.D. students preparing for second qualifying examination. S/U grading.

598. M.A. Research and Thesis Preparation. Prerequisite: graduate standing. May not be applied toward any course requirement for the degree. S/U grading.

599. Ph.D. Dissertation Research (4 or 8 units). Limited to Ph.D. candidates unable to enroll in seminars in their fields or to candidates concurrently enrolled in such seminars. (Exception to this rule must be requested by petition). S/U grading.

Jeanne Gunner, Ph.D.
Michael Gustin, M.A.
Anita Hemphill, Ph.D.
Virginia Hornak, M.A.
Patricia Hunt, Ph.D.
Clara Juncker, Ph.D.
Malcolm Kiniry, Ph.D.
Janette Lewis, Ph.D.
Bonnie Lisle, Ph.D.
Sonia Maassik, M.A.
Sandra Mango, Ph.D.
John Mascaro, M.A.
Cynthia Merrill, M.A.
Michael Moore, Ph.D.
David Morris, Ph.D.
Faye Peitzman, Ph.D.
Cheryl Plotf, Ph.D.
Susan Popkin, Ph.D.
Madeleine Picciotto, Ph.D.
Barbara Rico, C.Phil.
Herbert Shapiro, Ph.D.
Jeffrey Skoblow, Ph.D.
Jeffrey Smith, M.A.
Cynthia Tuell, M.A.
Patricia Whiting, M.A.
Jennifer Wilson, Ph.D.
Randall Woodland, M.A.
John Yockey, Ph.D.
Shari Zimmerman, Ph.D.

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 Examination. 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 Composition 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 Examination. English A replaces four units on the student's Study List but yields no credit toward a degree. A prerequisite for a 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 Examination is prerequisite to English B.

B. Fundamentals of Exposition (No credit). Formerly numbered 1.) Prerequisite: English A or qualifying score on Subject A Examination. 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 satisfies the English Composition requirement.

3H. English Composition, Rhetoric, and Language (Honors). Lecture, three hours. Prerequisites: satisfaction of Subject A requirement, consent of department. Rhetorical techniques and skilful argument. Analysis of varieties of academic prose and writing of a minimum of five formal papers (three to five pages each). Completion of this course with a grade of C or better satisfies the English Composition requirement.

Upper Division Courses

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 adjunct course, and assignments reflect and develop writing skills needed in that course. May be repeated for credit with consent of instructor.

100WH. Intensive Writing (Honors) (2 units). Prerequisite: course 3. Students must be concurrently enrolled in an honors course offered in conjunction with English 100WH (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 adjunct course, and assignments reflect and develop writing skills needed in that course. May be repeated for credit with consent of instructor.
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). 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. Examine the specialized problems which occur in teaching English 3 and introduces students to techniques for teaching English B and ESL. In Progress and S/U grading. Ms. Plof, Mr. Rose

English as a Second Language Section

3300 Rolfe Hall, (213) 825-4631

Professors
Russell N. Campbell, Ph.D.
Marianne Celce-Murcia, Ph.D.
Evelyn R. Hatch, Ph.D.
John F. Powey, Ph.D.
John H. Schumann, Ed.D., Chair
Donald Bowen, Ph.D., Emeritus
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.

Lecturers
Donna Brinton, M.A.
Janet Goodwin, M.A.

Visiting Associate Professor
Grant Henning, Ph.D.

Visiting Assistant Professor
Barbara Krol, Ph.D.

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 core course of study includes a practical element: observing teachers 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 90024-1531. (Also see the section on Applied Linguistics earlier in this chapter.)

A limited number of teaching assistantships are available to qualified M.A. and Ph.D. students. For information and applications, write to the Academic Director, ESL Service Courses, 3312 Rolfe Hall, UCLA, Los Angeles, CA 90024-1531.

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 90024-1531. 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 profession-
al 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.

International students who hold a bachelor’s or higher degree from a university in a country where the official language is English and in which English is the spoken tongue and the medium of instruction, or who have completed at least two years of full-time study at such an institution, are exempt from both the Test of English as a Foreign Language (TOEFL) and the UCLA English as a Second Language Placement Examination (ESLPE). All other applicants must take the TOEFL, submitting the score as part of the application process.

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 plus English M274; (4) English 227K plus an unrestricted elective.

Those particularly interested in working with Mexican American, Asian American, or American Indian pupils normally choose the third of these alternatives. When there is doubt as to which language is most appropriate, a nonEuropean 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 previous foreign language study. For more information, contact the graduate adviser.

First-Year Curriculum

The typical course of study for the first year of the M.A. program is as follows (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>
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<tbody>
<tr>
<td>Fall Quarter: Linguistics 100, English 370K, foreign language requirement or elective (course depends on language requirement plan)</td>
<td>Winter Quarter: English 122K, 241K, foreign language requirement or elective (course depends on language requirement plan)</td>
<td>Spring Quarter: English 106K or 107K or 109K, 380K, Linguistics 103 or English 103K</td>
</tr>
</tbody>
</table>

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 32, 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 Subject A Examination (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

32. Oral Communication Skills for ESL Students. Prerequisite: grade of C or better in course 33B or proficiency demonstrated on the English as a Second Language Placement Examination. Course 33C may be taken concurrently. Develops oral skills that prepare nonnative speakers of English to participate in class discussion, make oral presentations before an audience, respond to questions, and participate appropriately in conversations with members of the academic community and improve through self-evaluation of speech. P/NP (undergraduates), S/U (graduates), or letter grading.

33A. Low Intermediate English as a Second Language. Recitation, eight hours; laboratory, two hours. Prerequisite: grade of C or better in Extension course X3132 or proficiency demonstrated on the English as a Second Language Placement Examination. Displaces eight units on the student’s Study List but yields only four units of credit toward a degree. Intensive instruction in the structure of English, with focus on vocabulary building, listening and speaking skills, and basic composition techniques.
33B. High Intermediate English as a Second Language. Recitation, five hours. Prerequisite: 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, and composition techniques, with additional work on structure and oral skills.

33C. 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 writing, reading, research skills, and lecture comprehension.

34. Advanced Oral Communication Skills for ESL Students. A practical focus on the mechanics of writing, grammatical structures, principles and methods of exposition, and writing for academic purposes.

Upper Division Courses

103J. 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.

Ms. Brinton

103K. 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.

Mr. Andersen

106J. 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. Designed to improve English language writing skills for non-native speakers of English. Corequisite in course 33C or proficiency demonstrated on the English as Second Language Placement Examination, and an appropriate Composition Placement Test score.

Ms. Kroll

107J. Advanced Reading for ESL Students. Prerequisite: grade of C or better in course 33C or proficiency demonstrated on the English as a Second Language Placement Examination. Identification through example of the essential cognitive strategies necessary to effectively respond to academic purposes. Development of these strategies through exercises and guided practice using authentic university texts from a variety of content areas.

Ms. Hatch, Ms. Kroll

107K. Reading in the ESL Context. Provides opportunities for practice and improvement in reading and 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 reading and writing to ESL students and examination of appropriate classroom materials.

Ms. Hatch, Ms. Kroll

109J. Introduction to Literature for ESL Students. Prerequisite: grade of C or better in course 33C or proficiency demonstrated on the English as a Second Language Placement Examination. Selections from English and American literature presented so as to make full allowance for the students' linguistic and cultural problems and to contribute to an increasing command of the English language.

Ms. Brinton, Mr. Povey

109K. Literature 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 literature to ESL students and examination of appropriate classroom materials. Strong emphasis on the cultural basis for literature.

Mr. Andersen

122K. Introduction to the Structure of Present-Day English (for Teachers of English as a Second Language). Prerequisite: Linguistics 100 or consent of instructor. Introductory study of those grammatical structures of English most important in the ESL classroom. Aims to provide insights from traditional, structural, and particularly transformational grammar.

Ms. Celce-Murcia (W)

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. Specialized topics of interest to graduate students in TESL and applied linguistics. Emphasis varies according to current theoretical methodological trends in the field.

Ms. Hatch, Mr. Rand (F, Sp)

220K. Materials Development for Language Teaching. Prerequisites: course 370K, at least two years of ESL/EFL teaching experience. Planning and preparation of original 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. A rationale 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. 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)

223K. Role of English as a Second Language in Bilingual Education. Prerequisites: course 370K, Linguistics 100. Survey of the literature, presentation of major research, and discussion of bilingual education programs in the United States. The linguistic, psycholinguistic, sociocultural, educational, and psychological implications of bilingualism, with particular reference to aspects of learning, teaching, and testing language skills.

Mr. Campbell, Ms. McGroarty (F)

M224K. The Teaching of English for Minority Groups (Same as English M274). 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 the different groups of languages varieties such as Black English and Chicano Spanish, relevant research, and educational implications.

Ms. McGroarty

225K. Program Evaluation in Applied Linguistics. Evaluation of the effectiveness of ESL curriculum and 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, one hour; laboratory, four hours. Prerequisite: graduate standing. Students learn how to teach. Includes group discussion and the use of authentic language materials (video and audio recordings and print material). Discussion of the experience in terms of issues in language learning and language teaching.

Mr. Andersen

229K. Current Issues in Language Education (2 to 4 units). Specialized topics in language education of interest to graduate students in TESL and applied linguistics. Emphasis varies according to current topical and theoretical concern in the field.

Mr. Henning

241K. Contrastive and Error Analysis in the ESL Context. Prerequisites: course 370K, Linguistics 100. Error analysis of ESL learner errors in the phonological, grammatical, lexical, and cultural levels. Preparing analyses of interlanguage for research purposes. Preparation of lesson plans for helping specific groups of students overcome common errors identified through the analyses.

Mr. Andersen, Ms. Schumann (W)

249K. Current Issues in Language Analysis. Specialized topics in language analysis of interest to graduate students in TESL and applied linguistics. Emphasis varies according to current topical and theoretical concern in the field.

Mr. Andersen, Ms. Schumann

250K. Advanced Seminar in Cohesion Analysis of English Structure. (Formerly numbered M250K.) Prerequisite: course 122K or consent of instructor. Investigation in depth of selected linguistic features of oral and written texts that go beyond the sentence level and thus signal cohesion. Study of structures to determine their function in a variety of English texts representing several discourse types.

Ms. Celce-Murcia (F)

251K. Advanced Seminar in Interlanguage Analysis. Prerequisite: course 241K. Analysis of interlanguage from various points of view (e.g., topic-comment, tense, aspect, modality, thematic structure of utterances), with the aim of understanding how interlanguage is organized. Original research projects.

Mr. Andersen, Ms. Hatch, Mr. Schumann
252K. 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?). Mr. Celce-Murcia (F)

260K. Psycholinguistics and Language Teaching. Prerequisites: course 370K and Linguistics 100, or 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)

261K. Second Language Acquisition. Prerequisite: consent of instructor. Review of the literature on child and adult second language acquisition. Language variables (phonological, morphological, sentential, and discourse levels) and social and psychological variables which may account for differences in learning. Mr. Andersen, Ms. Hatch, Mr. Schumann (W)

271K. Cross-Linguistic Topics in Second Language Acquisition. Lecture, one hour; discussion, three hours. Prerequisites: consent 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. Focus on language-specific vs. universal (i.e., cross-linguistically valid) mechanisms of second language development. Readings from research on a variety of languages in second language acquisition and related research on first language acquisition, pidgins and creoles, language contact, and language loss. May be repeated for credit with topic change. Mr. Andersen

280K. Language Policy in Developing Countries. Prerequisite: consent of instructor. Use of 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. Mr. Povey

281K. Language Policy in the United States. Prerequisite: consent of instructor. Use of 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. Ms. McGroarty

282K. Intercultural Communication and the Teaching of English as a Second Language. Prerequisite: consent of instructor. An introduction to the field of cross-cultural communication, with special attention to the cultural influences on language use. Presentation of theoretical frameworks describing variations in language use; discussion of literature and development of awareness and knowledge regarding cultural norms of language learning and use. Ms. McGroarty

283K. Discourse Analysis. A survey course covering language teaching and discourse analysis: discourse analysis and syntax; planned and unplanned discourse; conversational analysis; analysis of speech events; unequal power discourse; and analysis of classroom discourse. Ms. Hatch (W)

284K. English for Specific Purposes. Study of methodologies for needs analysis, curriculum development, and testing for specific academic, professional, and vocational groups who require English as a foreign or second language. Mr. Campbell (Sp)

M285K. Studies in African Literature in English. (Same as English M261.) Prerequisite: consent of instructor. Special problems and trends of African literature in English. Mr. Povey (W)

289K. Current Issues in Language Use. Specialized topics in language use and related areas of interest to graduate students in TESL and applied linguistics. Emphasis varies according to current topics of concern in the field. Mr. Campbell, Ms. Hatch, Ms. McGroarty (Sp)

370K. The Teaching of English as a Second Language. Lecture, six hours. Prerequisite: consent of instructor. Bibliography, survey, and evaluation of methods and materials. The nature of two language learning. Analysis of the differences between two languages as a basis of instruction. Mr. Campbell, Mr. Schumann (F)

375K. 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.

Ms. Altman (F, W, Sp)

380K. Supervised Teaching: English as a Second Language or Dialect. Prerequisite: course 370K. Team teaching at the elementary, secondary, or adult level under the supervision of a senior staff member. S/U grading.

Ms. Brinton (Sp)

400K. TESL Colloquium. Prerequisite: consent of TESL M.A. adviser. M.A. candidates present and defend the results of their thesis research. Required of all candidates but may not be applied toward the M.A. degree requirements. Candidates for the Ph.D. in Applied Linguistics may also use this course to report on their dissertations. S/U grading.

Mr. Andersen, Ms. Celce-Murcia, Mr. Rand (Sp)

495K. Training and Supervision of Teaching Assistants (2 units). (Formerly numbered 495KA-495KB.) Lecture, two or more hours. Corequisite: appointment as a teaching assistant. Orientation, preparation, and supervision of graduate students who have responsibility for teaching ESL courses at UCLA. Syllabus revision and materials preparation. May not be applied toward the degree requirements for the M.A. or certificate in TESL or Ph.D. in Applied Linguistics. S/U grading.

Ms. Altman (F, W)

596K. Directed Individual Study. Prerequisite: graduate standing. Independent study in an area related to English as a second language. May not be repeated for credit.

598K. M.A. Research and Thesis Preparation (4 to 8 units). Prerequisite: graduate standing. Survey of research needs and thesis preparation. Includes optional section on experimental design and statistical methods in Fall Quarter. Credit (four units) toward the degree is allowed only once, but all M.A. candidates must enroll in the course each quarter they are registered and engaged in thesis preparation. S/U grading.

(F, Sp)

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)
Marianna D. Birnbaum, Ph.D., in Residence (Germanic Languages)
Kees W. Boile, Ph.D. (History)
Margherita Cottino-Jones, Ph.D. (Italian)
Elise Dunin, M.A. (Dance)
Patrick K. Ford, Ph.D. (English)
Robert A. Georges, Ph.D. (English)
Marija Gimbutas, Ph.D. (Slavic Languages and Literatures)
Nazir A. Jarraybih, Ph.D. (Music)
Michael O. Jones, Ph.D. (History)
Vladimir Markov, Ph.D. (Slavic Languages and Literatures)
James W. Porter, M.A. (Germanic Languages)
James W. Porter, M.A. (Music)
Douglass R. Price-Williams, Ph.D. (Anthropology)
Jaan Puhtvel, Ph.D. (Classics)
Alligra Snyder, M.A. (Dance)
Donald J. Ward, Ph.D. (Germanic Languages)
Johannes Wilbert, Ph.D. (Anthropology)
D.K. Wilgus, Ph.D. (English and Music)
Melvyn B. Hesten, Ph.D., Emeritus (Theater, Film, and Television)
Stanley L. Robe, Ph.D., Emeritus (Spanish and Portuguese)
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 90024-1459.

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 no more than five years before graduate enrollment, or
2. Successfully completing the Educational Testing Service GSFLT examination with a score of 550 or better, or
3. Passing a reading examination administered and evaluated by members of the program faculty (or by outside faculty for languages not familiar to the program faculty).

Course Requirements

All degree candidates, whether elected 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 documents, and research methods and techniques of folklore and mythology studies, (2) two forms of folklore and mythology, and (3) the folklore and mythology of a specific country, continent, or geographical area. You must complete all degree requirements in a maximum of six regular academic 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 are admitted to the doctoral program on the recommendation of the interdepartmental committee (you may secure provisional admission in order to complete the admission requirements).

Major Fields or Subdisciplines

You must develop 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 Course
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. Mr. Nagy, Mr. Porter

CM106. Anglo-American Folk Song. (Same as English M111B.) Prerequisite: 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. May be concurrently scheduled with course C206. Mr. Wilgus

C107. Folklore in Urban Environments. Lecture, three hours. Prerequisite: course 101 or 105 or consent of instructor. Exploration of the expressive and symbolic dimensions of complex urban life, focusing on how immigrants, migrants, residents, and workers shape their experiences through the dynamic interplay of community, ethnicity, culture, and religion. Concurrently scheduled with course C207. Mr. Jones, Mr. Stern

108. Afro-American Folklore and Culture. Prerequisite: course 101 or consent of instructor. A study of the traditional genres or forms of Afro-American folklore and their cultural functions. Ms. Robinson

M109. Mexican and Chicano Folklore in Cultural Context. (Same as Anthropology M166P.) 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 communicative through such traditional forms as narrative, folksong, music, customs, beliefs, crafts, and foodways.

M111. The Literature of Myth and Oral Tradition. (Same as English M111A.) Prerequisite: satisfaction of Subject A requirement. A study of myth, dramatic origins, oral epic, folk tale, and ballad, emphasizing Indo-European and Semitic examples. Mr. Nagy

M112. Survey of Medieval Celtic Literature. (Same as English M111E.) Prerequisite: satisfaction of Subject A requirement. Knowledge of Irish or Welsh not required. A general course dealing with Celtic literature from the earliest times to the 14th century.

M113. The Arthurian Tradition. Prerequisite: consent of instructor. A survey of the traditions relating to the British King Arthur from medieval times to the present day. Coverage includes both oral traditions and written texts; attention also to modern versions of Arthurian material in other mediums (e.g., opera, film).

M116. Folk Art and Technology. Prerequisite: junior standing. A general course concerned with the material manifestations and the theoretical concepts and methodologies utilized in their analysis.

M121. British Folklore and Mythology. (Same as English M111C.) Prerequisite: 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.

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 Celts, ranging from ancient Gaul to medieval Ireland and Wales.

M123A. Finnish Folklore and Mythology. (Same as Scandinavian 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.

M123B. Finnish Folk Song and Ballad. (Same as Scandinavian M123B.) Course M123B is not prerequisite to M123A. A survey of Finnish ballad and folk song, with attention to historical development, ethnic background, and poetic and musical values.

M124. Finnish Folk Art and Technology. Material manifestations of Finnish folklore: village layout and architecture, folk technology, arts and crafts, textiles, costumes, and design.

124. Finnish Folk Art and Technology. Material manifestations of Finnish folklore: village layout and architecture, folk technology, arts and crafts, textiles, costumes, and design.

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 Barbaresque and to mythic traditions of Lappland: arts and crafts, textiles, costume, folk technology.

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. Ms. Gimbudaitis

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.

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.

M129. Folklore and Mythology of the Ugric Peoples. (Same as Hungarian M136.) Survey of the traditions of the smaller Ugric nationalities (Voguls, Ostyaks, etc.). Ms. Birnbaum

M130. North American Indian Folklore and Mythology. (Same as English M130.) Prerequisite: consent of instructor. An examination of folkloristic and mythological data recorded from various North American Indian peoples within the contexts of the principal ideological frameworks which have evolved historically for the analysis of such lore. Mr. Georges

M131. 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.

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 novella in its themes, 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 a similar literary genre. 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 Basile) they become embedded into the folk culture of the Western world.

M142. Introduction to Jewish Folklore. (Same as Jewish Studies M143.) The nature of Jewish folklore: narrative, folk song, folk art, folk religion, and the methods and perspectives used in their analysis.

M149. Folk Literature of the Hispanic World. (Same as Spanish M149.) Lecture, three hours. A study of the history and present dissemination of the principal forms of folk literature throughout the Hispanic countries.

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 study of Afro-American rhythm, dance, music, field hollers, work songs, spirituals, blues, and jazz; the contrast between Negro, African, American, and Afro-Brazilian musical traditions.


163. Folklore and Oral History. Prerequisite: junior standing. An examination of the relationships between folk tradition and oral history; how history may be derived from tradition; how traditions are embedded within oral narratives; how folk traditions interplay to reflect their point of view. Ms. Stern

M170. Russian Folklore. (Same as Russian M170.) Lecture, three hours. A general introduction to Russian folklore, including a survey of genres and related folktale 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.

M180. Analytical Approaches to Folk Music. (Same as Music M180.) Prerequisites: Music SA-SC or consent of instructor. An intensive study of the methods and techniques of analysis leading to the study of Western folk music.

M181. Folk Music of Western Europe. (Same as Music M181.) Prerequisite: consent of instructor. An 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 region.

M190. 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.

M199. 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.

M201. 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.

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 firsthand experience in creating and managing data bases, utilizing both manual and computerized techniques.
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 scholarship. Possible topics include: pagan Celtic Britain/Ireland; comparative Celtic mythology; Celtic origin legends; literary and oral saints' legends; the Irish Fenian (Ossianic) tradition of ballads (laiodhe/dudain) and prose tales; "fairy" beliefs; collecting and archival methods of the Irish Folklore Commission; folklore studies and nationalism.

Mr. Ford, Mr. Nagy


M235. African Myth and Mythology. (Same as English M235.) Prerequisite: graduate standing. The methods of analyzing and appreciating African myths and mythological systems.

Mr. Wilgus

240. Introduction to Jewish Folk Literature. Prerequisite: upper division standing and consent of instructor. A study of the English and Scottish popular ballads and their American derivatives, with some attention to European analogues.

Mr. Wilgus

M243B. Problems in Ballad Scholarship. (Same as English M243B.) Prerequisite: course M243A or consent of instructor. Extensive investigation of a problem or problems in the study of the popular ballad.

Mr. Wilgus

248. Theory and Method in Latin American Folklore Studies. A historical survey of folklore scholarship in Latin America, with emphasis on the theoretical bases, methods, and techniques employed in the study and analysis of traditional tales, songs, music, linguistic expression.

Ms. Arora

M249. Folk Literature of the Spanish and Portuguese Worlds. (Same as Portuguese M249 and Spanish 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.

Mr. Wilgus

251. Seminar in Finno-Ugric Folklore and Mythology. Advanced studies in the folk traditions and mythologies of the Finno-Ugric speaking nations.

Mr. Wilgus

M257. South American Folklore and Mythology Studies. (Same as Anthropology M257.) Prerequisite: Anthropology 174P or consent of instructor. An examination 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

M258. Seminar in Folk Music. (Same as Music M258.) Seminar, three hours. Prerequisite: consent of instructor.

Mr. Porter

259. Seminar in Folklore. Prerequisites: course 200, consent of instructor.

Mr. Georges


237. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel placement as an apprentice instructor, 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. Georges, Mr. Jones

400A-400B-400C. Directed Professional Activities. Prerequisite: consent of department chair. Directed individual projects in professional editing, bibliogaphy, discography, filmography, festival direction, and other professional activities. May not be applied toward the M.A. course requirements. May be repeated for credit. S/U grading.

495. The Teaching of Folklore and Mythology. (Formerly numbered 495A-495B.) Lecture, three hours. Prerequisite: course 200. Analysis and design of alternative organizational schemes, teaching aids and techniques, and evaluation methods for folklore and mythology courses at the college level, with opportunities for observation and apprentice teaching. May not be applied toward the M.A. or Ph.D. course requirements. S/U grading.

Mr. Georges, Mr. Jones

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. Used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596. Directed Studies in Folklore (2 to 6 units).

597A. Preparation for M.A. Comprehensive Examination (2 to 4 units). Prerequisites: graduate standing in folklore and mythology, consent of instructor. S/U grading.

597B. Preparation for Ph.D. Qualifying Examinations (4 to 8 units). Prerequisites: successful completion of M.A. comprehensive examination, consent of instructor. S/U grading.

598. M.A. Thesis Preparation (2 to 4 units).


Related Courses in Other Departments

African Languages (Linguistics) 150A-150B, African Language in English Translation

Anthropology 118A, 118B. Museum Studies

133P. Social and Psychological Aspects of Myth and Ritual

133R. Aesthetic Anthropology

156. Comparative Religion

230P. Ethnology

232Q. Myth and Ritual

233Q. Aesthetic Anthropology

M247A. Ethnographic Film

264. Ethnography of the Mexican/Chicano People in North America

271. African Cultures

M272. Indians of South America

273. Cultures of the Middle East

274. Cultures of the Pacific Islands

Art History (Art, Design, and Art History) 102A. Minoan Art and Architecture

102B. Mycenaean Art and Architecture

C117A. Pre-Columbian Art of Mexico

C117B. Pre-Columbian Art of the Maya

C117C. Pre-Columbian Art of the Andes

118A. Arts of Oceania

118C. Arts of Sub-Saharan Africa

118D. Arts of Native North America

C119A. Advanced Studies in African Art: Western Africa

C119B. Advanced Studies in African Art: Central Africa

203. Museum Studies

220. Oceanic, Pre-Columbian, African, and Native North American Art
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
Afrikaans (Germanic Languages) 114. Afrikaans Literature in Translation
Ancient Near East (Near Eastern Languages) 150A-150B. 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
145A. Ancient Greek and Roman Philosophy
145B. Later Ancient Greek Philosophy
Czech (Slavic Languages) 155A-155B. Czech Literature
Dutch (Germanic Languages) 113. Modern Dutch and Flemish Literature in Translation
East Asian Languages and Cultures 140A-140B-140C. Chinese Literature in Translation
141A-141B. Japanese Literature in Translation
142A-142B. Korean Literature in Translation
English 106A-106B. 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) 50A. Masterworks of German Literature in Translation, Medieval Period through Classicism
50B. Masterworks of German Literature in Translation, from Romanticism to the Present
51. Masterworks of Germanic or East Central European Literatures in English Translation
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
Irish (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 Divina Comedy in English
M140. From Boccaccio to Basile (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) 140A-140B. 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 50. Introduction to Scandinavian Literature
60. Ingrid Bergman and Other Swedish Filmmakers
138. Survey of Finnish Literature
141. Backgrounds of Scandinavian Literature
142. Scandinavian Literature of the 19th Century
143. Scandinavian Literature of the 20th Century
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
C185. Seminar in Scandinavian Literature

Serbo-Croatian (Slavic Languages) 154A-154B. Yugoslav Literature
Spanish (Spanish and Portuguese) 160A-160B. 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 és Lettres
Eric Gans, Ph.D.
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., Chair
Shuhsi Kao, Ph.D., Graduate Adviser
Sara Melzer, Ph.D.

Assistant Professor
Jean-Claude Carron, Ph.D.

Lecturers
Colette Bichant, Docteur d'Université
Jacqueline Hamel-Baccash, Licenciée és Lettres,
Lower Division Head
Madeleine Korni-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 normally take course 8 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, 103, 114A-114B-114C; two quarters from courses 130A through 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.

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 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 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.

*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 157) may be substituted for courses in the 115A through 120D offerings.
Teaching Credential in French
If you wish a single subject teaching credential in French, you must have the consent of the French Department in order to gain admission to student teaching. For the single subject credential, consent is contingent on a major (or equivalent) in French and the successful completion of French 370. For additional information, consult the Graduate School of Education (201 Moore Hall) and/or the Department of French.

Master of Arts Degree
Admission
The Graduate Record Examination (GRE) General 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 90024-1550. A Bachelor of Arts in French is desirable but not mandatory.

Major Fields or Subdisciplines
The corpus of French literature is divided into three chronological periods: (1) medieval/Revolution, (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 is 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 is 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).

Plants 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 is 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 determines 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.

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 retaken 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 continuation 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) General 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/Revolution, (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 203 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 cognate 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 course. No credit is 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 108A are not sequential and may be taken in any order, provided the prerequisites for each course are fulfilled.

1. Elementary French. Lecture, five hours. Ms. Hamel-Baccash in charge

1G. Elementary French for Graduate Students (3 units). Preparation for ETS or other language examinations. A passing grade does not imply satisfaction of language requirements. May be repeated. S/U grading.

2. Elementary French. Lecture, five hours. Prerequisite: course 1 with a grade of C - or better or one year of high school French.

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.

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.

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.

6. Intermediate French. Lecture, five hours. Prerequisite: course 5 with a grade of C - or better or advanced placement standing.

10A-10D. French Conversation (2 units each). Discussion, three hours. Prerequisite: course 3 with a grade of A or B or consent of department. Mr. de Martini in charge

12. Introduction to the Study of French Literature. Lecture, three hours. Prerequisite: course 6 or equivalent. Consent of instructor. Principles of literary analysis as applied to selected texts in poetry and prose.

15. Theory and Correction of Diction. Prerequisite: course 6 or equivalent. Instructor. French pronunciation, diction, intonation in theory and practice; phonetic transcription, phonetic evolution of the modern language; remedial exercises; recordings. Ms. Brichant 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 108A 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 103. Ms. Brichant

100C. Advanced Grammar III. Prerequisite: course 100B or equivalent. A placement examination is administered, and qualified students are advanced to course 103. Ms. Brichant

103. 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.

104. Literary Composition. Lecture, two hours. Prerequisite: course 103 or consent of instructor.

105. French Linguistics. Lecture, three hours. prerequisite: consent of instructor.

106. Advanced French Phonetics. Lecture, two hours. Prerequisite: consent of instructor.

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. Medieval and Renaissance Literature.

114B. Literature of the Classical Era (17th and 18th Centuries).

114C. Modern Literature (19th and 20th Centuries).

115A-115B. Medieval French Literature:

115A. The Invention of Love in the 12th Century. Lecture, three hours. Selections from the broad range of lyric poetry and narrative romance in which is first elaborated "romantic" (sometimes called "courtly") love. Readings include works of the troubadors and the trouvères, different versions of the Tristan-myth, a romance of Chretien de Troyes', and the first part of the Romance of the Rose.

115B. The Medieval Romance.

115C. The Medieval Theater.

115D. Medieval Lyric Poetry. Mr. Haidu

116A-116D. The Renaissance:

116A. Rabelais and His Time.

116B. Ronsard and His Time.

116C. Montaigne and His Time.

116D. Renaissance Theater. Mr. Bensimon, Mr. Carron

117A-117D. The 17th Century:

117A. Corneille and the Baroque.

117B. The Classical Theater: Racine and His Contemporaries.

117C. Molière and the Comedy of the 17th Century.

117D. Philosophers, Moralists, and Novelists of the 17th Century. Ms. Melzer

118A-118D. The 18th Century:

118A. Comedy and Drama.

118B. Voltaire and the Encyclopedists.

118C. Diderot and Rousseau.

118D. The Novel. Ms. Coleman, Mr. Werner

119A-119D. The 19th Century:

119A. Romanticism.

119B. The Generation of 1848.

119C. Naturalism and Symbolism.

119D. The Turn of the Century. Mr. el Nouty, Mr. Gans

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. Ms. Kao

121A-121D. Contemporary Literature of French Expression. Lecture, three hours:

121A. Franco-African Literature.

121B. French-Canadian Literature.

121C. Franco-Helvetic and Franco-Belgian Literature.

121D. Franco-Caribbean Literature. Mr. Coleman, Mr. el Nouty

122. French Folklore and Young People's Literature. Ms. Korol-Ward


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. Ms. Korol-Ward

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. Ms. Brichant

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. Ms. Brichant

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. Ms. Brichant

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. Ms. Brichant

138. 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. Ms. Melzer in charge

140B. Honors Seminar in French. Seminar on a selected theme or particular problem of French literature, civilization, or ideas. Ms. Melzer in charge

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. Ms. Melzer in charge
The following courses may not be taken for graduate credit but may be taken as the equivalent of out-of-department electives by undergraduate majors.

142. Contemporary French Theater in Translation. Lecture, two hours. (Formerly numbered 203B.) Reading and discussion in translation of contemporary works.

144A-144B-144C. The French Novel in Translation. Lecture, two hours. Authors to be studied announced each quarter.

145. Topics in French Literature. To be announced each quarter. May not be taken for major or graduate credit but may be considered as an out-of-department elective for the purpose of satisfying major requirements.

Courses 150 through 157 may be repeated once for credit with consent of the major advisor.


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 advisor.

199. Special Studies in French (2 to 8 units). Prerequisites: junior or senior standing, consent of instructor, consultation with undergraduate advisor. 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.


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.


218A-218D. The 18th Century: 218A. Topics in the Early Enlightenment, 1680-1747. 218B. Topics in the Enlightenment, 1748-1765. 218C. Topics in the Late Enlightenment, 1766-1791. 218D. The Theater. Mr. Coleman, Mr. Werner


Courses 250A through 260B may be repeated for credit.

250A-250B. Studies in Medieval Literature. Mr. Haidu

251A-251B. Studies in the Renaissance. Mr. Bensimon and the Staff

252A-252B. Studies in the Baroque. Mr. Bensimon and the Staff


254A-254B. Studies in the 18th Century. Mr. Coleman, Mr. Werner

255A-255B. Studies in the 19th Century. Mr. el Nouty, Mr. Gans

256A-256B. Studies in Contemporary Literature. Ms. Kao

257A-257B. Studies in French-African Literature. Mr. el Nouty and the Staff

258A-258B. Studies in Literary Criticism. Mr. Gans and the Staff


270. Introduction to Methods of Literary Research. Prerequisite: graduate standing. Lectures by specialists on aspects of literary research, ranging from bibliography to new critical approaches.

310A-310B. The Teaching of French in the Elementary School and at the Junior High Level. 310A. Lecture, three hours. Prerequisite: consent of instructor. Theory of French teaching in the elementary school and at the junior high level. Required for the standard elementary credential.

310B. Hours to be arranged. Observation of language teaching in the elementary school and at the junior high level. Required for the standard elementary credential.

370. The Teaching of French in the Secondary School and at the College Level: Observation. Prerequisite: course 103. Observation of language teaching in the secondary school and at the college level. Ms. Hamel-Baccash

372. The Language Laboratory (2 units). Prerequisite: consent of instructor. New electronic techniques for language instruction. Pedagogical and practical problems of making tapes, installing and organizing a laboratory; control procedures. Mr. de Martini
Scope and Objectives

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 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, Mathematics 50. 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) is accepted as equivalent to one quarter course. A score of 500 on an Educational Testing Service (ETS) language examination also satisfies 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.

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 advisor 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, 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; Biology 103, 111, M118, 120, 122, 125, 131, 135, 147; Civil Engineering 150, 155, 163; 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 2 (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 31A, 31B, 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 150, 151, 155, 156, M161, 163; 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/ecosystems 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) General 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, possible 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 will be able 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 90024-1524.

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 and toward the minimum graduate course requirement.

Research Tool Requirement
At least one research tool (a foreign language or a series of mathematics or statistics courses) is required. The requirement varies according to each subdisciplinary area or region. 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.

Thesis Plan
You must present a thesis, based in whole or in part on original investigation. Selection of a thesis topic, creation of a scientific design, and conduct of the investigation proceed initially under the supervision of the informal guidance committee, and later under the official thesis committee. The thesis proposal should include the exact nature of the problem to be researched, an outline of the subject matter, the proposed methods of research, the degree of originality involved, and the anticipated time of completion of the study.

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 subdisciplinary 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 no more than two weeks. In case of failure, you may make one further attempt, but no sooner than three months nor longer than one year after the first examination. Preparation of your dissertation proposal follows successful completion of the written qualifying examination.

The University Oral Qualifying Examination, conducted by your official doctoral committee, focuses on your dissertation proposal. Once you have successfully completed the oral qualifying examination, you are eligible for advancement to candidacy. In instances of failure, the oral examination may be repeated once.

The dissertation is the ultimate focus of your Ph.D. program and demonstrates an 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, two hours. 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, two hours. 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.

3. Cultural Geography. Lecture, three hours; discussion, 90 minutes. A broad examination of the basic cultural variables in the human occupancy of the earth's surface. Ecological, spatial, and historical approaches.

4. Human Location and Behavior. Lecture, three hours; laboratory, one hour. Introduction to the basic concepts used in modern urban and economic geography. Emphasis on giving a better understanding of the effects of location on human behavior. Discussion and practical exercises on the analysis of problems in the Los Angeles urban environment.

5. People and the Earth's Ecosystems. Lecture, three hours; laboratory, two hours. 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 images of the geographic environment. Introductory survey of the fields of cartography and remote sensing.

88. Lower Division Seminar in Geography. Formerly numbered 10. Staff-student discussion, three hours; reading period, one hour. Prerequisite: course 1 or 2 or 3 or 4 or 5; S as Satisfactory. A seminar designed to explore various themes and issues pertinent to environment and people. Seminar topics advertised in the department during previous quarter.

Upper Division Courses

Group I: The Environment

(la) 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, emphasis on weathering, mass movement, fluvial erosion, transport, deposition; energy and material transfers; space and time considerations. Mr. Orme

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. Mr. Orme

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, seascapes, and coral reefs, together with coastal zone management. Mr. Orme
111. Forest Community Ecology. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 2, Biology 5 or 6 or equivalent, and Mathematics 50, or consent of instructor. Recommended: courses 109, 109A, or equivalent. Evaluation of ecological principles as they apply to forests. Emphasis on constraints of the physical environment, biotic interactions, succession, disturbances, and long-term environmental change. Ms. Graumlich

112. Animal Geography: Biophysical Aspects. Lecture, three hours; laboratory, two hours. Prerequisites: courses 1, 100, and 105, or equivalent, or consent of instructor. Recommended: courses 101, 103, 107, or equivalent. A study of the factors of and principles of animal distribution and dispersion on continents and islands of the earth in time and space. Mr. Bennett, Mr. Walter

113. Clastic Sedimentation Processes in Geomorphology. Lecture, three hours. Prerequisites: courses 1, 100, and 105, or equivalent, or consent of instructor. Recommended: courses 101, 103, 107, or equivalent. A study of clastic sedimentation transport and deposition processes in geomorphology. Topics include basic fluid mechanics and sediment transport; the tectonic framework of sedimentation; a general overview of depositional environments; and a more detailed discussion of selected environments. Mr. Weirich

114. Human Geography, Seminar. Lecture, three hours; discussion, one hour. Prerequisite: geography 120 or 121. Identification of past, present, and future problems associated with rational protection and use of natural resources. Mr. Bennett, Mr. Walter

115. 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 human-induced ecological disturbances. Identification and evaluation of the societal and biophysical factors which have contributed to the identified ecological disequilibria. Mr. Lunt

116. The Environment of the Land and Sea. Lecture, three hours; discussion, one hour. Prerequisites: course 2 and Mathematics 50, or consent of instructor. Principles of plant ecology at the community and ecosystem levels. Emphasis on structure, dynamics, and measurement of the characteristics of terrestrial vegetation. Ms. Beatty

109. 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. Worksheets, research papers, and two one-day field trips. Ms. Beatty

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 pattern of nature and artificially modified vegetation. Emphasis on range changes for which there is direct fossil or documentary evidence. Mr. Sauer

111. Forest Community Ecology. Lecture, three hours; reading period, one hour; field trips. Prerequisites: courses 2, Biology 5 and 6 or equivalent, and Mathematics 50, or consent of instructor. Recommended: courses 109, 109A, or equivalent. Evaluation of ecological principles as they apply to forests. Emphasis on constraints of the physical environment, biotic interactions, succession, disturbances, and long-term environmental change. Ms. Graumlich

112. Animal Geography: Biophysical Aspects. Lecture, three hours; laboratory, two hours. Prerequisites: courses 1, 100, and 105, or equivalent, or consent of instructor. Recommended: courses 101, 103, 107, or equivalent. A study of the factors of and principles of animal distribution and dispersion on continents and islands of the earth in time and space. Mr. Bennett, Mr. Walter

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114. Human Geography, Seminar. Lecture, three hours; discussion, one hour. Prerequisite: geography 120 or 121. Identification of past, current, and projected problems associated with human-induced ecological disturbances. Identification and evaluation of the societal and biophysical factors which have contributed to the identified ecological disequilibria. Mr. Lunt

115. 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 human-induced ecological disturbances. Identification and evaluation of the societal and biophysical factors which have contributed to the identified ecological disequilibria. Mr. Lunt
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, semi-periphery, and periphery.

Mr. Enkin, Mr. Hale, Mr. Salter

135. Reading the Cultural Landscape: Perspectives and Processes. Lecture, three hours; reading period, one hour. Prerequisite: upper division standing or consent of instructor. Understanding personal and societal environmental preferences begins with an analysis of the landscape. Attitudes 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. The principles of political geography as developed through national 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

161. Field Analysis: Cultural Geography. Fieldwork, once a week for 5 weeks. Prerequisites 1, 2, 3, or equivalent, or upper division standing. Enrollment priority to seniors. Students must preenroll in the department during the prior quarter. Examination of field and laboratory procedures and intellectual concepts used in the observation, measurement, analysis, and interpretation of landforms, constituent materials, and relevant processes.

Mr. Orme, Mr. Trimble, Mr. Weinrich

163. Field and Laboratory Analysis: Biogeography. Laboratory/fieldwork, eight hours. Prerequisites: courses 2, 5, or equivalent, or upper division standing. Limited to geography and ecosystems majors, with enrollment priority to seniors, then to juniors. Students must preenroll in the department during the prior quarter. Examination of the observation, analysis, and mapping of landscape phenomena of human origin. Techniques of data collection examined for such topics as settlement form and pattern, environmental change, historical and demographic change, and land use.

Mr. Salter

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. Survey of the field of cartography. Theory and construction of map projections, compilation procedures, principles of generalization, symbolization, terrain representation, lettering, drafting and scribining, and map reproduction methods.

Mr. McMaster

168. Computer Cartography. Lecture, two hours; laboratory, two hours. Prerequisite: Program in Computing 3 or 10A, consent of instructor. Recommended: course 167. Theory and methods of mapping quantitative information with a computer. Problems of acquiring and processing machine-readable data and representing them as point symbols and surfaces.

Mr. McMaster

171. Quantitative Analysis. Lecture, three hours; laboratory, one hour. Prerequisite: Mathematics 50 or consent of instructor. An introduction to the methods of measurement and interpretation of geographic distributions and associations.

Mr. Clark, Mr. McMaster

M178. Dating Techniques in Environmental Sciences and Archaeology. (Same as Anthropology M116G.) Lecture, three hours; reading period, one hour. Prerequisites: courses 1 and 3, or equivalent, or upper division standing. A study of the principles of the use of scientific dating methods such as radiocarbon dating, radiocarbon damage 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 geographic factors, physical and cultural, that are basic to an understanding of the historical development of Mexico and the contemporary economic and cultural geography of Mexico and the countries of Central America and the West Indies.

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 Portuguese 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. 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 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.

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 physical, biotic, and cultural environment and its dynamic transformation.

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 contemporary world scene, with special attention to China-Japan and Sino-American relations and their geographic bases.

Mr. Salter
201. Coastal Geomorphology Seminar. Discussion, three hours; reading period, five hours. Prerequisites: courses 100, 101. Discussion of selected topics pertaining to geomorphic processes and responses observable in the coastal zone. May be repeated for credit.

202. Fluvial Geomorphology Seminar. Discussion, three hours; reading period, five hours; fieldwork. Prerequisites: courses 100 and 105, or Civil Engineering 150. Discussion of selected topics pertaining to the action of running water in shaping the physical landscape. May be repeated for credit.

203. Glacial Geomorphology Seminar. Discussion, three hours; reading period, five hours; fieldwork. Prerequisites: courses 100, 103. Discussion of selected topics pertinent to the action of snow and ice in arctic and alpine environments. May be repeated for credit.

204A-204B-204C. Advanced Climatology. Lecture, three hours; laboratory, one hour. Prerequisites: course 104, first year of calculus, and acquaintance with FORTRAN IV, or consent of instructor. Courses must be taken in sequence. An introduction to the tools and concepts of environmental physics of relevance to the study of land and water surfaces. 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

206. Advanced Biogeography. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisites: courses 108 and 110 or 116, or equivalent, or consent of instructor. An intensive review and analysis of physical and cultural factors influencing animal distributions. Mr. McKnight

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. Mr. McKnight

215. Quaternary Studies: Physical Aspects. Discussion, three hours; reading period, two hours; fieldwork, three hours. Prerequisite: at least one course from 200 through 205 or an appropriate graduate course in atmospheric sciences or earth and space sciences. An analysis of the changing physical environment of the Quaternary period.

217. Quaternary Studies: Ecological Aspects. Discussion, three hours; reading period, two hours. Prerequisites: course 215 or 216 or equivalent, consent of instructor. An in-depth study of selected topics in Quaternary geology and an intense review of recent research.

227. Water Quality Management. Discussion, three hours; reading period, one hour. Prerequisites: graduate standing, consent of instructor. Discussion of the basic technical, regional planning, and public policy issues in water quality management.

228. Seminar: Man and Environment. Discussion, three hours; reading period, two hours. Prerequisite: course 128 or equivalent. Prerequisites: consent of man's perception of the environment throughout history and in different parts of the world and its impact on past, present, and future ecosystems.

Special Studies

196. Senior Thesis in Ecosystems Analysis. Hours to be arranged. Prerequisites: courses 129, 160 or 163, senior standing. Preparation and data collection and analysis for a senior thesis under the supervision and assistance of a faculty sponsor. (F, W, S, Sp)

199. Special Study (2 to 8 units). Hours to be arranged. Prerequisites: junior standing with a B average in the major or senior standing, consent of instructor.

199A-199HB. Honors in Geography I, II. Hours to be arranged. Prerequisites: a 3.25 overall GPA, at least five upper division geography courses with a 3.5 GPA. 199HA. 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 199HA entails the preparation of a detailed bibliography and outlines (to be evaluated by the two faculty members) for the writing of a substantial paper during course 199HB. If this 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. 199HB. Devoted to the writing of the substantial paper researched and outlined in course 199HA. It also is evaluated by the two faculty members. If this work is graded B or below, 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; emphasis on catastrophic, uniformitarian, glaciation, tectonic, isostasy, and evolution and cyclicism, thermodynamics and mechanics, quantification, and current paradigms. View of each theme in its contemporary milieu. Mr. Orme

226. Advanced Cultural Geography. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisites: courses 202 or 236 or equivalent, consent of instructor. Some major themes in American historical geography. Mr. Dunbar

227. Seminar: Historical Geography. Discussion, three hours; reading period, two hours. Prerequisites: course 202 or 236 or equivalent, consent of instructor. Selected regions used as specific examples of different techniques of study in geopolitics.

231. Seminar: Political Geography. Discussion, three hours; reading period, two hours. Prerequisites: course 240 or 246 or equivalent, consent of instructor. Lectures and discussions around the principles of political geography and German geopolitics. Selected regions used as specific examples of differing techniques of study in geopolitics.

233. Seminar: Cultural Geography. Discussion, three hours; reading period, two hours. Prerequisites: course 233 or 236 or equivalent, consent of instructor. Selected topics in cultural geography. Content may vary from year to year. May be repeated for credit.

238. Advanced Historical Geography of the United States. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisite: course 140 or equivalent or consent of instructor. An analysis of the development of geographic thought in North America and Europe. May be repeated for credit. Mr. Dunbar

240. Advanced Political Geography. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisite: course 142 or equivalent, or consent of instructor. A study of population distribution, migration and variation in population composition, and population resource problems, diffusion, and delimitation.

248. Location and Space Economy. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisites: courses 145 and 146, or consent of instructor. Methods of locational analysis as applied to problems of regional growth and development.

249. Economic Geography. Discussion, three hours; reading period, two hours. Prerequisites: course 248 or 246 or equivalent, consent of instructor. Related research projects growing out of course 248. May be repeated for credit.

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 analysis of 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: course 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 construction and modeling of national, regional, and intra-urban 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. Orme, Mr. Trimble, Mr. Weinch

261. Advanced Field Analysis: Cultural Geography (8 units). Fieldwork, once a week from 8 to 5. Prerequisites: one or more courses from 232, 233, 250, 251. Field methods and analysis applied to the cultural landscape, especially in Southern California, with particular reference to settlement, agriculture, and environmental modification. Mr. Salters

262. Advanced Field Analysis: Biogeography (8 units). Fieldwork, 10 hours. Prerequisite: consent of instructor. Observation, measurement, and analysis of biogeographic phenomena, including mapping and evaluation of biotic populations and communities and their modifications resulting from the impact of human activity.

265. Geographical Bibliography. Lecture, one hour; discussion, two hours; reading period, one hour. 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. 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 interpretation of interrelationships of individual features in their physical and cultural contexts. Mr. McMaster, Mr. Thrower

M270A-M270B-M270C. Seminar in Climate Dynamics (2 to 4 units each). (Same as Atmospheric Sciences M270A-M270B-M270C and Earth and Space Sciences M270A-M270B-M270C.) Lecture, two hours. Prerequisite: consent of instructor. The archeological, geochemical, micropaleontological, and stratigraphic evidence for climate change throughout the geological past. Rheology and dynamics of climatic sub-systems: 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. 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 statistical surfaces. Mr. Clark

273. Seminar: Model Building for Spatial Analysis. Discussion, three hours. Prerequisite: consent of instructor. Discussions of the philosophy and methodology of model building, with emphasis on the problems 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. Prerequisites: 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.

285. South and Southeast Asia. Prerequisites: course 185, consent of instructor.

286. Eastern Asia. Prerequisites: course 186, consent of instructor. Mr. Salters

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

291. The Arid Lands. Prerequisites: courses 104, 106, 108, 116, 120, 148, or equivalent, consent of instructor. An investigation of the physical and cultural complexes of the world's arid regions. Salient factors include climate, landforms, water, soils, natural vegetation, and the various aspects of human occupation, including future possibilities for human utilization. Mr. Entrikin

292. Advanced Regional Geography. Seminar. Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. A study of regional geography as a science, including the interpretation of spatial distributions, including both point and areal patterns. Mr. Salter

Core Courses

298A. Philosophical Issues in Geographical Inquiry. (Formerly numbered 200A.) Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. A discussion of geographical research within the context 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

299C. 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 Wagen, Ph.D. (German), Chair
Donald J. Ward, Ph.D. (German and Folklore)
Terence H. Wilbur, Ph.D. (Germanic Linguistics and Philology)

Emeritus Professors
Carl William Hagge, Ph.D.
William J. Mulloy, Ph.D.
Victor A. Oswald, Jr., 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)
Curt R. Robinson, Ph.D., Emeritus

Assistant Professors
T. Craig Christy, Ph.D. (Germanic Linguistics and Philology)
Hannelore Martinez, Ph.D. (German)
Steven D. Martinson, Ph.D. (German)

Lecturers
Barbara Bopp, Ph.D. (German), TA Coordinator
Jutta Landa, Ph.D. (German)

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 Afrikan, Dutch, 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. 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. German majors, especially those who wish to pursue graduate studies in German, are encouraged to enroll in courses in German history and philosophy in those respective departments and are strongly urged to acquire reading knowledge of French.

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 3.3 overall GPA, and complete German 195 with a grade of A. Contact the departmental honors adviser for procedures, special arrangements, possible exceptions, and other information.

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 90024-1539.

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 are 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 is 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) are required to pass the written part of the M.A. comprehensive examination before beginning doctoral work in the department. Applicants with an M.A. in Scandinavian who wish to major in Scandinavian 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) Germanics — older German literature (up 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.

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 includes both parts of the major field. When you have completed the written examinations successfully, the chair of the guidance committee schedules the University Oral Qualifying Examination to be administered by the doctoral committee as soon as possible after completion of the written examinations.

Advancement to candidacy takes place when you have (1) passed the graduate reading examination in French, (2) passed a departmental reading examination either in a modern Scandinavian language or in Dutch and Afrikaans or in Latin or in Yiddish (or an approved substitute language), (3) successfully completed three seminars, and (4) passed the qualifying examinations. When you pass the oral examination, you advance to candidacy and proceed to the writing of the dissertation.

Candidate in Philosophy Degree
You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

Final Oral Examination
After your completed dissertation is accepted by the certifying members of the doctoral committee, you may be required to defend the dissertation in a final oral examination.

German
Lower Division Courses
No credit is allowed for completing a less advanced course after successful completion of a more advanced course in grammar and/or composition. Students with demonstrated preparation may be permitted to transfer to a more advanced course with consent of the instructor.

1. Elementary German. Lecture, five hours; laboratory, one hour. Ms. Bopp
2. Elementary German. Lecture, five hours; laboratory, one hour. Mr. Christy, Mr. Wilbur

1G. Elementary German for Graduate Students. Preparation for the Graduate Division foreign language reading requirement. May not be applied toward degree requirements. S/U grading. Ms. Bopp

Preparation for the Graduate Division foreign language requirement. May not be applied toward degree requirements. S/U grading.

1. Elementary German. Lecture, five hours; laboratory, one hour. Ms. Bopp
2. Elementary German. Lecture, five hours; laboratory, one hour. Mr. Christy, Mr. Wilbur
### Upper Division Courses

**Prerequisite for all upper division courses (except 100A, 100B, 100C, 119A through 119F):**

- Course 1 is six 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 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. Baum, Mr. Wagener, Mr. Ward

**100B. Modern German Civilization and Culture from 1700 to 1919.** Lectures, discussions, and readings in English; knowledge of German 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. Martinson

**100C. German Civilization and Culture in the 20th Century.** Lectures, discussions, and readings in English; knowledge of German not required. A study of the development of German culture and institutions from 1919 to the present, emphasizing developments in literature, the arts, and architecture.

- Mr. Baum, Mr. Wagener

#### Nonmajors

**101A. Introduction to German Poetry.** Close analysis of representative examples of German lyric poetry from early as well as modern literary periods, including a systematic consideration of poetic conventions and forms, diction, tone, 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 analysis of German playwriting techniques and theories. Texts selected from modern literature 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 literary narrative prose (e.g., short story, novelle, novel, fairy tale, etc.), 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 German business and analysis of major works of the Romantic period. Audience: persons interested in German literature and thought in the context of modern German civilization and culture. May not be applied toward completion of the major in German.

- Mr. Bahr, Ms. Komar, Mr. Wagener

**119A. German Literature in the Age of Chivalry, in English Translation.** (Formerly numbered 119A.) Lecture, three hours. Study and analysis of selected works from the field of business German. Ms. Bopp

**119B. Weimar Classicism and Its Influence, in English Translation.** 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.** (Formerly numbered 119.) Lecture, three hours. Readings and discussions in English of the Faust theme and tradition in European literature and intellectual history, including the characters of Christian, Faust, Mephistopheles, Christopher Marlowe's and Goethe's Faust dramas, and Bulgakov, as well as Thomas Mann's novel, Doktor Faustus: The Life of the German Composer Adrian Leverkuhn. May not be applied toward completion of the major in German.

- Mr. Bahr, Mr. Martinson

**119D. The Romantic Heritage in Modern German Literature, in English Translation.** (Formerly numbered 119C.) Lecture, three hours. Study and analysis of literary works in English translation that reflect German Romantic imagination from the end of the 19th century into the 20th 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. Prerequisites: courses 100A or 105, or consent of instructor. Reading and analysis of selected works from modern German literature that reflect modern literary trends in Germany. Topics vary from quarter to quarter. May not be applied toward completion of the major in German. May be repeated for credit.

- Ms. Hadda

Courses Open for Credit to Majors, Nonmajors, and Graduate Students in German

**121A. Special Problems in Literature.** Lecture or seminar, 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 to provide practice in the interpretation of literary works in English translation that reflect German literature and thought.

- Mr. Bahr, Mr. Martinson

**121B. The German Film in Cultural Context.** A survey of various aspects of the German film in relation to German literature and thought. Prerequisites: courses 100A or 105, or consent of instructor. Reading and analysis of selected works from German Romanticism to realism and their reflection in the modern period. Audience: persons interested in general German literature and thought. May be repeated for credit.

- Ms. Komar, Mr. Nehring

**126. Advanced Study in Modern Literature.** Prerequisites: courses 100A and 105, or consent of instructor. Reading and analysis of selected works from modern German literature and thought. May not be applied toward completion of the major in German.

- Ms. Hadda
201A. Bibliography, Research Methods, and Scholarly Writing. Lecture, three hours. Introduction to the current state of advanced research and analysis in German literature and cultural materials, with emphasis on bibliographies and such tools of research as reference works, series publications, journals, archives, literary histories, and computer data banks. Practical exercises in the analysis of sources, compilation and presentation of bibliographies, and the writing of research papers. 

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 (Geistesgeschichte), New Criticism, Marxism, Formalism, Russian and Czech formalism, structuralism, and semiotics. 

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. 

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. 

203A. The Courtly Epic. An analysis of the major works of the medieval period in Germany, such as Hartmann von Aue's Wolfram von Eschenbach's Parzival, and Gottfried's Tristan. A study of courtly society, as well as an introduction to methods of interpretation and analysis. 

203B. The Courtly Lyric. Analysis of the medieval songs of courtly performers, beginning with Wolfram, Kurenberg and ending with Johann Wadlai. Study of the sociocultural context in which the songs were produced and performed, and an introduction to methods of interpretation and analysis. 

203C. The Heroic Epic. A survey of German heroic literature, beginning with the Hildebrandssiedel and including such works as the Nibelungenlied, Kudrun, and the Dietrich epics. Methods of analysis and interpretation, as well as an analysis of thematic and formal characteristics of the different epics. 

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, and Johann Fischart. 

205. Baroque Literature. Definition of the term baroque, development of modern baroque scholarship; influence of foreign models; analysis of sample theoretical writings (prosodies) and of representative poems, dramas, novels, and prose satires of the 17th century. 

206A. Enlightenment and Sentimentalism. Study of representative authors of the earlier part of the 18th century from Gottsched through Lessing, including such authors as Leibniz, Thomasius, Woldt, Bodmer and Breitinger, Johann Elias Schlegel, Haller, Brockes, Anacreontische poeten, Gesell, Kopstock, Mendelssohn, and Wieland. 

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, Heinse, Schubart, and the young Goethe and Schiller. 

207A. Classicism: Goethe. Selected topics from the works of Goethe in the period from 1776 to 1823, such as Der Freimüthige, Der Sämann, Wilhelm Meisters Lehrjahre, Die natürliche Tochter, Pandora, and poetry selections. 

207B. Classicism: Schiller. Selected topics from the critical and dramatic works of Schiller in the period from 1793 to 1805, such as Über den Verlust eines unendlichen, Über das Erhabene, Wallenstein, Maria Stuart, Jungfrau von Orleans, and Wilhelm Tell. 

208. Romanticism. Analysis of selected works of the Romantic period by authors such as Wackernöder, Tieck, the brothers Schlegel, Novalis, Holderlin, Brentano, Arnim, the brothers Grimm, "Bonaventura," E.T.A. Hoffmann, Eichendorff, and others. Course may be genre or topic oriented. 

209A. 19th-Century Lyric. The development of German lyric poetry from the classic/Romantic period to symbolism. Discussion of forms, attitudes, tendencies. Analyses may include poetry by Romantic authors, as well as Heine, Platen, the political poets of Wermär, Droste-Hülshoff, Keller, Storm, C.F. Meyer, Nietzsche, George, and others. 

209B. 19th-Century Drama. Reading and analysis of selected dramas by Kleist, Büchner, Hebel, Grillparzer, and others. Theoretical and historical analyses include topics such as Schicksalstragödie, bourgeois trivial drama, sociopolitical drama, historical drama, Viennese Volkstheater. 

209C. 19th-Century Narrative Prose. Analysis of German prose works from Romanticism to naturalism, including a study of notable writers and their significance to the development of German realism with respect to narrative techniques. Authors may include Heine, Büchner, Droste-Hülshoff, Stifter, Gotthelf, Keller, C.F. Meyer, Fontane, and the early naturalists. 

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, and others. 

210B. Expressionism and Neorealism. Historical and sociological background in the period from 1910 to 1933. Literary magazines, theoretical writings, poetry of expressionism and Dadaism, expressionist dramas, and shorter narratives. Definition and representative works of neorealism. 

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 Rilke and others. 

211A. Contemporary Novel. Study of selected novels in the period from 1945 to the present. Works by authors from West and East 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. 

211B. Contemporary Lyric and Drama. A study of selected plays and poems in the period from 1945 to the present. Works by authors from West and East Germany, Austria, and Switzerland, such as Dürrenmatt, Frisch, Handke, Celan, and Brecht, analyzed and placed in the context of literary, cultural, and political trends. 

211C. 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-Germanic, West Germanic, the medieval period, the Reformation, the baroque period, and the Enlightenment until its final codification at the end of the 19th century. 

210D. 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 Rilke and others. 

211A. Contemporary Novel. Study of selected novels in the period from 1945 to the present. Works by authors from West and East 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. 

211B. Contemporary Lyric and Drama. A study of selected plays and poems in the period from 1945 to the present. Works by authors from West and East Germany, Austria, and Switzerland, such as Dürrenmatt, Frisch, Handke, Celan, and Brecht, analyzed and placed in the context of literary, cultural, and political trends. 

211C. 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-Germanic, West Germanic, the medieval period, the Reformation, the baroque period, and the Enlightenment until its final codification at the end of the 19th century. 

212. Old High German. An introduction to the earliest phases of German literature, with extensive readings in the major documents of that period (750-1050). Emphasis on the grammatical interpretation of these documents and the identification of the dialects used in their composition. 


214. Theories, Methods, and History of Germanic Folklore. The history of Germanic folklore studied in the context of European cultural history. The evolution and development of the discipline as developed by Herder, the Grimms, Botte, Meier, Naumann, Bausinger, and others. 

215. Folk Song and Ballad. Analysis of the poetic and musical aspects of German folk songs and ballads. Theoretical and historical discussions of the 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. 

216. Theories, Methods, and History of Germanic Folklore. The history of Germanic folklore studied in the context of European cultural history. The evolution and development of the discipline as developed by Herder, the Grimms, Botte, Meier, Naumann, and others. 

217. Folk Song and Ballad. Analysis of the poetic and musical aspects of German folk songs and ballads. The theoretical and historical discussions of the 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.
240C. Oral Prose Genres. Study of the thematic and formal characteristics of legends, folktales, jests, proverbs, and riddles. The role of narrative in its sociocultural context in German history and a survey of methods of analysis of narratives, texts, and contexts. 

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, historic, 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, Wenzeltheorie, Texttheorie). 

Mr. Wilbur

252. Seminar in Historical and Comparative German Linguistics. Topics selected from the field of historical Germanic 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, the development of Germanic verbal and nominal morphology, proto-Germanic syntax). 

253. Seminar in Medieval Literature. Selected topics in medieval literature, with emphasis on problems in literary analysis and the applicability of various types of analysis to medieval texts. 

Mr. Bäuml, Mr. Ward

254. Seminar in Renaissance and Reformation. Seminar on selected literary or philological problems, such as a particular genre, author, or theme. Studies pertinent to the literature of this age. 

Mr. Wagener

255. Seminar in Enlightenment and Sturm und Drang. Selected topics in 18th-century literature, such as utopian literature, love and money as motifs, Imitation and originality, and the development of the natural law 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 theoretical writings, Goethe's Faust II, Goethe's Wanderjahre and West-Ostlicher Divan, Goethe's Faust II and Hegel's Phänomenologie des Geistes, the French Revolution and German classicism. Textual analysis and review of current research. 

Mr. Bahr, Mr. Martinson

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


Ms. Komar, Mr. Nehring


Ms. Bahr, Mr. Nehring, Mr. Wagener

261. Seminar in Contemporary Literature. Study of selected works, a specific author, genre, period, or topic from 1945 to the present. Texts analyzed and placed in the context of literary, cultural, and political trends. 

Ms. Martinez

262. Seminar in German Folklore. Detailed research on individual aspects of Germanic folklore. The topic selected generally is 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 literary theories, such as Rezeptionsästhetik, Neo-Marxist Criticism, New Criticism, psychology or sociology of literature, structuralism, semiotics, and hermeneutics. 

Mr. Bahr, Mr. Bäuml

370. The Teaching of German in Secondary Schools. Lectures three hours; discussion periods. Prerequisite: graduate standing or consent of instructor. Required of all candidates for the general secondary credential in German. 

Ms. Martinez

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employed as a teaching assistant, associate, or fellow. A teaching apprentice 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. Bopp

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. 

Ms. Bopp

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 I.D. number). May be repeated once. S/U grading. 

Mr. Kirsner

597. Preparation for Ph.D. Qualifying Examinations. To be arranged with instructor (see department for I.D. number). S/U grading. 

Mr. Kirsner

Graduate Courses

596. Directed Individual Study or Research in 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 I.D. number). May be repeated once. S/U grading. 

Mr. Kirsner

597. Preparation for Ph.D. Qualifying Examinations. To be arranged with instructor (see department for I.D. number). S/U grading. 

Mr. Kirsner

Dutch

Upper Division Courses

100. Modern Dutch Culture and Society. Lecture, three hours. Lectures, discussions, and readings in English. Survey of art, architecture, literature, film, Dutch government (including "Polarization" — verzuiling), the two World Wars, housing policy, the mass media, and the rise of a multiethnic society. 

Mr. Kirsner

103A. Elementary Dutch. (Formerly numbered Dutch and Afrikaans 103.) Lecture/laboratory. Introduction to the language and culture 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 Dutch and Afrikaans 103B.) Lecture/laboratory. Prerequisite: course 103A or equivalent. 

Mr. Kirsner

103C. Intermediate Dutch. (Formerly numbered Dutch and Afrikaans 103C.) Lecture/laboratory. Prerequisite: course 103B or equivalent. Grammatical exercises, conversation, reading and analysis of simple texts. 

Mr. Kirsner

113. Modern Dutch and Flemish Literature in Translation. Lecture, three hours. Readings and analysis of works by selected authors of the Netherlands and Flanders (such as Barend, Claus, Couperus, Hermans, Mulisch, Multatuli, and Reve and selected poets such as Campert, Gezelie, Gorter, Klaas, Lucebert, Nijhoff, Van Ostanjek, and Vroman). 

Mr. Kirsner

120. Introduction to Dutch Studies. (Formerly numbered Dutch and Afrikaans 120.) Prerequisite: consent of instructor. Brief review of Dutch grammar. Reading and discussion of selections from contemporary Dutch literature, the history of modern Dutch literature, and modern Dutch linguistics. Emphasis on developing reading skill and on acquiring familiarity with and an appreciation of the scope of 20th-century Neerlandistiek. 

Mr. Kirsner
Graduate Courses

234. The Structure of Modern Standard Dutch. (Formerly numbered Dutch and Afrikaans 234.) A detailed examination, from contrasting theoretical viewpoints, of lexical problems in Dutch phonology, grammar, and semantics, with an attention to the related phenomena in German, English, and Afrikaans. Equivalent to Linguistics 225. Ms. Kiraner

596. Directed Individual Study or Research in Dutch. (Formerly numbered Dutch and Afrikaans 596.) To be arranged with faculty member who will direct the study or research. Prerequisite: regular course and who present such a course as a prerequisite. Ms. Kiraner

Hungarian

Upper Division Courses

101A. Elementary Hungarian. Introduction to grammar and reading exercises, with emphasis on the spoken language. Ms. Birnbaum

101B. Elementary Hungarian. Prerequisite: course 101A or equivalent. Grammatical exercises, conversation, and reading of texts. Ms. Birnbaum

101C. Elementary Hungarian. Prerequisite: course 101B or equivalent. Conversation and readings in literary texts. Ms. Birnbaum


101E. Advanced Hungarian. Prerequisites: courses 101A through 101D or equivalent. Conversation, reading, and discussion of literary texts. Ms. Birnbaum

101F. Advanced Hungarian. Prerequisites: courses 101A through 101E or equivalent. Conversation and review of Hungarian grammar from a typological point of view. Ms. Birnbaum

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: reading knowledge of Hungarian, course 101C or equivalent. Selections of Hungarian prose and poetry read in the original. Discussion conducted in Hungarian. Ms. Birnbaum

121A-121B. Survey of Hungarian Literature in Translation. Intended for students in general and comparative literature, as well as students interested in Finno-Ugric studies. Survey of main trends and contacts with other literatures. Ms. Birnbaum

Old Norse 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, folktales, and epic, including the Nibelungenlied, the Volsunga saga, the Edda, and Beowulf. Cultural and historic backgrounds 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. Prerequisite: consent of instructor. Readings in primary texts in conjunction with the critical literature. Ms. Hadda

140. Viking Civilization and Literature. Readings in the history, society, and culture of the early Scandinavians. All texts in English. Mr. Byock

145. Old Norse Literature and Society. Lecture. Three hours. Readings in primary texts in conjunction with the critical literature. Specific issues in medieval Scandinavian studies. May be repeated for credit. Ms. Hadda

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, pronunciation, 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. Ms. Hadda

199. Special Studies in Old Norse (2 or 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. Hadda

Graduate Courses

221. Advanced Old Norse Prose. Prerequisite: course 152 or equivalent. Readings of major major texts. Ms. Hadda

222. Advanced Old Norse Poetry. Prerequisite: course 152 or equivalent. Readings of mythological and heroic poems from the Poetic Edda. Ms. Hadda

223. Old Norse Literature and Society. Lecture. Three hours. Critical issues in medieval Scandinavian studies. May be repeated for credit. Ms. Hadda

Lower Division Courses

104. Intermediate Yiddish. Prerequisite: course 103 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 and drama. Ms. Hadda

121C. Special Topics in Yiddish Literature in English Translation. Prerequisite: upper division standing or consent of instructor. Readings 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 121A or 131B. Varying topics of importance and relevance to Yiddish literary study. Readings and analysis of a wide range of 19th- and 20th-century literature. Ms. Hadda

199. Special Studies in Yiddish (2 to 4 units). Prerequisite: consent of instructor. 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 I.D. number). May be repeated once. Ms. Hadda
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 90024-1537.

Major Fields or Subdisciplines
There are no specifically designated major fields or subdisciplines in the M.A. program, but students emphasize one modern language and literature area in Danish, Norwegian, or Swedish.

Foreign Language Requirement
Reading knowledge of French or German is required (in addition, of course, to 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 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 English 201 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, in consultation with the graduate adviser, your general and reading list preparation is deemed adequate.

The comprehensive examination is both written and oral, students who fail may be reexamined once without petitioning.

For the Ph.D. degree in Germanic Languages with Scandinavian literature as a major or minor field, see the "Ph.D. in Germanic Languages."

Lower Division Courses
No credit is allowed for completing a less advanced course after successful completion of a more advanced course in grammar and/or composition. Students with demonstrated proficiency may be permitted a more advanced program by the section or may be transferred to a more advanced course with consent of the instructor.

Native speakers of Norwegian, Swedish, or Danish may not enroll in any language course (including courses 105, 106, 110) in the Scandinavian Section, except by petition in writing to the section. Non-Scandinavian students with a knowledge of one of these Scandinavian languages may not take courses in the others except by petition in writing. Petitions must include a description of the student's linguistic background and the reason for wanting to take the language course in question.

1. Elementary Swedish.
   Mr. Massengale, Mr. Shideler
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
   Ms. Norseng
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
    Prerequisite: course 5 or 15 or 25 or equivalent.
    Readings in Danish, Norwegian, and Swedish. Written and oral exercises. P/N/P (undergraduate), S/U (graduate), 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 Sweden, Norway, Denmark, Iceland, and Finland, ranging from myths, national epic, saga, and folktales through modern novel, poem, play, short story, and film script, read in English and critically discussed.
Upper Division Courses

105. Advanced Swedish. Discussion, three hours. Prerequisite: course 30 or equivalent. Readings, composition, and conversation in Swedish.

Mr. Massengale, Mr. Shideler

106. Advanced Swedish. Discussion, three hours. Prerequisite: course 105 or equivalent. Readings, composition, and conversation in Swedish.

Mr. Massengale, Mr. Shideler

110. Advanced Danish and/or Norwegian. Discussion, three hours. Prerequisite: course 30 or equivalent. Readings, composition, and conversation in Danish and Norwegian. May be repeated once for credit.

Mr. Massengale, Mr. Shideler

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.

Mr. Massengale, Mr. Shideler

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.

132. Advanced Finnish. Prerequisite: course 30 or equivalent. Readings, composition, and conversation in Finnish.

Mr. Massengale, Ms. Norseng, Mr. Shideler

134. Scandinavian Folk Poetry and Drama. Discussion, three hours. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language not required. Introduction to traditional folk drama and poetry, with attention to their historical, social, and cultural backgrounds.

Mr. Massengale, Ms. Norseng, Mr. Shideler

138. Survey of Finnish Literature. Conducted in English; knowledge of Finnish 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 the 18th, 19th, and 20th centuries.

Mr. Massengale, Ms. Norseng, Mr. Shideler

141. Backgrounds of Scandinavian Literature. Discussion, three hours. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language not required. Readings and discussions of representative texts selected from the literature of the medieval, Renaissance, baroque, and Enlightenment periods.

Mr. Massengale

142. Scandinavian Literature of the 19th Century. Discussion, three hours. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language not required. Readings and discussions of selected works from the Romantic, realist, and post-Romantic literature of Scandinavia in the 19th century.

Mr. Massengale, Ms. Norseng

143. Scandinavian Literature of the 20th Century. Discussion, three hours. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language not required. Readings and discussions of selected works of modern Scandinavian literature from the beginning of the century to the present.

Mr. Massengale, Ms. Norseng, Mr. Shideler

144. Henrik Ibsen. Discussion, three hours. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language not required. Readings and discussions of selected plays by Henrik Ibsen. May be concurrently scheduled with course C251.

Ms. Norseng

145. August Strindberg. Discussion, three hours. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language not required. Readings and discussions of selected plays by August Strindberg. May be concurrently scheduled with course C252.

Mr. Massengale, Mr. Shideler

146. Soren Kierkegaard. Discussion, three hours. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language not required. Readings and discussions of selected works by Soren Kierkegaard. May be concurrently scheduled with course C253.

Mr. Massengale

160. Literature and Scandinavian Society. Discussion, three hours. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language not required. Discussion of selected aspects of Scandinavian society based on readings of the contemporary literature as well as historical and/or sociological material. May be repeated for credit (as determined by undergraduate adviser) with topic change. May be concurrently scheduled with course C254.

Ms. Norseng

180. The Theory of the Scandinavian Novel. Discussion, three hours. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language not required. Analysis of the predominant structures of the Scandinavian novel from its 18th-century beginnings through its rise in the 19th century and its 20th-century evolution. Emphasis on the works of such writers as Kierkegaard, Andersen, Almqvist, Jacobsen, Hamsun, and Hansen. May be concurrently scheduled with course C263.

Ms. Norseng, Ms. Norseng, Mr. Shideler

181. Contemporary Swedish Literature. Discussion, three hours. Prerequisite: reading knowledge of a Scandinavian language. Reading and analysis of selected texts by major 20th-century Swedish authors.

Mr. Massengale, Ms. Norseng, Mr. Shideler

182. The Theory of the Scandinavian Novel. Discussion, three hours. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language not required. Analysis of the predominant structures of the Scandinavian novel from its 18th-century beginnings through its rise in the 19th century and its 20th-century evolution. Emphasis on the works of such writers as Kierkegaard, Andersen, Almqvist, Jacobsen, Hamsun, and Hansen. 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 study of Danish, Norwegian, and Swedish ballads, with attention to their historical development, poetic content, and musical poetic structure.

Mr. Massengale

184. Hans Christian Andersen. Lecture, three hours. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language not required. Conducted in English. Study of the works of Hans Christian Andersen, the Danish novelist, dramatist, and writer of tales, including a consideration of his literary background and of his times. Analysis of his works in terms of their structure, style, and meaning. P/NP or letter grading.

Mr. Massengale

185. Seminar in Scandinavian Literature. Discussion, three hours. Prerequisite: reading knowledge of a Scandinavian language. Selected topics in Scandinavian literature. May be repeated for credit with consent of instructor and undergraduate adviser. May be concurrently scheduled with course C265.

Mr. Massengale, Ms. Norseng, Mr. Shideler

190. Honors Course in Scandinavian. Prerequisite: 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. Prerequisites: oral and written reports.

199A-199Z. Special Studies in Scandinavian (2 or 4 units each). 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 I.D. number). A course of independent study designed for graduates or senior undergraduates who desire more intensive preparation. Special investigation of material covered in a regular course and who present such a course as a prerequisite.

Graduate Courses

251. Henrik Ibsen. Discussion, three hours. Prerequisites: advanced knowledge of a modern Scandinavian language, consent of instructor. Intensive study of the works of Henrik Ibsen. May be concurrently scheduled with course C144.

Ms. Norseng

254. Knut Hamsun. Discussion, three hours. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language. Readings and discussions of selected works by Knut Hamsun. May be concurrently scheduled with course C254.

Ms. Norseng

253. Soren Kierkegaard. Discussion, three hours. Prerequisites: advanced knowledge of a modern Scandinavian language, consent of instructor. Intensive study of the works of Soren Kierkegaard. May be concurrently scheduled with course C146.

Mr. Massengale

254. Knut Hamsun. Discussion, three hours. Prerequisites: advanced knowledge of a modern Scandinavian language, consent of instructor. Intensive study of the works of Knut Hamsun. May be concurrently scheduled with course C254.

Ms. Norseng

255. Seminar in Scandinavian Studies. Prerequisites: graduate standing or consent of instructor. Knowledge of a Scandinavian language. Intensive study of selected aspects of Scandinavian society based on readings in the literature as well as historical and/or sociological material. May be repeated for credit (as determined by graduate adviser) with topic change. May be concurrently scheduled with course C180.

Mr. Massengale, Ms. Norseng, Mr. Shideler

264. The Theory of the Scandinavian Novel. Prerequisite: advanced knowledge of a Scandinavian language, consent of instructor. Analysis of the predominant structures of the Scandinavian novel from its 18th-century beginnings through its rise in the 19th century and its 20th-century evolution. Emphasis on the works of such writers as Kierkegaard, Andersen, Almqvist, Jacobsen, Hamsun, and Hansen. May be concurrently scheduled with course C180.

Mr. Massengale, Ms. Norseng, Mr. Shideler

265. Seminar in Scandinavian Literature. Discussion, three hours. Prerequisite: reading knowledge of a Scandinavian language. Selected topics in Scandinavian literature. Selected topics in Scandinavian literature. May be repeated for credit with consent of instructor and undergraduate adviser. May be concurrently scheduled with course C185.

Mr. Massengale, Ms. Norseng, Mr. Shideler

375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching 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 at the same C.U. grading.

596. Directed Individual Study or Research (2 to 6 units). Prerequisite: graduate standing in Scandinavian. To be arranged with faculty member who will direct the study or research. Twelve units may be applied toward the total course requirement, but only four units may be applied toward the minimum graduate course requirement. May be repeated twice. S/U or letter grading.
History

6265 Bunche Hall, (213) 825-4601

Professors
Edward A. Alpers, Ph.D.
Joyce Apleby, Ph.D.
Kendall E. Bailes, Ph.D.
Amin Banani, Ph.D.
Robert L. Benson, Ph.D.
A. Bradford Burns, Ph.D.
Robert I. Burns, S.J., Ph.D.
Robert N. Bur, Ph.D.
Montier H. Chambers, Jr., Ph.D.
Claude-Peter Clasen, Ph.D.
Stanley Cohen, Ph.D.
Robert Dalek, Ph.D.
Christopher Ehret, Ph.D.
Saul Friedlander, Ph.D. (1939 Club Professor)
Amos Funkenstein, Ph.D.
Frank C. Gatei, Ph.D.
Juan Gomez-Quiñones, Ph.D.
Thomas S. Hines, Ph.D.
Richard Kovannis, Ph.D.
Daniel W. Howe, Ph.D.
Philip C. Huang, Ph.D.
Norris C. Hundley, Ph.D.
Michael O. Jones, Ph.D.
Nikki Keddie, Ph.D.
Barisa Kurekic, Ph.D.
Kees W. Bolle, Ph.D.
Robert L. Benson, Ph.D.
Kendall E. Baffles, Ph.D.

Emeritus Professors
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Truesdell S. Brown, Ph.D.
John G. Burke, Ph.D.
John W. Caughhey, Ph.D.
Raymond H. Fisher, Ph.D.
Jere C. King, Ph.D.
Gerhard B. Ladem, Ph.D.
Andrew lossky, Ph.D.
Robert A. Wilson, Ph.D.

Associate Professors
Edward G. Berenson, Ph.D.
Ruth Bloch, Ph.D.
Benjamin A. Elman, Ph.D.
Robert G. Frank, Ph.D.
Robert A. Hill, M.Sc.
Michael G. Morony, Ph.D.
Kathryn Norberg, Ph.D.
M. Norton Wise, Ph.D.
Mary A. Yeager, Ph.D.

Assistant Professors
Margaret W. Criel, Ph.D.
Melissa L. Meyer, Ph.D.
Debora L. Silverman, Ph.D.
Albin M. Urdank, Ph.D.
Scott L. Waugh, Ph.D.

Lecturers
Ludwig Lauerhass, Ph.D.
Albert Hoxie, M.A., Emeritus

Adjunct Associate Professor
S. Scott Barchy, Ph.D.

Scope and Objectives

History is the study of the past of our own society and how it emerged out of the traditions that produced it. At the same time, self-knowledge for students of history comes not only from self-discovery, but from a comparison of their own tradition and experience with those of others. It is only by studying the history of other civilizations and cultures that we can hope to gain perspective on our own.

The course offerings in history at UCLA are designed to bring about an understanding of the forces that have shaped the many cultures of this country and the world. UCLA has one of the largest, most distinguished, and most diverse history faculties in the country. Its main emphasis is on the many aspects of social history, but intellectual, cultural, and political history are also strongly represented.

Of all undergraduate majors, history is probably the most flexible and far-reaching. Leading to a Bachelor of Arts degree, it is excellent preparation for a wide variety of careers — law, teaching, business, the communications media, public services, and medicine.

The department offers graduate programs leading to the M.A. and Ph.D. and accepts qualified applicants for either or both degrees. There is also a joint master’s program with the Graduate School of Library and Information Science. Traditionally, the M.A. and Ph.D. in History have led to careers in high school, college, and university teaching. Increasingly, they are also being put to use in government service, international business, museum and archival work, and journalism.

Bachelor of Arts Degree

Preparation for the Major and the Major

The History Department's undergraduate program consists of 16 courses in history (six lower division — the "Preparation for the Major"; 10 upper division — the "Major") and four courses in the social sciences outside the department. The following courses are required in the program:

(1) History 1A-1B-1C.
(2) Two courses in U.S. history.
(3) Two courses in non-Western history from the same area (i.e., Latin America, Asia, Near and Middle East, Africa) or in science and technology. Candidates for the California Standard Teaching Credential may not choose science and technology to fulfill their non-Western requirement.
(4) History 100 or 101.
(5) History 197 or 199.
(6) Four courses in the social sciences outside of history or in other related disciplines as explained below.

The requirements for U.S. and non-Western history may be met with either upper or lower division courses. Normally only six lower division courses in history need to be included in your program, so if you meet the U.S. history requirement at the lower division level, you have to meet the non-Western requirement at the upper division level (or vice versa). If you choose to meet both requirements at the lower division level, you are still required to take 10 upper division courses to fulfill upper division requirements. The department recommends the following lower division courses to meet the U.S. history and non-Western requirements: History 2; 3A-3B-3C; 6A-6B-6C; 7A-7B; 8A, 8B, 9A-9B-9C; 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 eight quarter units toward the B.A. for each Advanced Placement Test in history. The History Department applies this credit to the "Preparation for the Major" as follows: AP European History fulfills History 1C; AP American History with a score of 4 or 5 allows eight units of History 7A-7B credit on the history preparation. The excess units may be applied only toward the degree.

**Honors Program**
The honors program is designed for history majors who are interested in carrying out a year-long independent research project that culminates in an honors thesis. Special honors seminars are also offered during the junior year. A 3.5 departmental grade-point average is normally required for admission, but students with a lower GPA may apply to the honors committee for admission. Application should be made at the beginning of the junior year.

History 101H is required, as are History 199HA-199HB-199HC, which count as three of the 10 required upper division courses. Course 199HA is taken in 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. A prize is awarded for the outstanding honors thesis.

**Teaching Credential in History**
If, based on your history major program, you would like a waiver of the 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 General Test of the Graduate Record Examination (GRE) submitted to the department. Students not meeting the grade-point average requirements may be admitted in exceptional cases if their letters of recommendation, GRE 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 is 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 90024-1473.

**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 are normally examined in one of the above fields, but with consent of the faculty in these fields may petition the graduate guidance and curriculum committee for an M.A. examination in their field of specialization).

**Foreign Language Requirement**
If you are contemplating graduate work in history, you should begin study of a foreign language as an undergraduate since reading knowledge of one foreign language approved by the department is required. For French, German, Russian, or Spanish, a score of 500 on the 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 one of these three languages no later than the beginning of the sixth quarter of full-time study. 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 and European history, a minimum of seven of the nine courses must be at the 200 level. For U.S. history, these seven courses must include at least one two-quarter seminar and History 245. For European history, the seven courses must include three two-quarter seminars and course 225. Africanists must take course 275.

**Comprehensive Examination Plan**
The department follows the comprehensive examination plan. Individual fields specify fulfillment of the examination requirement by (1) a three-hour written examination designed to test 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. The European field requires a comprehensive examination in the form of a research paper of approximately 15,000 words, to be submitted at the beginning of the sixth quarter of full-time study.

Field examiners administer the M.A. comprehensive examinations in November, March, and May of each academic year. The committee recommends the following examination results: pass to continue, pass subject to reevaluation, terminal pass, fail. In cases where the M.A. is awarded pass subject to reevaluation, the field M.A. committee reevaluates your progress after an additional three 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, examination evaluations 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 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, 1987-88: 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 exempt by special petition. Courses taken to fulfill M.A. degree requirements may also be used to satisfy Ph.D. requirements.

Teaching Experience

The department cannot provide teaching experience for all Ph.D. candidates and cannot therefore require it for the degree. You should, however, be able to demonstrate ability to give instruction in your field.

Qualifying Examinations

Full-time graduate students must schedule the written qualifying examination by the end of the ninth 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 is conducted after completion of the dissertation to cover the field within which the dissertation fails. After approving a dissertation, the chair of the doctoral committee may, with the unanimous consent of the entire committee, recommend a waiver of the final oral examination.

Lower Division Courses

1A-1B-1C. Introduction to Western Civilization. Lecture, two hours; discussion, two hours. A broad, historical study of major elements in Western heritage from the world of the Greeks to the world of the Greeks to that of the 20th century, designed to further beginning students' general education, introduce them to ideas, attitudes, and institutions basic to Western civilization, and acquaint them, through reading and critical discussion, with representative contemporary documents and writings of enduring interest. 1A. Ancient Civilizations from Prehistory to ca. A.D. 843; 1B. Circa A.D. 843 to ca. 1715; 1C. Circa 1715 to the Present.

1AH-1BH-1CH. Introduction to Western Civilization (Honors). Lecture, two hours; discussion, two hours. A broad, historical study of major elements in Western heritage from the world of the Greeks to the world of the Greeks to that of the 20th century, designed to further beginning students' general education, introduce them to ideas, attitudes, and institutions basic to Western civilization, and acquaint them, through reading and critical discussion, with representative contemporary documents and writings of enduring interest. 1AH. Ancient Civilizations from Prehistory to ca. A.D. 843; 1BH. Circa A.D. 843 to ca. 1715; 1CH. Circa 1715 to the Present.

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 more fully and to utilize more successfully the natural environment, stressing technology’s changing social, economic, scientific, and cultural relationships. Mr. Burke

3A-3B-3C. Introduction to the History of Science. Lecture, three hours; discussion, two hours. History majors may not count classes on the science general education requirements:

3A. The Scientific Revolution. A survey of the beginnings of the physical sciences involving the transformation from Aristotelian to Newtonian cosmology, the mechanical understanding of the natural world, the implications of experimental science, and the origin of scientific societies. 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

4D. Themes in the History of Medicine. Lecture, three hours. Prerequisite: sophomore standing. Limited to 30 students. Examination, through invited 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, the concept of treatment, and the development of sanctions and treatment of insanity, and the use of medical technology. Mr. Frank

5A-5B. Survey of British History. Lecture, three hours; discussion, one hour. A discussion of the varied 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, the ancient Near East, etc., and the problem of the encounter of various religions in the 19th and 20th centuries. Mr. Bolle

5A-6B. History of the American Peoples. Lecture, two hours; discussion, two hours. A survey of the American peoples from the advent of aboriginal societies to the present, emphasizing racial and ethnic interaction, industrialization, urbanization, and cultural change. 5A. To 1800; 6B. 1800 to 1900; 6C. 1900 to the Present. Ms. Appleby, Mr. Nash, Mr. Saxton

6BH. History of the American Peoples (Honors). Lecture, two hours; discussion, two hours. A survey of the American peoples from the advent of the modern society to the present, emphasizing racial and ethnic interaction, industrialization, urbanization, and cultural change. Mr. Monkennon

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 more advanced courses in U.S. history. Designed for students in the social sciences and other departments who desire a broad orientation to American political life. A survey of the history of the U.S. from the Revolutionary era to the present. Emphasis on political developments and the social, cultural, and economic bases of American politics. 7A. To 1877; 7B. 1877 to the Present. Ms. Appleby, Mr. Gately, Mr. Howe, 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 struggle for change in the 20th century. 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 perspectives of the role of ordinary people in Latin American society. Each lecture/film session centers on a major Latin American movie illustrative of a theme in social history. 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 of the major cultural, social, and political ideas, traditions, and institutions of Indian civilization. Mr. Wopert

9B. History of China. Lecture, three hours; discussion, one hour. Survey of the history of China: the evolution of characteristic Chinese institutions and modes of thought from antiquity to 1950; the problems of political change; China’s response to the Western impact in modern times. Mr. Elman

9BHi. Introduction to Chinese Civilization (Honors). Lecture, two hours; discussion, two hours. Survey of the history of China: the evolution of characteristic Chinese institutions and modes of thought from antiquity to 1950; the problems of political change; China’s response to the Western impact in modern times. Mr. Elman

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. Attention to the manner in which Chinese culture and the Japanese concept of the island state affected Japan’s response to the Western impact in modern times. Mr. Elman

9DS. History of the Near and Middle East. Lecture, three hours; discussion, two hours. An introduction to the history of the Muslim world from the advent of Islam to the present day. Ms. Marot

10A-10B. Introduction to the Civilizations of Africa. Lecture, three hours; discussion, one hour. Introduction to the history and culture of Africa. Mr. Notelheffer

10B. Survey of Medieval Greek Culture. (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 contributions to the Renaissance (including the discovery of America). Mr. Dyck

88A-88U. Lower Division Seminar (5 units each). Seminar, three hours. Prerequisite: freshman or sophomore standing. Limited to 15 students. Open to non-history majors. Readings, discussions, papers. Sign-ups and descriptions of offerings each quarter are available in the undergraduate counselor’s office (6248 Bunche Hall). Ten units may be taken for credit.

88A. Ancient Greece; 88B. Ancient Rome; 88C. Mediterranean; 88D. Early Modern Europe; 88E. Modern Europe; 88F. Russia/Eastern Europe; 88G. Britain; 88H. Latin America; 88J. Near East; 88K. India; 88L. China; 88M. Japan; 88N. Africa; 88O. Science/Technology; 88P. History of Religions; 88Q. History of Judaism; 88R. Jewish History; 88S. Armenia and the Caucasus; 88T. Southeast Asia; 88U. Psychohistory.

97H. Three Trials. (Formerly numbered 98H.) Discussion, three hours. Prerequisite: consent of instructor. Limited to 20 students. An intensive study of three trials, each of which led to the execution of the accused: 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

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 no 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.

101H. Introduction to Historical Practice (Honors). Seminar, three hours. Limited to juniors and seniors in the history honors program. Discussion classes of no more than 15 students meeting with a faculty member. Emphasis on problems in the philosophy of history, historiography, and methodical method.

102. Explorations in Psychoanalysis and History. Lecture, three hours. The art of psychological and historical interpretation; assessment 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 (3100-1650 B.C.). The New Kingdom and the Late period (1590-332 B.C.). Mr. Callender (alternate years)

105. History of Ancient Mesopotamia and Syria. Lecture, three hours. The political and cultural development of the “Fertile Crescent,” including Palestine, from the Neo-Assyrian to the Achaemenid period. Mr. Buccellati
106A-106B-106C. Survey of the Middle East from 500 to the Present. Lecture, three hours. Background and circumstances of the rise of Islam, the creation of the Islamic Empire, and its development. The rise of Dynastic Successor States and the Modern Nation States. Social, intellectual, political, and economic development:

106A. 500 to 1300. Mr. Morony
106B. 1300 to 1700. Ms. Marsot
106C. 1700 to the Present. Ms. Keddie

107A-107B. Islamic Civilization. Lecture, three hours:

107A. Premodern Islam. Origins of Islamic civilization, Muhammad and the Quran; development of Islamic doctrine, ritual, piety and law. sectarian Islam, and mysticism. Mr. Morony

108A-108B. History of the Arabs. Lecture, three hours. Course 108A is prerequisite to 108B. Political, social, intellectual, and economic history of the Arabs from the 18th century to the present. Ms. Marsot

109A-109B. History of North Africa from the Moslem Conquest. Lecture, three hours:

109A. To 1578. Mr. Morony
109B. 1578 to the Present. Ms. Marsot

110A-110B. Iranian History. Lecture, three hours. Political, social, and cultural history of Persia:

110A. Islamic Iran to 1800. Mr. Banani
110B. Iran from 1800 to the Present. Ms. Keddie

111A-111B. History of the Turks. Lecture, three hours. A survey of the society, government, and political history of the Turks from earliest times to the present:

111A. Origins to 1808. Turkish origins, early Central Asian and Middle Eastern states. The rise and fall of the Ottoman Empire. Mr. Shaw
111B. 1808 to the Present. Modernization of the Ottoman Empire, 1808-1923. The Turkish Republic: The Turks in the world. Mr. Shaw

112A-112B-112C. Armenian History. Lecture, three hours:

112A. Armenia in Ancient and Medieval Times, 2nd Millenium B.C. to A.D. 11th Century. Mr. Hovannisian
112B. Armenia from the Cilician Kingdom through the periods of foreign domination and national stirring, 11th to 19th Centuries. Mr. Hovannisian
112C. Armenia in modern and contemporary times. 19th and 20th Centuries. The Armenian question and genocide, national republic, Soviet Armenia, and the dispersion. Mr. Hovannisian

112D. Introduction to Armenian Oral History. Lecture/discussion, three hours. The uses and techniques of Armenian oral history; the preinterview, the interview, and postinterview procedures; methods of compilation and evaluation. Field assignments and interviews. May be concurrently scheduled with course C212. Mr. Hovannisian

113. The Caucasus under Russian and Soviet Rule. Lecture, three hours. A survey of the political, economic, social, and cultural history of the Caucasus region since 1801. The Georgian, Armenian, and Azerbaijani response to Russian and Soviet rule; the nationality question and the Soviet national republics. Mr. Hovannisian

115A-115B-115C. History of the Ancient Mediterranean World. Lecture, three hours:

115A. A survey of the history of the ancient East from earliest times to the foundation of the Persian Empire. Mr. Mellor
115B. The history and institutions of the Greeks from their arrival to the death of Alexander. Mr. Chambers, Mr. Mellor
115C. The history and institutions of Rome from the founding of the city to the death of Constantine. Mr. Chambers, Mr. Mellor

116A-116B. History of Ancient Greece. Lecture, three hours:

116A. The Rise of the Greek City-State. Emphasis on the archaic period and the early classical age through the Persian Wars. Mr. Rouse
116B. The Classical Period. The clash between Athens and Sparta. The consequent rise of Macedonia. And the aftermath of Alexander the Great. Mr. Chambers

117A-117B. History of Rome. Lecture, three hours:

117A. To the Death of Caesar. Emphasis on the development of imperialism and on the constitutional and social struggles of the late republic. Mr. Mellor
117B. From the Death of Caesar to the Time of Constantine. The early empire treated in more detail supplemented by a survey of the social and economic changes in the 3rd century. Mr. Mellor

118. Introduction to Roman Law. Lecture, three hours. Survey of the public (constitutional), criminal, and private law of the Romans. Topics include the sources of the law, the historical sources of Roman law, mechanisms and procedures by which the law was administered, and the content of private law. Mr. Mellor

119. The Christian Church, 100-1517. Lecture, three hours. Constitutional, political, and economic history of the Church; Christianization of the Eastern Empire and the Germanic kingdoms: governance and institutions of the Church; relations between Church and monarchy; the high tide of papalism: crises of authority on the eve of the Reformation. Mr. Benson

120. The Christian Religion, 100-1350. Lecture, three hours. The religious experience of Christians—conversion, doctrine, belief, heresy, spirituality, worship, liturgy, and art. The religious life of lay Christians, as well as that of the Church's institutional, intellectual, and spiritual leaders. Mr. Benson

121A-121B. Medieval Europe. Lecture, three hours. Recommended prerequisite: Western civilization. A basic introduction to Western Europe from Latin antiquity to the age of discovery, with emphasis on the medieval use of Greek-Roman antiquity, the history of the manuscript book, and the growth of literacy. 121A. 400 to 1000. 121B. 1000 to 1500. Mr. Rose

121C. Medieval Civilization: The Mediterranean Heartlands. Lecture, three hours. A survey of Western Mediterranean Europe, social-economic-cultural within a political framework, including its relation with other cultures. Mr. R.I. Burns

121D. Medieval People: The 13th Century. Lecture, three hours. Movements and creative contributions to Western culture in this central century of the Middle Ages, as seen in its representative men and works. Mr. R.I. Burns

M122A-M122B. Byzantine Civilization. (Same as Classics M170A-M170B.) M122A. Byzantine theology M122B. Literature, relations with Rome, and the Renaissance. Mr. Dyck

123A-123B. Byzantine History, Lecture, three hours. The political, socioeconomic, religious, and cultural continuity in the millennial history of Byzantium and the reforms of Constantine, Byzantine relations with Latin Europe, Slavs, Sassanids, Arabs, and Turks. Mr. Vryonis

125A-125F. History of Modern Europe. Lecture, three hours:

125A. The Renaissance: Power and Culture in the Italian City-States. Mr. Reill
125B. The Reformation: Church and Religion in the Early 16th Century. Revolutionary tendencies in German society: The peasant uprising. Mr. Reill
125C. Absolutism and Enlightenment: Europe under the Old Regime. State, society, and culture in Europe from the mid-17th century until the eve of the French Revolution. Mr. Sabeau

125D. Europe, 1789-1900. The French Revolution and Napoleon. The Industrial Revolution. The uprisings of 1848. The unification of Germany and Italy. Imperialism and imperialism. The role of imperialism. Population growth and changes in social structure. Mr. Reill, Mr. Silverman


126A-126C. Cultural and Intellectual History of Modern Europe. Lecture, three hours. Climates of thought and practice, the economy, social classes, daily life, book publishing and universities, the Reformation and Counter Reformation, the Thirty Years War. Mr. Symcox

127B. 1815 to 1945. The balance of power; the growth of the nation state; imperial and colonial rivalries; the two World Wars. Mr. Symcox

128A-128C. History of France. (Formerly numbered 128A-128D.) Lecture, three hours:

128A. France, 1500-1715. Social history of 16th and 17th-century France, including growth of monarchy, wars of religion, peasant uprisings, popular culture. Mr. R.I. Burns

128B. France, 1715-1815. "Ancien Régime" and the time of revolutions. Critical discourse leading to the French Revolution, the collapse of the state, the Napoleonic era, the reconstruction of society through the monarchies and revolutions of the 19th century. Mr. Wohl

128C. The Making of Modern France, 1871 to the Present. From oligarchy to democratic bureaucracy in two wars and three republics. Mr. Wohl

129A-129B-129C. History of Modern Germany and Austria. Lecture, three hours:

129A. The political structure of empire and cities, the economy, social classes, daily life, book publishing and universities, the Reformation and Counter Reformation, the Thirty Years War. Mr. Ullman

129B. 1868 to 1848. Survey of social, economic, cultural, and political history, including the rise of absolutist and bureaucratic government, Enlightenment and reform, the emergence of Austro-Prussian dualism, the transformation of the German economy, the impact of the French Revolution and the German reformation, Restoration and Metternichian reaction, the rise of Romanticism, and the causes and failure of the Revolutions of 1848. Mr. Reill
149A-149B. American Economic History. Lecture, three hours.
149A. 1790 to 1910. The roles of economic forces, institutions, individuals, and groups in promoting or impeding effective change in the American economy, 1790-1910. During this period the technical skeleton of the modern industrial structure was formed. Why and how the American economy evolved into a dual economy, characterized by a center of firms large in size and influence and a periphery of smaller firms.
Mr. Yeager
149B. 1910 to the Present. The dynamics of change in the dual economy, focusing in greater detail on interrelationships between macro and micro developments in the economy and on the growing interdependence between the U.S. and the world economy. 1910 to the present.
Mr. Yeager

150A-150B. Intellectual History of the United States. Lecture, three hours. The principal ideas about humanity and God, nature and society, which have been at work in American history. The sources of these ideas, their connections with one another, their relationship to American life, and their expression in great documents of American thought.
Mr. Howe
150C. History of Religion in the United States. Lecture, three hours. Consideration of the religious dimension of people's 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.
Mr. Gates
151B. Constitutionalism since the Civil War. Particular emphasis on the development of the Supreme Court, the due process revolution, the Court and political questions, and the fact of judicial supremacy within self-prescribed limits.

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.

153. The United States and the Philippines. Lecture, three hours. Recommended: 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, focused mainly within the time period from 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 mature urban network, with concentration on social, spatial, and economic interaction. The issues of mass society, neighborhood, crime, poverty, ethnicity, and racial discrimination.
Mr. Monkkonen

154C-154D. History of American Architecture and Urban Planning, 1600 to the Present. Lecture, three hours. Aspects of American culture as explored through architecture, urban planning, and the allied arts, with emphasis on the development of an architectural consciousness in American ways, in which the built environment has reflected its broad audience, observers, and the extent to which it has reflected their values and ways of living. 154C, 1600 to 1890; 154D, 1890 to the Present.
Mr. Hines

155A-155B. American Working Class Movements. Lecture, three hours. Major episodes in the social, trade union, and cultural history of the American working class from Colonial times to the present, emphasizing both organized and unorganized labor, the history of the Knights of Labor, the A.F. of L., and the C.I.O., and the development of labor politics.
Mr. Laslett
Mr. Cohen
156C-156D-156E. Social History of American Women. Lecture, three hours. An analysis of major demographic, economic, social, and intellectual factors shaping the lives of women in families, at work, and in larger social collectivities. Emphasis on class, regional, racial, and ethnic comparisons. 156C, Colonial and Early National, 1600-1820; 156D, Victorian and Industrial, 1800-1920; 156E, 20th Century, 1900-1975.
Ms. Sklar

157A-157B. North American Indian History. Formerly numbered 157A-157B-157C. Lecture, three hours. History of Native Americans from contact to the present, with emphasis on the historical dimensions of culture change, Indian political processes, and the continuity of Native American cultures. Focus on selected Indian peoples in each period. 157A, Precontact to 1570; 157B, 1570 to the Present.
Mr. Meyer
158A. Comparative Slave Systems. Formerly numbered 158A. (Same as Afro-American Studies M158A.) Lecture, three hours. An examination of the slavery experience in various New World slave societies, with emphasis on outlining the similarities and differences among the legal status, treatment, and slave cultures of North American, Caribbean, and South American slave societies.

158B-M158C. Introduction to Afro-American History. Formerly numbered 158B-158C. (Same as Afro-American Studies M158B-M158C.) Lecture, three hours. A survey of the Afro-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 milieu.
Ms. Creel, Mr. Hill
158D. Afro-American Urban History. Lecture, three hours. An examination of the 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. Hill

159A. History of the Chicano Peoples. Formerly numbered 159A. (Same as Chicano Studies M159A.) 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 change 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. Gomez-Quiñones


162. The American West. Lecture, three hours. A study of the West as frontier and as region, in transit from the Atlantic seaboard to the Pacific, from the 17th century to the present.
Mr. Hull

163. History of California. Lecture, three hours. The economic, social, intellectual, and political development of California from the earliest times to the present.
Mr. Hundley

165A-165B. Colonial Latin America. Lecture, three hours. Studies in the general development of Latin America prior to 1825, with emphasis on social history.
Mr. Lockhart
165C. Indians of Colonial Mexico. Lecture, three hours. A survey of the social and cultural history of the Indians of Mexico, especially central Mexico, from the time of the European conquest until Mexican independence, emphasizing an internal view of Indian groups and patterns on the basis of records produced by the Indians themselves.
Mr. Lockhart

166. Latin America in the 19th Century. Lecture, three hours. An intensive analysis of the economic, social, and political problems of the Latin American nations from their independence to around 1910.
Mr. E.B. Burns, Mr. Burr
167A-167D. 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. Successive 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 personalist 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 is treated in course 171. Within each course, country studies are according to the chronological contributions to the theme emphasized. 167A. Hati, Uruguay, Costa Rica, Cuba, Chile, 167B. Bolivia, Dominican Republic, Argentina, Paraguay, Venezuela; 167C. Panama, Colombia, Ecuador, Honduras, El Salvador; 167D. Brazil, Guatemala, Peru, Nicaragua.

Mr. Wilkie

168. History of Latin American International Relations. Lecture, three hours. Emphasis on the developing interests of the Latin American nations in their relationship with one another and with other areas of the world, beginning with 19th-century independence. Mr. Burr

169. Latin American Elites and Leaders. Lecture, three hours. Prerequisite: course 167A, 167B, 167C, or 171. Elites and leaders (defined as oral or noninstitutionalized knowledge involving the leaders’ conceptual and perceptual life history views) in contrast to folklore (the followers’ traditional or popular views). Elites and genres include oral history, literature, and cinema.

Mr. Wilkie

170. Latin American Cultural History. (Formerly numbered 170.) Lecture, three hours. Intellectual, artistic, and folk expressions of the Latin American spirit and character examined in readings and lectures, with emphasis on the unique contribution of Latin Americans to develop self-interpretation. Music, films, and slides supplement discussions.

Mr. E.B. Burns, 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 and their historical and cultural change, and how the vast geography of Latin America was peopled, customs, occupations, dress, food, architecture, and transportation in the 20 countries of the region.

Mr. Wilkie

171. The Mexican Revolution since 1910. Lecture, three hours. Examination of the concept of “permanence crisis” to describe and explain the structure of “permanent revolution” under “one-party democracy.” Analysis of unresolved colonial and 19th-century problems and crises that have influenced modern-day Mexico, if in modified form.

Mr. Wilkie

173. Modern Brazil. Lecture, three hours. Selected topics (the political, economic, social, 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 introspектив movements in which the Brazilians attempted to interpret themselves, their nation, and their civilizations.

Mr. E.B. Burns

175A-175Z. Topics in African History. Lecture, three hours. Prerequisite: one prior course in African history at UCLA or 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 nondocumentary sources of early African history, with particular reference to technological, economic, and cultural developments from the origins of Man until the colonial period.

Mr. Posansky

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 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 social formations by capital, the emergence of classes, the nature of the colonial and postcolonial state, and the struggle for national liberation in a global context.

Mr. Alpers, Mr. Obichere

175E. Africa from 1945 to the Present. History of Africa south of the Sahara from the end of World War II to the present. The last phases of colonial rule in Africa, African nationalism, Pan-Africanism, liberation movements, and the achievement of independence. Political, social, and economic change in the colonies and in the independent states of Africa. Neocolonialism, experiments in national development, apartheid in South Africa, ideological conflict in contemporary Africa, and Africa in world affairs since 1957.

Mr. Obichere

176A-176B. History of West Africa. Lecture, three hours:

176A. West Africa from Earliest Times to 1800. Mr. Obichere, Mr. Posansky

176B. West Africa since 1800. Mr. Obichere

176C. Social and Economic History of West Africa since 1600. Lecture, three hours. Analysis of the main currents of West African social, cultural, and economic history since the fall of the Songhai Empire, with emphasis on the family, religious values, education, urbanization, migrations, the arts, slavery, and the slave trade. The roles of economic factors and institutions in promoting or inhibiting economic change in West Africa; ethnic diversity and socioeconomic integration; colonial economic systems and the roles of economic forces and institutions in the postcolonial period since the 1950s.

Mr. Obichere


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 later 19th century.

Mr. Alpers, Mr. Ehret, Mr. Posansky

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. Ehret, Mr. Posansky

179A-179B. History of Southern Africa. Lecture, three hours:

179A. 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. Since 1870. The interactions between the inhabitants of Southern Africa since 1870. Attention to social and economic as well as political aspects.

Mr. Ehret

182A-182B-182C. History of China. Lecture, three hours:

182A. 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 9B or 182A or the consent of the instructor. The end of aristocratic rule of the imperial state and the rise of the male beneficiary state; 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 movements; some attention to contrasts between established 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 State in China and the opening of Japan to intercourse with the rest of the world in 1854.


Mr. Nottebohm

188A. Early History of India. Lecture, three hours. Introduction to the civilization and institutions of India. A survey of 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 era of European expansion, British rule, and the nation-building 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

M191A-M191B. Survey of Jewish History. (Same as Jewish Studies 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. Funkerstein

M191C-M191D. Focal Themes in Jewish History. (Same as Jewish Studies M191C-M191D.) Lecture, three hours. Treatment in depth of one major theme in Jewish history (such as the history of Messianic Movements, the structure of the Jewish communities) through the ages.

Mr. Funkerstein

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-Jewish policy to the outbreak of World War II.

Mr. Friedlander
M195F-M195G. History of Biological Sciences. (Same as Anatomy/Medical History M108A-M108B.) Lecture, three hours. M195E. Biological Sciences from Ancient Times to the Early 19th Century; M195G. Biological Sciences from the Early 19th Century to the Mid-20th Century. Mr. Frank (F.W.)

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 (6248 Bunche Hall). May be repeated once for credit. When concurrently scheduled with courses 201A-201U 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 the major requirements.


199A. Extensive reading and research in the field of the proposed honors thesis. Report on work in progress to be made to the sponsoring professor at regular intervals.

199B. Seminar meetings on research methods with continued reading and research culminating in a draft of the honors thesis.

199HC. Revisions of the draft and preparation of polished versions, theses, and bibliographies.

199I. 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 multivariate 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. May be repeated for credit. 200A. Ancient Greece; 200B. Ancient Rome; 200C. Medieval; 200D. Early Modern Europe; 200E. Modern Europe; 200F. Russia/Eastern Europe; 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.

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. Designed to familiarize graduate course involves reading, lecture, and discussion. Mr. Wise

201A-201U. Topics in History. Seminar, three hours. Topical titles are the same as for courses 200A-200U. A grade of A on all work involving reading, lecture, and discussion. Ms. Meyer

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 definable social groups as women, religious classes, middle classes, landlords, tribesmen, and peasants; social change. Ms. Keddie

M207. Seminar in Ancient Mesopotamia. (Same as Ancient Near East M205.) Seminar, three hours. Selected topics on the political, social, and intellectual history of ancient Mesopotamia. May be repeated for credit. Mr. Buccellati

209A-209B. Seminar in Ottoman and Modern Turkish History. Seminar, three hours. Mr. Shaw

211A-211B. Seminar in Armenian History. Seminar, three hours. Mr. Vronsos

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 analyzing 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. Mellor

216A-216B. Seminar in Byzantine History. Seminar, three hours. Mr. Vronsos

217. Sources and Handbooks of Medieval History. Seminar, three hours. Prerequisite: reading knowledge of German or French. An introduction to types of medieval source materials and the handbooks needed to use them. Mr. Rouse

218. Medieval Latin Literary History. Seminar, three hours. Recommended prerequisite: reading knowledge of Latin or French. An examination of aspects of medieval history through the study of paleography, medieval libraries, and the transmission of ancient medieval authors. Mr. Rouse

219A. Paleography I. Seminar, three hours. Prerequisite: reading knowledge of Latin 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. Mr. Rouse (alternate years)

219B. Paleography II. Seminar, three hours. Prerequisite: reading knowledge of Latin or French. A history of the manuscript book from the Carolingian Renaissance through the invention of printing. Ms. Marsot

221A. History of the Early Christians. Lecture, three hours. Prerequisite: course 203A or 203B. Topics vary from year to year and include religion of the Veda; Brahmanism; (later) Hinduism. See Schedule of Classes for specifics. May be taken independently for credit. Mr. Bolle

223. Religions of South and Southeast Asia. Lecture, three hours. The rich variety in religious traditions of the South and Southeast Asia. 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

223D. Religions of the Ancient Near East. Lecture, three hours. The major polytheistic systems of the ancient Near East, with emphasis on Mesopotamia and Syria and with reference to the religion of ancient Israel. Various concepts of divinity, hierarchies of gods, prayer and cult, magics, wisdom, and moral conduct. Mr. Buccellati

223E. Special Topics in the History of Religions. Lecture, three hours. Topics 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

224A. History of the Medieval Period; 224B. History of the Renaissance; 224C. Contemporary History. Seminar, three hours. May be repeated for credit. Mr. Bolle

224D. History of the Early Modern Period; 224E. History of the Enlightenment. Seminar, three hours. May be repeated for credit. Mr. Bolle

224F. History of the Romantic Period. Seminar, three hours. May be repeated for credit. Mr. Bolle

224G. History of the 19th Century. Seminar, three hours. May be repeated for credit. Mr. Bolle

224H. History of the 20th Century. Seminar, three hours. May be repeated for credit. Mr. Bolle

224M. History of the 21st Century. Seminar, three hours. May be repeated for credit. Ms. Marsot

226. History of Science. (Formerly numbered 226A-226D.) Lecture, three hours. Prerequisite: course 2A or consent of instructor.

226A. Medieval and Renaissance Science. Continuity and discontinuity in scientific traditions from the 12th to the 17th century; interrelationships between theology, scientific thought, and social conditions. Mr. Wise

226B. Perspectives on Modern Physical Science. A detailed view of selected topics in the development of the physical sciences from 1650 to 1800. Typical subjects include chemistry, social and political aspects of scientific change, and science in the Enlightenment. Mr. Wise

226C. Perspectives on Modern Classical Science. Selected aspects of 19th- and 20th-century physical science, typically including science and industrialization, thermodynamics, electromagnetism, relativity, quantum mechanics, and the atom bomb. Mr. Wise

226D. Perspectives on Modern Biological Science. Selected topics in the history of biology. Mr. Wise

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220A-220B. Seminar in Church and Monarchy in the Middle Ages. Seminar, three hours. Textual studies and interpretative problems in the constitutional, legal, and intellectual history of the Latin church and of the Western European monarchies, with special attention to the German monarchy, from the 11th to the 14th century. Mr. Benson

221A-221B. Seminar in Medieval History. Seminar, three hours. Mr. R.I. Burns

222A-222B. Seminar in Medieval Intellectual History and History of Science. Seminar, three hours. Selected problems from medieval and early modern philosophy, science, political theory, theology. Mr. Funkenstein

225. Colloquium for Entering Graduate Students in Modern European History. Seminar, three hours. Normally limited to and required of all modern European history graduate students. An introduction to the topics, methods, and historiography of modern European history. Mr. Loewenberg and the Staff

226A-226B. Seminar in the Italian Renaissance. Seminar, three hours. Mr. Martines

227A-227B. Seminar in the Reformation. Seminar, three hours. Mr. Clasen

229A-229B. Seminar in Early Modern European History. Seminar, three hours. Mr. Martines, Mr. Symcox

230A-230B. Seminar in Modern European History. Seminar, three hours. Mr. Loewenberg and the Staff

231A-231B. Seminar in Modern European Intellectual and Cultural History. Seminar, three hours. Mr. Loewenberg, Mr. Weber, Mr. Wohl

232A-232B. Seminar in French History of the 19th and 20th Centuries. Seminar, three hours. Mr. Weber

233A-233B. Seminar in Russian History. Seminar, three hours. Mr. Rogger

234A-234B. Seminar in the Modern History of Spain, Portugal, and Italy. Seminar, three hours. Mr. Wohl

236A-236B. Seminar in Psychohistory. Seminar, three hours. An exploration of individual and group psychological processes and their uses in historical research. Mr. Friedlander, Mr. Loewenberg, Mr. Wohl

239A-239B. Seminar in English History: Middle Ages. Seminar, three hours. Mr. Loewenberg, Mr. Wohl

240A-240B. Seminar in English History: Modern History. Seminar, three hours. Mr. Loewenberg, Mr. Wohl

244A-244B. Seminar in British Empire History. Seminar, three hours. Mr. Loewenberg, Mr. Wohl

245. Colloquium in U.S. History. Seminar, three hours. Normally limited to and required of all entering graduate students in U.S. history. A critical introduction to the historical method, with emphasis on new methodological and conceptual approaches, the use of source materials, and the current state of U.S. historiography. Mr. Friedlander, Mr. Loewenberg, Mr. Wohl

246A-246B. Introduction to United States History. Seminar, three hours. A graduate survey of the significant literature dealing with United States history from the Colonial period to the present. Each course may be taken independently for credit. Mr. Gatell, Mr. Howe, Mr. Saxton

246C. 20th Century. Mr. Gatell, Mr. Howe, Mr. Saxton

248A. Colonial Period. Mr. Gatell, Mr. Howe, Mr. Saxton

248B. 1790 to 1900. Mr. Gatell, Mr. Howe, Mr. Saxton

250A-250B. Seminar in United States History of the Middle 19th Century. Seminar, three hours. Mr. Gatell, Mr. Howe

252A-252B. Seminar in Recent United States History to 1930. Seminar, three hours. Mr. Coben, Mr. Hines

252A-253B. Seminar in Recent United States History since 1930. Seminar, three hours. Mr. Hines, Mr. Weiss

254A-254B. Seminar in United States Social and/or Intellectual History. Seminar, three hours. Mr. Hines, Mr. Monkkonen

255A-255B. Seminar in the History of Business and Government in the American Economy. Seminar, three hours. Mr. Dallek

255A-256B. Seminar in American Diplomatic History. Seminar, three hours. Mr. Dallek

257A-257B. Seminar in United States Urban History. Seminar, three hours. Mr. Hines, Mr. Monkkonen

258A-258B. Seminar in Working Class History. Seminar, three hours. Mr. Laslett, Mr. Saxton

259A-259B. Seminar in Social History of Women in the U.S. Seminar, three hours. Ms. Sklar

260A-260B. Seminar in Native American History. Seminar, three hours. Mr. Dallek

261A-261B. Seminar in Afro-American History. Seminar, three hours. Social and political history of the pre-American and colonial African diaspora; colonial and post-colonial development and structure of race relations in America; racial concepts and dilemmas, black and white. Ms. Creel, Mr. Hill

262A-262B. Seminar in Chicano History. Seminar, three hours. Mr. Gómez-Quintos

263A-263B. Seminar in the History of the American West. Seminar, three hours. Mr. Hundleby

264A-264B. Seminar in Early Modern Japan History. Seminar, three hours. Mr. Wohl

265A. Latin American Research Resources. Seminar, three hours. Mr. Wohl

266A-266B. Seminar in Latin American History of the 19th and 20th Centuries. Seminar, three hours. Mr. Lockhart

267A-267B. Seminar in Latin American History: 19th and 20th Centuries. Seminar, three hours. Mr. Murr

268A-M268B. Seminar in Recent Latin American History. (Formerly numbered 268A-268B.) Seminar, three hours. Reading knowledge of Spanish and Portuguese normally required. A seminar devoted to selected topics of an interdisciplinary nature. In Progress grading. Mr. Wikle

275. Introduction to the Professional Study of African History. Seminar, three hours. Required of all entering graduate students in African history. Strongly recommended for students with a history concentration in the African Area Studies M.A. program. Source identification, research methodologies, historiographical traditions, historical interpretation, and approaches to teaching. Mr. Wohl

276. African Archaeology: Field Techniques (2 to 8 units). Seminar, three hours. Prerequisites: any introductory course in archaeology and preferably an African history course. A field course on an African excavation to provide the basic skills of surveying, excavation techniques, conservation, and scientific sampling required by an archaeologist in Africa, together with an introduction to ethnographic survey and oral data collection. Mr. Posansky

277. African Archaeology: Data Analysis (2 to 8 units). Seminar, three hours. Prerequisite or corequisite: course 276. A field course to equip students to handle finds from excavations. Analysis, description, illustration, and interpretation of an actual archaeological and/or ethnographic collection. Mr. Posansky

278A-278B. Seminar in African History. Seminar, three hours. Mr. Dallek

282A-282B-282C. Seminar in Chinese History. Seminar, three hours. Mr. Huang

285A-285B. Seminar in Modern Japanese History. Seminar, three hours. Mr. Nolteimer

288A-288B. Seminar in South Asia. Seminar, three hours. Mr. Wolpert

289A-289B. Seminar in Southeast Asia. Seminar, three hours. Mr. SarDesai

291A-291B. Seminar in Jewish History. Seminar, three hours. Mr. Teitel

295. Theories of Scientific Change. Seminar, three hours. Mr. Wohl

296. Teaching Apprentice Practicum I (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading.

297A-297B. Seminar in the History of Science. Seminar, three hours. Mr. Teitel, Mr. Wohl

298. Writing Workshop for Graduate Students (2 units). Prerequisite: consent of instructor. Writing workshop on students' papers-in-progress. Analysis and group discussion of rhetorical and stylistic principles, illustrated in students' own and in professional historical writing. May be repeated once. S/U grading.

299. Cooperative Program (2 to 8 units). Prerequisite: consent of UCLA graduate adviser and graduate dean, and host campus instructor, department chair, and graduate dean. Used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

301. Directed Studies (1 to 8 units). Prerequisites: graduate standing, consent of instructor. Individual directed reading arranged with professor. M.A. candidates may take this course only once. Number of times Ph.D. candidates may take this course is subject to consent of the graduate studies committee. S/U or letter grading.


309A. Field Research and Writing I (1 to 8 units). Prerequisite: advancement to Ph.D. candidacy.
History/Art History
(Interdepartmental)

6248 Bunche Hall, (213) 825-3720

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 the history of society, politics, and culture.

Bachelor of Arts Degree

General College Requirements

All applicants are processed through the College of Fine Arts and screened by the interdepartmental program committee. 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 history/art history counselor at 825-3720.

Preparation for the Major

Required: History 1A, 1B, 1C; two courses from Art History 50, 51, 54, 57; one course from Art History 55A, 55B, 56A, 56B.

The Major

Required: History 100 or 101; 197 or 199; and 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.

Honor Collegium

A311 Murphy Hall, (213) 825-1553

The Honor Collegium is an unusual educational alternative designed primarily for students in their freshman and sophomore years. Entering freshmen with at least a 580 SAT verbal score who have satisfied the Subject A/English B requirement and continuing students with a UCLA grade-point average of 3.0 may enroll in specially designed Honors Collegium courses with an interdisciplinary emphasis. The Collegium offers small classes and individual attention. It encourages animated discussion among students, as well as between students and professors. And it seeks to provoke scholarly exchange across the major disciplines in the University.

Continuing courses are offered regularly to provide a foundation in the physical and life sciences, humanities, and social sciences. A wide selection of special courses, varied each year, completes the curriculum.

Each Collegium course is staffed by a director who is distinguished in teaching and scholarship, by a variable number of guest lecturers, and by additional specialists in their fields. Many Collegium courses satisfy general education requirements and serve as preparation for numerous majors in the College of Letters and Science. Counselors are available in the Division of Honors, A311 Murphy Hall, to advise and help you plan an integrated academic program.

In 1987-88 the Honor Collegium will offer the following one-semester sequences, each of which carries four units of credit each (the six- and eight-unit courses are so indicated). Those courses marked "CONTINUING" are part of the continuing curriculum; students are encouraged to continue in the remaining courses.

Lower Division Courses

40. Origin and Evolution of the Solar System and the Earth. (CONTINUING) Lecture discussion; three hours. An investigation into the nature of space (astronomical) and time (geological) of the solar system, including comparative planetology; a study of the formation of the earth, its geological time scale, and the development of its atmosphere and hydrosphere. P/NP or letter grading.

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.

47. Brains: Structure, Function, and Evolution. Seminar, three hours. An examination of current perspectives on the structure, function, and evolution of brains to uncover the organization of the brain itself, and the ways in which the brain and these structures correspond. A course in the philosophy of knowledge, not in neuroscience.

49. Computers, Science, and Computer Science. Seminar, three hours. A study of computers and the nature of automatic computation, both in theory and in current practice, including discussion of information, processing, artificial intelligence, social effects of computation, and the capabilities and limitations of computer technology. P/NP or letter grading.

50. Greek Views of Humanity. (CONTINUING) Lecture, three hours: discussion, one hour. Greek views of human experience as expressed in the literary forms invented or developed by the Greeks: epic, history, tragedy, comedy, and philosophy; study of the way in which Greek texts provide a foundation for subsequent Western literature and thought. P/NP or letter grading.

51. Renaissance Views of Humanity. (CONTINUING) 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.

52. The Rise and Fall of the 19th-Century Novel. (CONTINUING) Lecture, three hours: discussion, one hour. An exploration 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 ideological assumptions, underlying 19th-century realism. P/NP or letter grading.

56. Structure and Development of Language. Lecture, four hours: discussion, one hour. A study of the nature of human language, including its formal character (phonemics, syntax), differences and similarities between sign languages and spoken languages, language acquisition, the relationship between languages and other mental abilities, and the autonomous nature of language as a system of knowledge. P/NP or letter grading.
57. Religion and Human Experience: Suffering and Salvation. Lecture, four hours; discussion, one hour. An investigation into the philosophical, moral, and religious problems raised by the understanding of good and evil; an analysis of potential responses: pessimism, stoicism, realism, romanticism, and religious solutions. Readings include such authors as St. Benedict, Dostoevsky, Euereides, Hume, Kierkegaard, Rousseau, and Weil. P/NP or letter grading. Ms. Adams (F)

60A-60B. Freedom and Control: An Introduction to Social Science. Lecture, six hours; discussion, two hours. An analysis of human behavior in two contexts: 60A and 60B must be taken concurrently. An interdisciplinary examination of the social sciences. Topics include philosophical, psychological, and sociological theories of free will and determinism, biological evolution and social structures, psychoneurolinguistics, and problems of heredity and environment. Readings from Plato, Thoreau, Darwin, and Freud; contemporary material by B.F. Skinner, E.O. Wilson, and others. P/ NP or letter grading. Mr. Partridge (F)

61. Social Theory in the 20th Century (6 units). (CONTINUING) 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 (W)

62. Community and Self-Interest in the History of American Culture. (CONTINUING) Lecture, three hours; discussion, one hour. An exploration of the historical origins of the frequently contradictory values which inform American thought and social structure: hierarchy and equality, institutional constraints and voluntarism, a collective sense of mission and a belief in the autonomous individual. Mr. Howe (F)

66. The Classics of Zen. (CONTINUING) Seminar, three 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 these classical texts. Mr. LaFleur (W)

68. History of Social Thought. Lecture, three hours; discussion, one hour. A study of the significant forms of social theory and social change from the English Revolution to the beginning of the 20th century, including readings from Hobbes, Rousseau, Marx, Durkheim, 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 it as 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 (W)

72. Experimental Astrophysics. Lecture/discussion, two hours; laboratory, three hours. Examination of the properties of light and the techniques of making measurements of remote objects by quantitative analysis of their light. Use of both on-campus laboratory resources and field sources of Mr. Wilson Observer to conduct experiments. Use of computers for data analysis. P/ NP or letter grading. Mr. Ulrich (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 surveys. Theories of ethnicity and nationalism, presented in such works as Black Elk Speaks, How the Eyes Were Watching God, Mexican Corridos on immigration, and Chinua Achebe. P/ NP or letter grading. Mr. Paredes (Sp)

81. The City in History and Literature. Seminar. A study of literature concentrating on the rise of the commercial city, moving to the industrial city and to the postindustrial or "global" city; a parallel study of scholarly hypotheses, research, revision, and critical methodology. Mr. Lehman (W)

83. Politics and the Rhetoric of Literature (6 units). (Formerly numbered 15.) Seminar, four hours; writing seminar, two hours. An examination of the relationship among politics, rhetoric, and literature. The study of literature from classical times to the present, broadening into a general discussion of the development of political discourse in the Western world, particularly the conflict between the self and the state, between ideology and the practical business of governing. P/ NP or letter grading. Ms. Wilson (W)

85. Chinese Film: A Writing Seminar. Seminar, three hours; writing seminar, two hours. Designed to hone students' writing skills and at the same time teach something about modern Chinese life and ideas, using Chinese films which expose social problems to provide material for weekly assignments. P/ NP or letter grading. Mr. Link (F)

86. Federico Garcia Lorca and the Literature of the Spanish Republic. Lecture/discussion, three hours. Designed to provide an insider's view of the Spanish Civil War through Lorca's work. Mr. Morris (W)

87. The Cognitive Revolution: Mind and Language, Culture and Ideology, Freedom and Creativity. An examination of the "cognitive revolution" in the history of ideas, particularly the attempt to assimilate linguistics to the Galilean style of the natural sciences and the impact this has had on diverse fields of study. P/ NP or letter grading. Mr. Otero (W)

90. The French Revolution: Ideologies and Images. Lecture, two hours; discussion, one hour; writing seminar, two hours. An examination of the French Revolution as a turning point in world historical events and as a source of dominant ideologies and images that have influenced the culture of France, Western Europe, and North and South America. P/ NP or letter grading. Mr. Manuquis (Sp)

92. Technological Hazards. Seminar, three hours. The scientific study of hazards and disasters resulting from failure or misapplication of technologies which threaten the social, physical, and biological support systems of the earth. Hazards range from asbestos in hair dryers to the threat of nuclear war. Mr. Johnson (W)

94. The American Presidency: Psychocultural Perspectives. Seminar, three hours. Focus on the inner states of American presidents, all of whom have been influenced by a combination of liberal and conservative ideas. Exploration of their political actions by studying their personalities and the national and political culture in which they functioned. P/ NP or letter grading. Mr. Dallek (F)

95. Art, Politics, and Social Change in 19th-Century England and France. Seminar, three hours. Examination of social factors in cultural expression and the way that national traditions and political and social institutions shape expression. Mr. Silverman (Sp)

96. Cultural Dimensions of Apartheid South Africa. Examination of the cultural ferment that is the product of apartheid South Africa, a ferment expressed in the literary output of both black and white South African authors, as well as in popular cultural forms such as people's theater and township jazz. P/ NP or letter grading. Mr. Alpers (Sp)

97. Issues in American Foreign Policy: The Methodology of Assessment. Lecture, three hours; discussion, one hour. Exploration of a wide range of views on contemporary foreign policy issues to train students how to discover the ideological origins of policy arguments. Examination of material in major foreign policy journals, using a debate format. P/ NP or letter grading. Mr. Spiegel (Sp)

98. Directed Honors Studies. Prerequisites: a minimum of four units completed in the Honors College with a grade of B or better, an overall UCLA GPA of 3.0 or better, consent of instructor and dean of the Division of Honors. A special research-writing tutorial with a director of one of the Honors Collegium courses in order to pursue in greater depth a significant topic from one of the Collegium courses. May not be repeated for credit.

Humanities

334D Royce Hall, (213) 825-7650

Professors
Arnold J. Bard, Ph.D. (Hebrew and Comparative Literature)
Ross P. Shideler, Ph.D. (Scandinavian and Comparative Literature)
Kathleen L. Komar, Ph.D. (German and Comparative Literature)

Assistant Professors
Katherine C. King, Ph.D. (Classics and Comparative Literature)
Lucia Re, Ph.D. (Italian and Comparative Literature)

Lower Division Courses

The following courses are made up of selected masterpieces of world literature. Humanities 1A, 1B, 1C, 2A, 2B, 2C 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 Isolde.

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.
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C1. 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. Prerequisite: 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 in Antiquity to the Middle Ages, with emphasis on literary analysis and expository writing. Texts include works and authors such as the Iliad, Greek tragedies, the Aeneid, Petronius, St. Augustine, or Tristan and Isolde.

C2. Survey of Literature: Age of Enlightenment to the 20th Century. Lecture, four 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 in the Age of Enlightenment to the 20th century, with emphasis on literary analysis and expository writing. Texts may include works and authors such as Chaucer, Dante's Divine Comedy, Cervantes' Don Quixote, Shakespeare, Calderon, Moliere, and Racine.

Upper Division Courses

102. Satire. Prerequisite: one course from Humanities 1A, 1B, 1C, 2A, 2B, 2C, or English 3, or consent of instructor. The changing nature of satire as illustrated by examples of the genre from Horace and Juvenal to Ionesco and Nabokov.

104. The 20th-Century Continental Novel: Mann and Proust. 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 social and cultural dissolution felt in early 20th-century Europe. 

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 wisdom or knowledge the tales possess, how the exchange of tales defines and sustains a community, and how a narrator clarifies form and meaning for the reader.

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 Renaissance, and in the modern period. May be concurrently scheduled with Comparative Literature C209. Undergraduates read all works in translation.

114. The Short Novel. Prerequisite: one course from Humanities 1A, 1B, 1C, 2A, 2B, 2C, or English 3, or consent of instructor. Exploration of a change in Western man's relationship to his world, himself, and his art. Works include Don Quixote, the Essays of Montaigne, Gargantua and Pantagruel, The Praise of Folly, Utopia. 

115. Four Modern Dramatists. A study of several works by four major modern dramatists, focusing on understanding specific elements in each work and the authors' possible interrelations. Pirandello, Beckett, and Pinter are read; the fourth author is selected from Ionesco, Giraudoux, Cocteau.

116. Man and Society in the Renaissance. Lecture, three hours; discussion, one hour. Prerequisite: one course from Humanities 1A, 1B, 1C, 2A, 2B, 2C, or English 3, or consent of instructor. The evolution of the autobiography from spiritual (Augustine) and secular (Celsius) sources to the transition in the 18th century which blended features of the epic poem and the quest-romance. Wordsworth's Prelude came 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 Meister's Apprenticeship. 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. 

129. Archetypal Heroes in Literature. Lecture, three hours. Prerequisite: upper division standing. Study and analysis of the function and appearance of such archetypal heroes as Achilles, Ulysses, Prometheus, Oedipus, and Orpheus in literature from antiquity to the modern period. Concurrently scheduled with Comparative Literature C209. Undergraduates read all works in translation.

130. The Comic Spirit. Prerequisites: upper division standing. A literary analysis of the characteristics of the comic in English and German literature. Focus is on selected short novels as works of literary art and as relevant intellectual statements. Texts by Melville, Flaubert, Dostoevsky, Kafka, et al.

C131. The Classical Tradition: Epic. Seminar, three hours. Prerequisite: upper division standing. Prerequisite or instructor. Study of epic literature. Works include the Iliad, the Odyssey, the Aeneid, the Gerusalemme Liberata, and Paradise Lost both in relation to their contemporary societies and to the literary traditions. Emphasis on the growth and development of the epic form.

C139. Early Medieval Literature. Prerequisites: upper division standing, literature major. A survey of the Latin and Germanic literatures from the fall of Rome to the beginning of the 12th century. May be concurrently scheduled with Comparative Literature C239. Undergraduates read all works in translation.

C140. Medieval Epics. Prerequisites: upper division standing, literature major. Consideration of five medieval epics (Beowulf, El Cid, Chanson de Roland, Nibelungenlied, and Njalasaga), 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 Comparative Literature C240. Undergraduates read all works in translation.

C141. The Literary Mediation of History in the Renaissance. Seminar, three hours. Prerequisites: upper division standing, literature major. An analysis of the treatment and the presentation of history in the rhetoric of Renaissance authors ranging from the Italian humanists to Machiavelli and Shakespeare. Other authors included in the survey are Poliziano and Lorenzo de Medici. May be concurrently scheduled with Comparative Literature C241. Undergraduates read all works in translation.

C145. Renaissance Drama. Prerequisites: upper division standing and literature major, or consent of instructor. A broad introduction to the subject matter and types of plays in the Renaissance, with consideration of historical and literary influences on the plays. Readings include works of such dramatists as Tasso, Machiavelli, Lope de Vega, Racine, Jonson, Shakespeare. May be concurrently scheduled with Comparative Literature C245. Undergraduates read all works in translation.

C165. The French Revolution and European Literature. Seminar, three hours. Prerequisites: upper division standing and literature major, or consent of instructor. Study of selected French Revolution era works. Undergraduates read all works in translation. 

C168. Romantic Autobiography. Discussion, three hours. Prerequisites: upper division standing and literature major, or consent of instructor. The evolution of the autobiography from spiritual (Augustine) and secular (Celsius) sources to the transition in the 18th century which blended features of the epic poem and the quest-romance. Wordsworth's Prelude came 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 Meister's Apprenticeship. 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 C269. Undergraduates read all works in translation.

C170. The Dream in English and German Romantic Literature. Lecture, three hours. Prerequisites: upper division standing and literature major, or consent of instructor. A survey 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.
C171. Dramatic Theory and Criticism in German and English Romanticism. Seminar, three hours. Prerequisites: upper division standing and literature major, or consent of instructor. A study of the theoretical and critical essays of the Schlegel, Tieck, Jean Paul, Coleridge, de Quincey, and Hazlitt, with emphasis on the role of the critic and the dramatic action as discussed by the critics. May be concurrently scheduled with Comparative Literature C271. Undergraduates read all works in translation. Mr. Burwick

C172. The Grotesque in Romantic Literature and Art. Prerequisites: upper division standing and literature major, or consent of instructor. An exploration of the grotesque 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 Comparative Literature C272. Undergraduates read all works in translation. Mr. Burwick

C173. Theory and Texts of the Fantastic. Seminar, three hours. Prerequisites: upper division standing, literature major, or consent of instructor. An introduction to the fantastic, a significant body of literature and art, and its role in the development of modernist literature. Texts by Dickens, Poe, James, Joyce, and Kafka. Concurrently scheduled with Comparative Literature C273. Undergraduates read all works in translation. Mrs. Re

C175. The 19th-Century Novel. Seminar, three hours. Prerequisites: upper division standing, literature major, or consent of instructor. A comparative study of the 19th-century novel in England and on 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 Comparative Literature C275. Undergraduates read all works in translation. Mr. Lehman

C176. 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, Tomasi di Lampedusa, Car- pentier, and Kundera. Use of fictional methods by such authors as Gide, Proust, Mann, Joyce, Nabokov, and Grass to focus on the development of themes such as primitivism vs. modernity, change vs. stability, and the self-conscious narrative. Concurrently scheduled with Comparative Literature C276. Undergraduates read all works in translation. Mr. Lehman

C180. The Symbolist Tradition in Poetry. Prerequisites: upper division standing and literature major, or consent of instructor. A study of the Symbolist tradition in 19th- and 20th-century English, French, and German poetry. May be concurrently scheduled with Comparative Literature C280. Undergraduates read all works in translation. Mr. Shideler

C181. Poetry and Poetics of the Post-Symbolist Period. Prerequisites: upper division standing and literature major, or consent of instructor. 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 Pound, Eliot, Valery, Rilke, George, and Stevens. May be concurrently scheduled with Comparative Literature C281. Undergraduates read all works in translation. Ms. Komar, Mr. Shideler

182. 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 and their application to specific narratives in prose and film. Mr. Haidu

184. 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. Study of the postmodern novel’s development from naturalism toward a mythic or symbolic level. Use of authors such as Gide, Proust, Mann, Joyce, Nabokov, and Grass to focus on the development of themes such as primitivism vs. modernity, change vs. stability, and the self-conscious narrative. Concurrently scheduled with Comparative Literature C284. Undergraduates read all works in translation. Ms. King, Ms. Komar

185. The Modern Continental Novel. Lecture, three hours. Prerequisites: upper division standing and literature major, or consent of instructor. Study of the postmodern novel’s development from naturalism toward a mythic or symbolic level. Use of authors such as Gide, Proust, Mann, Joyce, Nabokov, and Grass to focus on the development of themes such as primitivism vs. modernity, change vs. stability, and the self-conscious narrative. Concurrently scheduled with Comparative Literature C285. Undergraduates read all works in translation. Mr. Lehman

186. The Postmodern Novel. Lecture, three hours. Prerequisites: upper division standing and literature major, or consent of instructor. Study of the postmodern novel as it developed out of modernism. Postmodernism defined in three different ways - philosophically, scientifically, and economically. Emphasis on relationship of recent novels to theories of structuralism and poststructuralism. Readings include authors such as Borges, Beckett, Nabokov, Pynchon, Fuentes, Grass, Böll, and Calvino. Concurrently scheduled with Comparative Literature C286. Undergraduates read all works in translation. P/NP or letter grading. Mr. Lehman

Indo-European Studies (Interdepartmental) 1037 Graduate School of Management, (213) 825-4242

Professors
Raimo A. Anttila, Ph.D. (Linguistics)
Hennrik Bornkam, Ph.D. (Slavic Languages and Literatures)
Patrik K. Ford, Ph.D. (Celtic Languages and Literatures)
Maria Gimbutas, Ph.D. (Slavic Languages and Literatures, Archaeology)
Bengt T. M. Lofstedt, Ph.D. (Classics)
Jaap Puhvel, Ph.D. (Classics, Indo-European Studies)
Harlmut 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, Slav- sic, 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 90024-1459.

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 Subdisciplinary
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

150. Introduction to Indo-European Linguistics. (Same as Linguistics M150.) Prerequisite: 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

210. Indo-European Linguistics: Advanced Course. Prerequisite: course M150 or equivalent. Comparative study of phonology, morphology, syntax, and lexicon. Problems in analysis and reconstruction. Mr. Anttila (F)

250A-250B. European Archaeology. Prerequisite: consent of instructor. Studies in ancient European archaeological materials and their relationship to the Near East, Western Siberia, and Central Asia. May be repeated for credit. In Progress grading.


596. Directed Individual Studies (2 to 8 units).

597. Preparation for Ph.D. Qualifying Examinations (2 to 8 units).

599. Research for Ph.D. Dissertation (2 to 8 units).

Related Courses in Other Departments

Ancient Near East (Near Eastern Languages)

160A-160B. Introduction to Near Eastern Archaeology

161A-161B-161C. Archaeology of Mesopotamia

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

M116Q. Dating Techniques in Environmental Sciences and Archaeology

183. History of Archaeology

Archaeology 259. Fieldwork in Archaeology

Armenian (Near Eastern Languages) 130A-130B. Elementary Classical Armenian

131A-131B. Intermediate Classical Armenian

132A-132B. Advanced Classical Armenian

Classics 161. Introduction to Classical Mythology

166A. Greek Religion

166B. Roman Religion

166. Introduction to Comparative Mythology

180. Introduction to Classical Linguistics

190A-190B. Language in Ancient Asia Minor

211A. Seminar in Classical Archaeology: The Aegean Bronze Age

260. Topics in Ancient Religion

268. 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

221A-221B. Introduction to Panini's Grammar

247. Selected Readings in Sanskrit Texts

English M111D. Celtic Mythology

M111E. Survey of Medieval Celtic Literature

M111F. Celtic Folklore

211. Old English

216A-216B. Old Irish

217A-217B. Medieval Welsh

218. Celtic Linguistics

263. Celtic Language

264. Celtic Literature

Folklore and Mythology M112. Survey of Medieval Celtic Literature

M122. Baltic and Slavic Folklore and Mythology

M127. 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

252. Seminar in Historical and Comparative German Linguistics

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

152A. Germanic and Scandinavian Mythology
International Relations

4256 Bunche Hall, (213) 825-3862

Scope and Objectives

The undergraduate specialization in international relations can only be taken jointly with a major in political science, and all requirements for the political science major must be met by or in addition to meeting the requirements of this program. Students completing the program receive a degree with a major in political science and specialization in international relations. The program is designed to serve the needs of (1) students desiring a general education focused on international affairs and (2) those preparing for graduate work in international affairs, whether in a social science or area study.

The program is also beneficial for (1) students planning careers in business, law, journalism, or library service with an international emphasis and (2) those preparing to teach social science in the secondary schools. These students should structure their programs primarily to meet the preparation requirements of the professional school or teaching credential of their choice.

Courses in management and administration, and in oral and written communications, ordinarily increase the career options of students in this program.

Special Undergraduate Program

Preparation for the Specialization

**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 language department), with a grade of C or better, of any modern foreign language is also required. French 6, German 6, Spanish 25, and Russian 6 are most frequently offered in fulfillment of this requirement, but also refer to the offerings listed under 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.

Islamic Studies (Interdepartmental)

10286 Bunche Hall, (213) 825-1181

**Professors**

Amin Banani, Ph.D. (Near Eastern Languages and Cultures and History)
Leonard Binder, Ph.D. (Political Science)
Andras Bodrogi, Ph.D. (Near Eastern Languages and Cultures)
Seeger A. Bonebakker, Ph.D. (Near Eastern Languages and Cultures)
Robert Burns, S.J., Ph.D. (History)
Herbert A. Davidson, Ph.D. (Near Eastern Languages and Cultures)
Roch Hansen, Ph.D. (History)
Nizar A. Jaraabeh, Ph.D. (Music)
Nikki Keddie, Ph.D. (History)

**Associate Professors**

Amin Banani, Ph.D. (Near Eastern Languages and Cultures and History)
Lynn Kuriyama, Ph.D. (History)
Ismail Poonawala, Ph.D. (Near Eastern Languages and Cultures)
Amin Banani, Ph.D. (Near Eastern Languages and Cultures)

**Assistant Professors**

Nikki Keddie, Ph.D. (Music)

Scope and Objectives

The undergraduate major in this discipline is called "Near Eastern Studies." For details, see the program by that name later in this chapter.

The designation of this interdepartmental degree program is meant to convey the broadest cultural concern with peoples and places influenced by Islam, rather than a narrow approach to Islam as religion alone. Islam as a culture-forming force in history may be studied and understood through the literate sources of Islamic civilization and/or through systematic observation and examination of behavioral patterns and social relations of Muslim peoples. The commonality of an "idealized" and a "functional" or "practical" Islam does not preclude a multiple number of valid and varied approaches to Islamic studies. The program, with its core emphasis on the major languages of the Islamic Middle East, is intended to provide an internal view of the dynamics of Islamic culture.

The interdepartmental program for the Master of Arts 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
you 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 com-
pleted the equivalent of two years of Near East-
ern history (classical and modern). Some coursework in Islamic culture and institutions may be applied toward the history require-
ment. Deficiencies in any of these prerequi-
sites have to be removed by taking the appro-
priate courses without credit toward the ad-
vanced 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 Von Grunebaum Center for Near Eastern Studies, 10286 Bunche Hall, UCLA, Los Angeles, CA 90024-1480.

Major Fields or Subdisciplines
Arabic, Persian, Turkish, history of the Near
East, political science, anthropology, sociolo-
gy, 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) gradu-
ate 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 lev-
el in one Near Eastern language of your choice, and no fewer than five courses selected from the relevant upper division and graduate courses in history, political science, or any of the other fields represented in the program. The selec-
tion 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 require-
ment, as well as toward the minimum graduate course requirement, provided they are not in the same discipline. If you intend to pro-
ceed to the Ph.D. in Islamic Studies, you should show proficiency in a second Near Eastern language (Arabic, Persian, Turkish). One of the two languages required for the Ph.D. is Arabic.

Comprehensive Examination Plan
The thesis plan is not available in this program. You must pass written examinations in one
Near Eastern language, one in its literature,
one in the history of the Near East, and one other in social science. The examinations are con-
structed by the instructor responsible for each discipline. Reexamination in exceptional

Qualifying Examinations
Written qualifying examinations in four fields are required: two Near Eastern languages and literatures as approved by the advisory com-
mittee, the whole range of Near Eastern histo-
ry, and one other social science field (anthro-
pology, political science, sociology). After suc-
sessfully 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 con-
sultation with the chair of the program.

Research proposals, dossiers, research pa-
pers, propositions, etc., are not permitted as
alternatives to the written qualifying examina-
tions.

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. The Study of Social Systems
156. 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
232Q. Myth and Ritual
239P. Selected Topics in Field Training in Ethnogra-
phy
239Q. Analysis of Field Data
273. Cultures of the Middle East

Near Eastern Languages
Arabic (Near Eastern Languages) 102A-102B-102C. Intermediate Literary Arabic
111A-111B-111C. Elementary Spoken Egyptian Arabic
112A-112B-112C. Advanced Spoken Egyptian Arabic
113A-113B-113C. Elementary Spoken Levantine Arabic
114A-114B-114C. Spoken Moroccan Arabic
120. Islamic Texts
130. Classical Arabic Texts
132. Philosophical and Kalam Texts
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
Western Islamic Art

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. Advanced Studies 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 121A. Franco-African Literature
221A. Introduction to the Study of the French-African Literatures
221C. French-African Literature of Berbero-Sudanesse 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 Lettere 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 Eastern History
205A-205B. Seminar in Medieval 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

Islamics (Near Eastern Languages) 110. Introduction to Islam
596. Directed Individual Study
597. Examination Preparation
599. 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
220. Jewish Studies
230. Seminar in Near Eastern Languages

Music 152. Survey of Classical Music in India
282. Music of Iran and Other Non-Arabic-Speaking Communities
284. Music of the Arabic-Speaking Near East
286A-286B. Classical Music of India

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: Middle Eastern Studies
250K. Seminars in Regional and Area Political Studies: North African Studies

Semiotics (Near Eastern Languages) 215A-215B. Syntax

Sociology 132. Population and Society in the Middle East
151. Culture and Personality
236. Social Change in the Middle East
237. Social Stratification in the Middle East

Turkish Languages (Near Eastern Languages) 101A-101B-101C. Elementary Turkish
102A-102B-102C. Advanced 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 Diplomats
220A-220B-220C. Chaghatay
230A-230B-230C. A Historical and Comparative Survey of the Turkic Languages
235A-235B. Middle Turkish
240A-240B-240C. Advanced Ottoman
250A-250B-250C. Islamic Texts in Chaghatay
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

Italian

340 Royce Hall, (213) 825-1940

Professors
Franco Bettì, Ph.D., Chair
Giovanni Coccetti, Ph.D., Dottore in Lettere
Fredi Chiappelli, Dottore in Lettere, Dott. Lett. "Honoris Causa"
Margherita Cottino-Jones, Ph.D., Dottore in Lettere
Edward F. Tuttle, Ph.D.
Pie-Maria Pasinetti, Ph.D., Dottore in Lettere, Emeritus

Assistant Professor
Lucia Re, Ph.D., Dottore in Lettere

Lecturers
Mirella Cheeseman, Dottore in Legge
Althea Reynolds, B.A., Emeritus

Scope and Objectives
Italian art and letters provide an invaluable key to understanding many facets of European civilization. Examined in its own right or studied comparatively, Italian culture offers unmatched rewards. The UCLA faculty views transmitting the Italian language as inseparable from the transmission of the culture, so students consider in depth virtually all aspects of Italian civilization. After their linguistic initiation, ideally including a year abroad, students may pursue advanced studies in the department exclusively and through a wide range of interdisciplinary programs.

Bachelor of Arts degrees are offered in Italian and in Italian and Special Fields. Graduate study leads to the Master of Arts degree in Italian (with specializations in literature and language) and to the Ph.D. (literature specialization). In addition, the department participates extensively in the interdepartmental graduate programs in Romance Linguistics and Literature, Comparative Literature, and Folklore and Mythology.

Bachelor of Arts in Italian

The program of studies leading to the Bachelor of Arts in Italian consists of two distinct phases: preparation in the language and study of the literature. While literature courses constitute the bulk of the program, a good knowledge of the language is prerequisite to all upper division literature courses credited toward the major in Italian. The use of Italian is stressed at all levels of study. Detailed information on programs and specific degree requirements is available in the department publication, Programs in Italian Studies, and in the department office.

Preparation for the Major
Required: Italian 1, 2, 3, 4, 5, 25, or equivalent.
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 departmental 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 Television, 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 area 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 90024-1535.

Flies 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.

(2) For the comprehensive examination plan, 12 courses are required, including Italian 200A, 200B, 200C, and 205B. The other eight courses must be distributed in three main literary periods — Middle Ages, Renaissance, modern (at least two courses in each period). Three of these courses may be upper division if approved by the graduate adviser. Related courses in other departments, such as History 205A-205B and Art History 230, are strongly recommended.

Italian Language Specialization (1) For the thesis plan, 12 courses are required, including Italian 200A, 200B, 200C, 259A-259B, Latin 232, and Linguistics 100 or 140 or both. At least nine courses must be in the 200 series.

(2) For the comprehensive examination plan, 12 courses are required, including Italian 130, 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.

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, 205B, and at least two other graduate courses in Italian. On acceptance, the guidance committee helps you select six more graduate courses in preparation for the thesis.

The thesis must be at least 50 pages long and follow the rules and style of the UCLA Ph.D. dissertation regulations. It must be submitted in the Spring Quarter of your second year of graduate work. After completion of the thesis, you must pass an oral examination testing your knowledge in the field of the thesis and your general competence in Italian literature.

Comprehensive Examination Plan

In general, the department favors the comprehensive examination plan, which consists of a minimum four-hour written examination to be given before the final examination period of the Fall and Spring Quarters. The examination tests your general competency and does not have major and minor fields of emphasis. After the written examination, you are required to take an oral examination. In case of failure, you may be reexamined once, subject to approval by the examination committee and the chair of the department.
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 90024-1535.

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, are 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.

Students admitted to the Ph.D. program without the M.A. degree must take the qualifying examinations (part 2) at the end of the twelfth quarter in residence, carrying a normal course load.

Students holding the M.A. from UCLA normally take part 2 of the qualifying examinations at the end of their sixth quarter in residence.

Major Fields or Subdisciplines

Two centuries of Italian literature in the medieval, Renaissance and baroque, or modern areas comprise the major fields, while two centuries of Italian literature from any of these areas make up the minor fields.

You may select a major in a literary genre or a minor outside the department, provided that it relates to your major field of specialization and has the department’s approval.

Foreign Language Requirement

This requirement is normally met by passing courses through level three in at least two of the following languages: Latin, French, German, Spanish (subject to departmental approval). A foreign language used to satisfy the requirement for the master's degree in Italian may be applied toward fulfillment of this requirement. The 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 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 fails.

Lower Division Courses

Enrollment in the Italian open language laboratory is required of all students in Italian 1, 2, 2A, and 3.

1. Elementary Italian — Beginning. Lecture, five hours; laboratory, one hour.
   Mrs. Cheeseman in charge

1A. 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

1G. 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.

2. Elementary Italian — Continued. Lecture, five hours; laboratory, one hour. Prerequisite: course 1 or one year of high school Italian.
   Mrs. Cheeseman in charge

2A. Elementary Italian — Accelerated (Continued) (8 units). 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 material ordinarily intended for courses 3 and 4.
   Mrs. Cheeseman in charge

2G. Special Reading Course. Readings, three hours. Open to graduate students in other fields. Preparation for the Graduate Division foreign language reading requirement.

3. Elementary Italian — Continued. Lecture, five hours; laboratory, one hour. Prerequisite: course 2 or two years of high school Italian.
   Mrs. Cheeseman in charge

3A. Intermediate Italian — Accelerated (8 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 material ordinarily intended for courses 4 and 5.
   Mrs. Cheeseman in charge

4. Intermediate Italian. Lecture, five hours; laboratory, one hour. Prerequisite: courses 3 or three years of high school Italian.
   Mr. Tuttle in charge

4A-B. Intermediate Italian. Lecture, three hours; discussion, one hour; film screenings, two hours. Designed to meet the general education requirements.

4A. From the Origins through the Renaissance. Mrs. Cottino-Jones, Mr. Tuttle

42A-B. Italian Civilization or Italy through the Ages. Lecture, three hours. A general survey of the history, literature, art, music, and architecture of Italy, 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. Mrs. Cottino-Jones, Mr. Tuttle

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.
   Mrs. Reynolds in charge

50A-50B. Main Trends in Italian Literature:

50A. Italian Literature from Its Origins to the End of the Renaissance. A study of selected works by the major writers of the period, including Dante, Petrarch, Boccaccio, Poliziano, Ariosto, Machiavelli, Castiglione.

50B. Italian Literature from the Baroque Period to the Present. A study of selected works by the major writers of the period, including Tasso, Bruno, Vico, Panini, Alfieri, Foscolo, Leopardi, 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. 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 Culture. Lecture, three hours. Italy's basic social structures and cultural institutions delineated through their historical development and as they are manifest in the stresses 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 innovative approach in the text. 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.

113A. General Introduction and Readings from Inferno.

113B. Readings from Purgatorio and Paradiso. Mrs. Cottino-Jones

114A-114B. Italian Literature of the Middle Ages. Lecture, three hours. Emphasis on Stil Novo, Dante's minor works, Petrarch, and Boccaccio.

116A-116B. Italian Literature of the Renaissance. Lecture, three hours. Emphasis on Lorenzo de' Medici, Poliziano, Castiglione, Machiavelli, Ariosto, Tasso. Mr. Betti

118. Italian Literature of the 18th Century. Lecture, three hours. Emphasis on Goldoni, Parini, Alfieri.

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 folk tradition of the Western world. Mr. Betti

120. Italian Literature of the 20th Century. Lecture, three hours. Focus on Foscolo and Leopardi and to the sociohistorical novels of Fo소, Manzoni, and Verga. Mr. Betti

130. Advanced Grammar and Composition (Teaching). 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.

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 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.

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

140. From Boccaccio to Basiile (in English). (Same as Folklore M140.) Lecture, three hours. A study of the origins and the development of 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 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 Basiile) they became embedded into the folk tradition of the Western world. Mrs. Cottino-Jones

150. Modern Italian Fiction in Translation. Lecture, three hours.

158. Women in Italian Culture. (Same as Women's Studies M158.) 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 "liberated" women of our times. Historical and political documents and social and religious taboos presented and discussed as well as other data derived from literature and art. Italian majors required to read texts in Italian and to prepare papers written in Italian. Mrs. Cottino-Jones, Ms. Re

190. History of the Italian Language. Lecture, three hours. 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 graded by an ad hoc committee of faculty from the department, with the chair in charge.

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. Prerequisite: graduate standing. The literature of the generation dominated by the Franciscan movement, proceeding through the culture of Frederick. It's court to the three classics of the 14th century — Dante, Petrarch, and Boccaccio. The early humanists, the postclassical generation, and the cultural booming under Lorenzo il Magnifico. Mr. Chiappelli, Mrs. Cottino-Jones

200B. Readings in Italian Literature. Lecture, three hours. Prerequisites: course 200A, graduate standing. The literature of the High Renaissance of central Italy in its most popular genres (lyric poetry, chivalric poem, and theater), proceeding through the Counter-Reformist culture, especially of northern and southern Italy. The main Enlightenment figures and the cultural evolution stemming from them. Mr. Betti, Mr. Cecchetti

200C. Readings in Italian Literature. Lecture, three hours. Prerequisites: course 200B, graduate standing. The literature of the Romantic era, proceeding through a study of the literary figures of the Italian "Risorgimento." The various "novelisti" movements, the literature between the two wars, and the contemporary generation.

Mr. Betti, Mr. Cecchetti, Ms. Re

201. Bibliography and Methods of Research. Lecture, three hours. Mrs. Cottino-Jones

205A-205B. Methods of Literary Criticism. Lecture, three hours.

205A. Brief History of Literary Criticism.

205B. Discussion of Modern Critical Approaches. Mrs. Cottino-Jones

210A-210B. 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.

211. Traditional Festivals and Festive Events. (Same as Folklore M211.) Lecture, three hours. Prerequisite: consent of instructor. Analysis of traditional expressive forms and behaviors inherent in selected festivals and festive events (e.g., carnival, country folk festivals, small festive gatherings), with emphasis on their structure and human dynamics.

Mr. Falassi, Mr. Wilgus

212A. Theory of Textual Criticism. Prerequisite: graduate standing. A presentation and discussion of the methods to be employed in the preparation of a critical edition of a medieval and/Renaissance literary text. Mr. Chiappelli

214A-214G. Italian Literature of the 14th 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. Petrarch. 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. Fiction and Other Prose Texts. Mr. Chiappelli

215B. Writings of the Humanists. Mrs. Cottino-Jones

215C. The Age of Lorenzo de' Medici and Poliziano. Mr. Betti

216A-216E. Italian Literature of the 16th Century. Lecture, three hours.

216A. Machiavelli. Mr. Chiappelli

216B. Anostro.

216C. Bembo, Folengo, Aretonio, and the Theater. Mrs. Cottino-Jones

216D. Prose (Castiglione, Della Casa, Guicciardini, Cellini).

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 Marinisti. Mrs. Cottino-Jones

218A-218E. Italian Literature of the 18th Century. Lecture, three hours:

218A. The Prose from Vico to Cesaretti. Mr. Betti

218B. Essayists and Autobiographical Writers. Mr. Betti

218C. The Theater, Especially Metastasio, Goldoni, C. Gozzi. Mr. Pasinetti

218D. Parini and the Poets of Arcadia. Mr. Pasinetti

218E. Affieri. Mr. Betti

219A-219F. Italian Literature of the 19th Century. Lecture, three hours:

219A. Foscolo. Mr. Chiappelli

219B. Leopardi. Mr. Cecchetti
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.

Transfer credit for UCLA Extension coursework and for any departmental courses (including courses 12A, 12B, 14) is subject to prior approval by the department; consult the undergraduate counselor before enrolling in any courses for the major.

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 not 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.

Graduate Study
The department offers Master of Science and Doctor of Philosophy degrees in the following areas of concentration: (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.

When applying for graduate work, you should specify an interest in one of these areas of concentration.

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 type of research sought, (e) expectations, goals, degree objective, (f) specific courses in type of research sought, (g) expectations, goals, degree objective, (h) specific courses in type of research sought. Selection of 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 90024-1568. Applicants are encouraged to communicate directly with the faculty; personal interviews are required for Ph.D. applicants.

Aptitude tests, including the Graduate Record Examination (GRE) or Miller's Analogies, are not required but may be submitted for consideration.

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 physiologically based fields (cardiorespiratory, musculoskeletal, and neural) are required to have 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 propose a problem area or outline of study, conduct original research in a specific area, and report the results. With committee approval, you may submit either a thesis manuscript or a manuscript suitable for publication.

Comprehensive Examination Plan
Students who elect this plan must achieve a passing mark on a comprehensive examination. The general purpose of the plan is that students acquire a thorough understanding of a reasonably broad problem area, which must be specified in consultation with an adviser. The selection of courses in the department and the related field must be pertinent to the problem area, and justification is required with the petition for advancement to candidacy. While a written examination is required, the committee may use additional means to evaluate 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 the six kinesiology areas of concentration, and undergraduate and prior graduate work is evaluated in terms of your declared area of interest.

Major Fields or Subdisciplines
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 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. 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 examination 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.

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. Chandler, Mr. Vailas (W)

13. Introduction to Human Anatomy (6 units). Lecture, four hours; laboratory, four hours. Not intended for kinesiology majors; a combination of courses 13 and 14 is equivalent to nine units. A structural survey of the human body, including 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 (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

112. Mechanism of Adaptation in Mineralized Tissues. Prerequisite: course 124. Recommended prerequisite or corequisite: course 122 or consent of instructor. An introduction to physiological mechanisms associated with adaptation of cartilage and bone. Emphasis on biochemical, biomechanical, and structural modifications of mineralized tissues for accommodating alterations of tissue load history and some diseases. Special emphasis on adaptation associated with exercise, osteoporosis, immobilization, and space flight.

Mr. Vailas

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. Barrand (F)

117. Conditioning for Maximum Performance. Prerequisite: course 124. Study of factors and conditions accelerating and rewarding levels of performance and work under 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. Behavioral 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. Zerrnicke (W)

124. Cardiorespiratory Bases and Environmental Factors Affecting Movement (6 units). Lecture, four hours; laboratory, three hours. Prerequisite: completion of premajor coursework. Response of the cardiovascular and respiratory systems to acute and chronic exercise, environmental stress, and adaptation.

Mr. Barrand, Mr. Egstrom, Mr. Feldman (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)

132. Biomechanics of Musculoskeletal Injury. (Formerly numbered 132.) Prerequisites: courses 120, 122, 124, 126; or consent of instructor. Study and dissection of upper and lower extremities of human cadavers; dissection of thoracic and abdomen limited to musculature and neurovascular supply.

Ms. Phillips (F,Sp)

134. Electromyographic Assessment. Lecture, two hours; laboratory, three hours. Prerequisite: course 124. Techniques of electromyographic analysis combining theoretical aspects with laboratory experiences.

Mr. Gregor (Sp)

139. Dissection Anatomy. Lecture, two hours, laboratory, six hours. Prerequisites: course 122, consent of instructor. Study and dissection of upper and lower extremities of human cadavers; dissection of thoracic and abdominal limited to musculature and neurovascular supply.

Ms. Phillips (F,Sp)

140. Mechanisms of Neuromuscular Control. Prerequisite: course 126. Recommended: Psychology 15 or 115. Advanced topics in the neuropsychology of the sensorimotor system.

Mr. Chandler, Ms. Smith (W)

141. Neuromotor Control of Posture and Movement. Prerequisites: courses 120 and 122 (may be taken concurrently). An examination of the theories for the neuromotor control of posture, locomotion, and voluntary arm movements.

Ms. Smith

C153. Acquisition of Motor Skills. Prerequisite: course 120. An investigation into the principles of the acquisition of motor skills, such as those applicable to industry, musical performance, or sport. Major topics include methodological considerations, the structure of practice sessions, feedback and knowledge of results, theories of motor learning, and retention of skills.

Mr. Schmidt (W)

C156. 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. Topics include methodological issues, open- and closed-loop control, and individual differences.

May be concurrently scheduled with course C253.

Mr. Schmidt

160. Human Movement Development. Prerequisite: course 120. Movement development throughout life, with emphasis on individual and societal determinants.

Mr. Cratty, Mr. Keogh (F, W)

165. Perceptual Motor Education. Prerequisites: courses 120, 160. Movement problems of the minimally neurologically handicapped, with emphasis on the clumsy child syndrome.

Mr. Cratty, Mr. Keogh (W)

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.

Mr. Cratty, Ms. Scanlan (F)

191A-191Z. 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.

193. Field Studies in Kinesiology. Lecture, one hour; fieldwork, six to eight hours. Prerequisites: courses 120, 122, 124, 126, or equivalent, consent of instructor via course application. Supervised field studies in specific careers related to kinesiology. May not be repeated for credit and may not apply toward the elective requirements for the major. P/NP grading.

Mr. Keogh (F, W,Sp)

196A-196B. Laboratory Practicum in Kinesiology (2 units each). Laboratory, four hours. Prerequisites or corequisites: course 139, consent of instructor. Supervised practicum and training for advanced students who serve as undergraduate assistants in the basic anatomy course in the preparation of laboratory materials and innovative projects. May not be applied toward the major.

197A-197Z. Variable Topics in Kinesiology. Prerequisite: consent of instructor. 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.
199. Special Studies in Kinesiology. (Formerly numbered 199A-199ZZ.) Prerequisites: kinesiology major with 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. A course application (available in 2834 Slichter Hall) must be submitted to the chair during the first week of classes. A total of eight units of 199A and 199H may be applied toward the elective requirements for the major.

199A. Honors Thesis. (Formerly numbered 199A-199HZZ.) Directed independent research for departmental honors with a faculty member, involving definition of a research topic and extensive reading and research in the field of the proposed honors thesis. In Progress grading (credit to be given only on completion of course 199H).

199HB. Honors Thesis. (Formerly numbered 199A-199HZZ.) Prerequisite: course 199A. Continued reading and research that culminates in a final honors thesis. A total of eight units of 199H may be applied toward the major and the B.S. degree requirements.

Graduate Courses

205. Metabolism of Organ Systems Affected by Exercise. Prerequisite: Chemistry 23. The key regulatory mechanisms of metabolism involved in the exercise response and adaptation.

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 on athletic performance.

208. Neuromuscular and Metabolic Factors in Exercise. Prerequisite: course 116 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.

M. Edgerton

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 and microgravity.

Mr. Egstrom (Sp)

211. Exercise Cardiovascular Physiology. Prerequisite: Physiology 101. Attention to cardiovascular adaptations to acute exercise as well as adaptations associated with regular exercise training.

Mr. Barnard (Sp)

212. Cardiovascular Research Techniques. Lecture, one hour; laboratory, four hours. Prerequisites: course 211, consent of instructor. Experience in 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.

Mr. Barnard

221. Underwater Kinesiology. Prerequisites: courses 122 and 124, or consent of instructor. Biomechanical, physiological, methodological, and behavioral limitations to underwater motor learning. Mr. Egstrom

230A. Muscle Dynamics. Prerequisite: course 122. Recommended: course 134. Integrated study of electrical and dynamic parameters of muscle-action, including topics in length-tension and force-velocity interactions, critical rates of electromyographic and digital computer techniques.

Mr. Gregor (F)

230B. Musculoskeletal Mechanics. Prerequisites: course 122, Mathematics 3A, 3B. Mechanical parameters of the moving human organism, including the use of cinematographic, force platform, and digital computer techniques. Topics include bio-statistics, biomechanics, and empirical data modeling. Mr. Zernicke (W)

C232. Biomechanics of Musculoskeletal Injury. Prerequisites: course 122, consent of instructor. Anatomical, physiological, and mechanical characteristics of cartilaginous, fibrous, and bony tissues in normal and abnormal states, and the effects of repair mechanisms on conjunctive tissue growth processes, normal physiology, and repair mechanisms in conjunction with musculoskeletal injuries and effects of exercise and physical activity. Concurrently scheduled with course 232A. Mr. Zernicke (F)

235A-235B. 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. In Progress grading.

Mr. Garfinkel

240. Neurological Systems for Motor Control. Prerequisites: course 140, Psychology 115 (or equivalent). Proprioception, the skeletomotor and tissuomotor systems and their control by spinal reflexes and supraspinal centers, including the cerebellum, basal ganglia, and the cerebrum. Mr. Smith (Sp)

241. 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 loops. Some attention to neural models for motor delays and movement errors.

Mr. M. Goldberg

250. Behavioral Approach to Motor Control. Prerequisite: course 120, consent of instructor. An information processing approach to skill acquisition and performance. Particular emphasis on current theories of motor control from the behavioral literature.

Mr. Chandler, Mr. Goldberg

253. Acquisition of Motor Skills. Prerequisite: course 120. An investigation into the principles of the acquisition of motor skills, such as those applicable to individuals with physical disability or sport. Mr. Egstrom

256. 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 issues, open- and closed-loop control, and individual differences. May be concurrently scheduled with course C156. Mr. Schmidt


Mr. Keogh

262. 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.

Mr. Cratty, Mr. Keogh

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, 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 interactions, predictors of performance, determinants of participation and dropout, and socialization through sport.

Ms. Scanlan

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 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 required to present a two-hour seminar.

294A-294B-294C. Seminars in Neuromuscular Control of Movement (2 to 4 units each). Prerequisites: courses 230A and 230B, consent of instructors. Selected topics on current issues in acquisition and control of human movement. Students required to present a two-hour seminar.

295A-295B-295C. Seminars in Movement Performance and Learning (2 to 4 units each). Prerequisites: courses 230A, 230B, or consent of instructor. Selected topics on current issues in acquisition and control of human movement. Students 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 required to present a two-hour seminar.

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 courses 115 and 116 at the University. May be repeated for credit. S/U grading.

405. 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 with preparation and use of teaching aids. May not be applied toward degree requirements. S/U grading.

501. Cooperative Program (2 to 8 units). Prerequisite: consent of UCLA graduate adviser and graduate dean. Students and faculty must arrange for cooperation with their major department and graduate dean. 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 advisor, 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 with faculty members assuming the student's comprehensive examination chair or doctoral committee chair. Course section 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.

598. Research for and Preparation of M.S. Thesis (2 to 16 units). To be arranged with faculty member serving as the student's thesis committee chair. Course section identified by a two-letter code using faculty member's initials (see department for code). 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 identified by a two-letter code using faculty member's initials (see department for code). May not be applied toward the 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)
- Ruben A. Benitez, Ph.D. (Spanish)
- Charles F. Bennett, Ph.D. (Psychology)
- C. Rainer Berger, Ph.D. (Anthropology)
- Daniel M. Berry, Ph.D. (Computer Science)
- William O. Bright, Ph.D. (Linguistics and Anthropology)
- E. Bradford Burns, Ph.D. (History), Chair, B.A. Committee
- Leland S. Burns, Ph.D. (Urban Planning)
- Robert N. Burr, Ph.D. (History)
- Bertram Russel, Ph.D. (Computer Science)
- Alfonso F. Caroñes, Ph.D. (Computer Science)
- Martin L. Cody, Ph.D. (Biology)
- Edwin L. Cooper, Ph.D. (Anatomy)
- Charlotte A. Crabtree, Ph.D. (Education)
- Roger Detels, M.D., M.S. (Public Health)
- Christopher B. Donnan, Ph.D. (Anthropology)
- John A. Dracup, Ph.D. (Civil Engineering)
- Elsie Dunin, M.A. (Dance)
- Timothy Earle, Ph.D. (Anthropology)
- David K. Etelman, Ph.D. (Management)
- Walter A. Fogel, Ph.D. (Management)
- Howard E. Freeman, Ph.D. (Sociology)
- Ralph R. Flenniken, D.V.M., Dr.P.H. (Public Health)
- John Friedmann, Ph.D. (Urban Planning)
- Marco G. Giocoli, Ph.D. (Political Science)
- William H. Glaze, Ph.D. (Public Health)
- Juan Gómez-Quiriones, Ph.D. (History)
- Edward Gonzalez, Ph.D. (Political Science)
- Patricia M. Greenfield, Ph.D. (Psychology)
- Arnold C. Haberger, Ph.D. (Economics)
- John N. Hawkins, Ph.D. (Education)
- Claude L. Hulet, Ph.D. (Portuguese)
- Derrick B. Jelliffe, M.D. (Public Health)
- Allen W. Johnson, Ph.D. (Anthropology)
- Marvin Kanno, M.D. (Residence (Psychiatry)
- John G. Kennedy, Ph.D. (Anthropology and Psychiatry)
- David M. Kunzel, Ph.D. (Art History)
- Lewis L. Langness, Ph.D. (Anthropology and Psychiatry)
- James Lockhart, Ph.D. (History)
- O. Raynai Lunt, Ph.D. (Biochemistry)
- Gerardo Luzunaga, Ph.D. (Spanish)
- Robert H. Mason, Ph.D. (Management)
- Henry W. McGee, Jr., J.D. (Law)
- Clement W. Meghna, Ph.D. (Anthropology)
- Pamela A. Munro, Ph.D. (Linguistics)
- Alfred K. Neuman, Ph.D. (Public Health)
- Harry B. Nicholson, Ph.D. (Anthropology)
- Park S. Nobel, Ph.D. (Biology)
- Antony R. Orme, Ph.D. (Geography)
- C. P. Otero, Ph.D. (Spanish and Romance Linguistics)
- Jose Miguel Oviedo, Ph.D. (Spanish)
- Amaro M. Padilla, Ph.D. (Psychology)
- Richard L. Perrine, Ph.D. (Civil Engineering)
- Jorge R. Peralta, B.A. (Theater, Film, and Television)
- Douglass R. Price-Williams, Ph.D. (Anthropology and Psychiatry)
- Dwight Read, Ph.D. (Anthropology)
- Jonathan D. Sauer, Ph.D. (Geography)
- Carol Scichilone, M.A. (Dance)
- Susan C. Scismah, Ph.D. (Public Health and Anthropology)
- Allegra Snyder, M.A. (Dance)
- Edward W. Soja, Ph.D. (Urban Planning)
- Norman J. W. Thowrer, Ph.D. (Geography)
- Hartmut Walter, Ph.D. (Geography)
- Louis Jolyon West, M.D. (Psychiatry)
- Johannes Wilbert, Ph.D. (Anthropology)
- James W. Wilkie, Ph.D. (History)
- Telford H. Work, M.D., M.P.H. (Public Health)
- Maurice Zeilin, Ph.D. (Sociology)

**Emeritus Professors**
- Lester Breslow, M.D., M.P.H. (Public Health)
- Henry J. Bruman, Ph.D. (Psychology)
- Thomas R. Howell, Ph.D. (Biology)
- Frederick C. Kinzer, Ed.D. (Education)
- Mildred E. Mathias, Ph.D. (Public Health)
- Russell R. O'Neil, Ph.D. (Mechanical, Aerospace, and Nuclear Engineering)
- Stanley L. Robe, Ph.D. (Spanish)
- Milton I. Roemer, M.D., M.P.H. (Public Health)
- Charles A. Schroeder, Ph.D. (Biology)
- Robert M. Stevenson, Ph.D. (Music)
- Robert W. Williams, Ph.D. (Management)

**Associate Professors**
- Paul R. Abramson, Ph.D. (Psychology)
- Theodore A. Andersen, Ph.D. (Management)
- George D. Bedell, Ph.D. (Economics)
- Albert Chang, M.D., M.P.H. (Public Health)
- E. Mayone Dias, Ph.D. (Spanish and Portuguese)
- Sebastian Edwards, Ph.D. (Economics)
- Leobardo Estrada, Ph.D. (Urban Planning)
- Tessma H. Gabriel, Ph.D. (Theater, Film, and Television)
- Domingo M. Hanssens, Ph.D. (Management)
- Henry A. Hespenheide, Ph.D. (Biology)
- Robert A. Hill, M.Sc. (History)
- Isabelle F. Hunt, Dr.P.H. (Public Health)
- 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)
- Susan Piain, Ph.D. (Arts)
- A. Carlos Quiñones, Ph.D. (Portuguese and Romance Linguistics)
- Richard M. Reeve, Ph.D. (Spanish)
- Hans Schöllhammer, D.B.A. (Management)
- A. John Skrins, Ph.D. (Spanish)
- Concepción Valadez, Ph.D. (Education)
- Laurie Witt, Ph.D. (Biology)
- Simon González, Ed.D., Emeritus (Education)

**Assistant Professors**
- Carole H. Browner, Ph.D., in Residence (Psychiatry)
- Donald G. Buth, Ph.D. (Biology)
- Felipe Castro, Ph.D. (Psychology)
- John W. Du Bois, Ph.D. (Linguistics)
- Margaret FitzSimmons, Ph.D. (Urban Planning)
- Jeffry A. Frieden, Ph.D. (Political Science)
- Barbara Geddes, Ph.D. (Political Science)
- Rebecca Morales, Ph.D. (Urban Planning)
- Sylvia Rodriguez, Ph.D. (Anthropology)
- Michael Storper, Ph.D. (Urban Planning)

**Lecturers**
- Clifford A. Behrens, Ph.D. (Anthropology)
- José M. Cruz-Salvadores, M.A. (Spanish)
- Lisa Fuentes, Ph.D. (Sociology)
- Ludwig Lauermann, Ph.D. (History)
- Linda Rodriguez, Ph.D. (History)
- George L. Voyt, J.D. (Spanish)

**Visiting Professor**
- Jose da la Torre, Ph.D. (Management)

**Adjunct and Visiting Associate Professors**
- Ichak Adizes, Ph.D. (Adjunct (Management)
- Jorge Schement, Ph.D., Visiting (Library and Information Science)

**Visiting Assistant Professor**
- Susanna B. Hecht, Ph.D. (Urban Planning)

**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, gov-
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 (i.e., Quechua) may be substituted for the minor language.

Course Limitations
You may not take more than eight units of Latin American Studies 199 for letter-grade credit nor more than eight units in any single term. No course taken on a Passed/Not Passed basis may be applied toward the B.A. degree requirements. In order to register in a 199 course, you must have advanced junior standing and an overall GPA of 3.0, or senior standing.

Double Majors
Through judicious use of electives, you may find it possible to obtain the B.A. degree with two majors (e.g., Latin American studies and history). Interested students who have achieved junior standing should consult the undergraduate advisers of both departments involved, initiating the appropriate petition with the undergraduate adviser in Latin American Studies.

Study in Latin America
You are encouraged to spend up to one year in Latin America either (1) to study with an education abroad program, (2) to study in Latin American universities, (3) to conduct research, or (4) to complete an internship in an international or development agency. Full credit is granted according to the individual programs arranged in consultation with the undergraduate adviser. Proposals must be presented in writing to the interdepartmental committee.

Core Areas
You select one of three core areas as the focus of your major: arts and humanities, social sciences, or ecology and environment. Requirements for each core area are listed below.
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
*M190. Selected Topics in Folklore and Mythology Studies
Latin American Studies 197. Interdisciplinary Topics in Latin American Studies
Spanish (Spanish and Portuguese) 160B. Hispanic Literatures in Translation

(5) Geography

Geography 121. Conservation of Resources: Underdeveloped World
128. The World’s Ecosystems: Problems and Issues
142. Population Geography
181. Middle America
182A. Spanish South America
192B. Brazil
199. Special Study

Theory and Methods

Geography *171. Quantitative Analysis

(6) Electives

Anthropology 132. Technology and Environment
134. Personality and Cultural Systems: Enculturation
150. The Study of Social Systems
153A-153B. Production and Exchange in Traditional Societies
161. Development Anthropology
165. Women in Culture and Society
167. Urban Anthropology
168. Health in Culture and Society

Economics 120. Introduction to Urban and Regional Economics
121. Urban Economic Analysis
180. Comparative Economic Systems

Geography 108. World Vegetation
129. Problems of the Environment: Seminar
140. Political Geography
148. Economic Geography
150. Urban Geography
152. World Cities

History M159A. M159B. History of the Chicano People
Latin American Studies 197. Interdisciplinary Topics in Latin American Studies
199. Special Studies in Latin American Studies

Political Science 124. International Political Economy
167. Ideology and Development in World Politics
183. Administration of International Agencies and Programs
188A. Comparative Public Administration
Core III: Ecology and Environment

Preparation: Two courses from History 8A, 8B, 8C; Latin American Studies 99; Geography 5; Mathematics 50.

Core Area: Ten upper division courses from the approved list of Latin American courses distributed as follows:

(1) Core Concentration: Five courses from the core area. Only one course from the 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.

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
128. The World's Ecosystems: Problems and Issues
142. Population Geography
181. Middle America
182A. Spanish South America
182B. Brazil
199. Special Study
Public Health M115. Disease Problems of Socioeconomic and Political Impact in Latin America
174E. Health, Disease, and Health Services in Latin America
186. The World's Population and Food

Theory and Methods

Electives

Anthropology 132. Technology and Environment
153A-153B. Production and Exchange in Traditional Societies
155. Illness in Non-Western Societies
167. Urban Anthropology
M168. Health in Culture and Society
Economics 112. Introduction to Urban and Regional Economics
Geography 108. World Vegetation
130. Problems of the Environment: Seminar
140. Political Geography
148. Economic Geography
150. Urban Geography
152. World Cities
Latin American Studies 197. Interdisciplinary Topics in Latin American Studies
199. Special Studies in Latin American Studies
Public Health 161. Nutrition and Health
186. The World's Population and Food
Sociology 126. Social Demography

Master of Arts Degree

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 subject area who can demonstrate a substantial academic and Latin American experience. Prospective students 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 General Test (combined verbal and quantitative sections) of the Graduate Record Examination (GRE).

(5) A résumé or curriculum vitae describing academic and Latin American experience.

Students are admitted each quarter. Application deadlines are

For the thesis plan (which requires prior approval), a minimum of 10 courses is required, to be distributed on a 4-3-3 basis among three fields. Three graduate-level courses are required in the first field, with one each in the two minor fields.

All courses must be selected from the department-approved list of courses. Other courses must be petitioned in advance.

Course Requirements

Two plans are available. For the comprehensive examination plan, a minimum of nine courses is required, to be distributed among three fields or disciplines either on a 3-3-3 or 4-3-2 basis. Of the nine courses, five must be at the graduate level, with at least one in each of the three fields.

For the thesis plan (which requires prior approval), a minimum of 10 courses is required, to be distributed on a 4-3-3 basis among three fields. Three graduate-level courses are required in the first field, with one each in the two minor fields.

All courses must be selected from the department-approved list of courses. Other courses must be petitioned in advance.

Courses numbered in the 300 and 400 series are not applicable toward the M.A. degree.

No more than eight units of 500-series courses may be applied toward the total course requirement for the M.A. degree; no more than four units may be applied toward the five graduate courses required for the degree.

Graduate courses may be repeated unless they are lecture courses.
Comprehensive Examination Plan
In addition to course requirements, you must 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 drafts and final version. Once the final version is approved, the thesis committee recommends the award of the M.A. degree. By the end of the quarter before graduation, you must file for advancement to candidacy with the Graduate Division.

Upper Division Courses

M155. Disease Problems of Socioeconomic and Political Impact in Latin America. (Same as Public Health M115.) Lecture, six hours; discussion one hour. Prerequisite: one upper division course in Latin American studies. Social, economic, and political impact of important disease problems in Latin American countries.

Mr. Work

197. Interdisciplinary Topics in Latin American Studies. Advanced interdisciplinary course for upper division students. May be repeated for credit with topic change.

199. Special Studies in Latin American Studies (4 or 8 units). Prerequisite: upper division standing. An intensive directed research program in which students conduct interdisciplinary research or complete an internship with an international agency or program dealing with Latin America. Faculty sponsorship and written reports required.

Graduate Courses

M200. Latin American Research Resources. (Same as History M265 and Library and Information Science M225.) 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 sophistication as the basis for enhanced research results.

Mr. Lauerhass

201. Statistical Resources for Latin American Research. The contemporary statistical materials important for research in Latin American studies. Discussion on the qualitative 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 their potential application in Latin American research. Examination of the impact that computers are having in Latin American society.

Mr. Behrens

M250A. Indians of South America. (Same as Anthropology M272.) 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.

Mr. Wilbert

250B. Interdisciplinary Seminar in Latin American Studies. Lecture, three hours. Prerequisite: consent of instructor. Problem-oriented seminar on critical areas stressed in the University's cooperative programs in Latin America.

250C. Interdisciplinary Topics in Latin American Studies. Prerequisite: consent of instructor. Reading knowledge of Spanish or Portuguese normally required. A seminar devoted to selected topics of an interdisciplinary nature.

M268A-M268B. Seminar in Recent Latin American History. (Same as History M268A-M268B.) Seminar, three hours. Prerequisite: consent of instructor. Reading knowledge of Spanish and Portuguese normally required. A seminar devoted to selected topics of an interdisciplinary nature. In Progress grading.

Mr. Wilkie

501. Cooperative Program (2 to 8 units). Prerequisite: consent of UCLA graduate advisor and graduate dean, and host campus instructor, department chair, and graduate dean. Used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596. Directed Individual Study or Research (2 to 8 units). May be repeated, but only four units may be applied toward the minimum graduate course requirement. S/U 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

C218A. Pre-Columbian Art of Mexico

C218B. Pre-Columbian Art of the Maya

C218C. Pre-Columbian Art of the Andes

220. Oceanic, Pre-Columbian, African, and Native North American Art

Dance *280A-280E. Advanced Studies in Dance

Ethnology

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
236C. Urban and Regional Economic Development III
239. Special Topics in Urban and Regional Development Policy
246. Housing in Social and Economic Development Policy
253. Social Theory for Planners
266. City and Countryside in the Third World
267A. Resource-Based Development Planning
267B. Rural Development Issues
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 Master's 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
272. International Economic Law and Organization
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
205D. The Management of Economic Development in Latin America
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
260E. Advanced Nutrition: Vitamins
260F. Advanced Nutrition: Proteins
260G. Advanced Chemistry, Biochemistry, and Nutrition of Lipids
260H. Advanced Nutrition: Minerals
262. Seminar in Nutrition
270. Maternal and Child Nutrition
M271. Medical Anthropology in Public Health
272. Seminar on Current Issues in Maternal and Child Health
M274A-M274B. Population Policy and Fertility

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

Archaeology 200. Archaeology Colloquium
259. Fieldwork in Archaeology
Economics 281A. International Trade Theory
281B. International Finance
286A. Economic Development
286B. Analysis and Appraisal of Development Projects
287A. Economic Problems of Latin America
*M287B. Ethnographic Film Direction
287C. Indians of South America
288. Research Design in Cultural Anthropology
M289. Computer Methodologies in Latin American Studies and Anthropology

Folklore and Mythology 201A, 201B. Folklore Collecting and Field Research
248. Theory and Method in Latin American Folklore Studies
M249. Folk Literature of the Spanish and Portuguese Worlds
M286A-M286B. Studies in Hispanic Folk Literature

Geography 251. Seminar: Urban Geography
M278. Dating Techniques in Environmental Sciences and Archaeology
261. Middle America
262. South America
292. Advanced Regional Geography: Selected Regions

History 2001. Advanced Historiography: Latin America
2011. Topics in History: Latin America
M265. Latin American Resource Research
266A-266B. Seminar in Colonial Latin American History
*M274A-M274B. Seminar in Latin American History: 19th and 20th Centuries
M268A-M268B. Seminar in Recent Latin American History
Latin American Studies M200. Latin American Research Resources
M225. Computer Methodologies in Latin American Studies and Anthropology
M250A. Indians of South America
250B. Interdisciplinary Seminar in Latin American Studies
M250C. Interdisciplinary Topics in Latin American Studies

Political Science 204A. Quantitative Applications
*C218A. Public Administration and Democratic Government
*224A. Studies in Politics: Politics and Economy
*CM229. Urban Government
*C230. Comparative Development Administration
*C231D. Studies in International Relations: International Relations Theory
*232B. International Political Economy: International Capital and International Relations
*235. Selected Topics in Comparative Politics
C250A. Seminars in Regional and Area Political Studies: Latin American Studies
*C253. Seminar in International Relations
Sociology *217A. Ethnographic Fieldwork
*259. Social Structure and Economic Change: Historical and Comparative Perspectives
*263. Social Stratification
M287A-M287B. Population Policy and Fertility
*292A-292B-292C. Research Development

The undergraduate specialization in law and society can only be taken jointly with a major in political science, and all requirements for the political science major must be met by or in addition to meeting the requirements of this program. Students completing the program receive a degree with a major in political science and specialization in law and society. The program is designed to allow students to explore the relationships of law with ethics, economics, crime, and social and political institutions and theories.

Law and Society

4256 Bunche Hall, (213) 825-3862

Scope and Objectives

The undergraduate specialization in law and society is designed to allow students to explore the relationships of law with ethics, economics, crime, and social and political institutions and theories.

Special Undergraduate Program

Preparation for the Specialization

Required: Political Science 10, 40, 70, and 20 or 50; two courses from History 7A, 7B, Philosophy 4, 6, 22.

Upper Division

The political science major should be completed as follows: Political Science 117; one course in Field I other than course 117; two courses in Field II; four courses in Field V; two other political science electives; six courses from Anthropology 152, Economics 172, History 151A, 151B, Philosophy 150, 151A, 151B, 157A, 157B, 166, Sociology 145, 146, 147, 162.

For further information, contact Vicki Waldman, Political Science Counselor, in the program office.

Linguistics

2113 Campbell Hall, (213) 825-0634

Professors

Stephen R. Anderson, Ph.D.
Ramo A. Antilla, Ph.D. (Indo-European and General Linguistics)
William O. Bright, Ph.D.
Victoria A. Fromkin, Ph.D.
Edward L. Keenan, Ph.D.
Mazizi 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. Hinnusbusch, Ph.D. (Linguistics and African Languages)
Patricia A. Keating, Ph.D.

Assistant Professors

John W. Du Bois, Ph.D.
Nina M. Hyams, Ph.D.
Hilda J. Koopman, Ph.D. (Linguistics and African Languages)
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 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 adviser): Linguistics 104, 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 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 Anthropology

Preparation for the Major

Required: 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 (at least three quarters must be in a language other than those in the Romance, Slavic, and Germanic families). Anthropology 33 is strongly recommended, when offered.

The Major

Required: Fourteen upper division courses as follows: Linguistics 100, 103, 110, 120A, 120B, either 164, C165A, or C165B, one upper division elective in linguistics; course 164 is recommended for the classical Japanese track: East Asian Languages and Cultures 119A-119B, 129, 137, CM176, 179A, 179B, for the modern Japanese track: East Asian Languages and Cultures 119A-119B, CM176, three courses from 134A, 134B, 145, C166, C178, C181, C182; for the classical Chinese track: East Asian Languages and Cultures 113A-113B-113C, four courses from 152A, 152B, 163A, 163B, 163C; for the modern Chinese track: East Asian Languages and Cultures 121A-121B-121C, four courses from 122A, 122B, 124A, 124B, 124C, 126, 151A, 151B.

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 Computer Science

Premajor in Linguistics and Computer Science

Admission to the major is contingent on passing the following courses, which constitute the linguistics and computer science premajor, 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, 110, 120A, 120B, either 164, C165A, or C165B, two upper division electives in linguistics; English 121, 122, 140, 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 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 in linguistics, English 121, 122, 140A, and four electives from 141A, 141B, 142A, 142B, 143, the 150 series (one course only), the 160 series (one course only), the 170 series (one course only).
Bachelor of Arts in Linguistics and 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 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: Thirteen 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 an 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: Afrikaans, Arabic, Dutch, French, German, Portuguese.

Graduate Study

The programs leading to the M.A. and Ph.D. degrees in Linguistics are open to qualified graduate students who are interested in descriptive, theoretical, and historical linguistics. Preparation for graduate study in linguistics should be equivalent in as many respects as possible to the undergraduate curriculum in linguistics.

There is also a graduate program leading to a Ph.D. in Applied Linguistics. It is administered by an interdepartmental committee, not by the Department of Linguistics. The requirements of the program are stated earlier in this chapter.

Master of Arts Degree

Admission

Students are normally admitted to begin residence in 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 three scholars under whom they have studied submit letters to the department about their qualifications. Scores on the verbal, quantitative, and analytical sections of the Graduate Record Examination (GRE) must be submitted with the application. There is no minimum score requirement. In addition, applicants must submit a copy of some research paper or other piece of writing in linguistics or a closely related field.

While not required for admission, Linguistics 100, 103, 110, 120A, 120B, C165A, C165B are prerequisites to graduate courses in their respective areas. At the time of admission, students are notified which, if any, of the above courses are required due to deficiencies. However, if there is any question of whether courses taken elsewhere are equivalent to the above courses, students must discuss this with their advisers.

Prospective students may request an information brochure from the Administrative Analyst, Department of Linguistics, 2113 Campbell Hall, UCLA, Los Angeles, CA 90024-1543. This brochure explains, in particular, advising procedures and procedures for the formation of M.A. and Ph.D. guidance committees.
Specialization
At the M.A. level, three survey courses in phonology, syntax, and language change are required. You must also select four additional survey courses from a list of 11. These choices allow for a certain amount of specialization. The remaining two courses (of the nine graduate courses required) may be in any area of linguistics and provide additional opportunities for specialization.

Foreign Language Requirement
You must demonstrate knowledge of one research language before receiving 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. Students who have not taken courses equivalent to Linguistics 200A and 200B (the graduate counterparts of C165A and C165B) must take those courses. All students must take survey courses 201, 202, and 206. Four additional survey courses must be selected from 203, 204, 205, 207, 208, 209, 211, 212, 213, 214, 215, with no more than one from 204, 208, 209, 213. Students who enter the program having already taken courses equivalent to 200A and/or 200B must complete the nine-course requirement with elective courses, which may be in any area of linguistics. The survey course in a given area is normally considered prerequisite to the seminar (courses 251 through 259B) in that area. No more than four units of course 596A or 596B may be applied toward the required nine courses. Courses in the 260 series may be applied as electives for the M.A. only if taken for four units. All first-year graduate students must take courses 411A-411B-411C, and all second-year students who have not yet been admitted to the Ph.D. program must take course 444.

The following undergraduate courses or the equivalent are prerequisite to graduate courses in the corresponding areas: Linguistics 100, 103, 110, 120A, 120B, C165A, C165B. Course 103, or an examination in practical phonetics, must be passed with a grade of B or better as a prerequisite to course 210A, a required course for the Ph.D. that may be taken at the pre-M.A. level. A proficiency examination in elementary logic, which may be waived on the basis of appropriate coursework, is prerequisite to course 206.

No more than two courses (with grades of B or better) from institutions outside the University of California may be applied toward the M.A.

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 to 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 handbook. 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, psycholinguistics, computational linguistics, and many language areas, notably African languages and American Indian languages. Other specializations may be possible, depending on the availability of faculty expertise.

Foreign Language Requirement
A doctoral committee cannot be officially appointed until the foreign language requirement has been met. Details are given above under the “Foreign Language Requirement” for the M.A. degree.

Course Requirements
Candidates for the Ph.D. are required to have taken 36 units of graduate coursework beyond the M.A. requirements. These units must include Linguistics 210A, 210B, and 230, 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-unit seminars may be included in the 36 units. At some time, you are expected to present some of the results of your research at a meeting of the Linguistics Department Colloquium. This is a requirement for the degree.

Qualifying Examinations
In order to be advanced to candidacy, you are required to prepare two 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 human language; the nature of human behavior, its structure, its universality, and the diversity; language in its social and cultural setting; language in relation to other aspects of human inquiry and knowledge.

2. **The Structure of English Words.** Lecture, three to four hours. An introduction to the structure of English words of classical origin, including the most common base forms and the rules by which alternate forms are derived. Students may expect to achieve substantial enrichment of their vocabulary while learning about etymology, semantic change, and abstrac
t rules of English word formation.

3. **Prerequisites:** consent of instructor. Supervised research or training. May be repeated for credit.

4. **Special Studies in Linguistics (2 to 4 units).** Prerequisite: consent of instructor. Supervised research or training. May be repeated for credit. P/NP or letter grading.

#### Upper Division Courses

1. **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.

2. **Introduction to General Phonetics.** Lecture, three hours; laboratory, two hours. Prerequisite or corequisite: course 100 or equivalents. The phonetics of a variety of languages and the phonetic phenomena that occur in languages of the world. Extensive practice in the perception and production of such phenomena.

3. **Experimental Phonetics.** (Formerly numbered C104.) Survey of the principal techniques of experimental phonetics. Use of laboratory equipment for recording and measuring phonetic phenomena.

4. **Introduction to Historical Linguistics.** Prerequisite: courses 100, 103, 120A, and 120B or 127. The methods and theories appropriate to the historical study of language, such as the comparative method and method of internal reconstruction. Sound change, grammatical change, semantic change.

5. **Prerequisites:** courses 100, 120A, 120B, and 120C or 127.

6. **Linguistic Change in English.** (Formerly numbered C114.) Prerequisite: course 120A or consent of instructor. The study of language as an aspect of culture; the relation of habitual thought and society; social dialects and social styles in language; problems of multilingual societies.

7. **Sociolinguistics.** Prerequisite: course 120A or consent of instructor. The study of language as an aspect of culture; the relation of habitual thought and society; social dialects and social styles in language; problems of multilingual societies.

8. **Linguistic Analysis: Phonology.** Prerequisite: course 120A. Descriptive analysis of morphological and syntactic structures in natural languages; emphasis on insight into the nature of such structures rather than linguistic formalization.

9. **Prerequisites:** course 120B. A survey of the most important theoretical and descriptive claims about the nature of meaning.

10. **Syntactic Typology and Universals.** Prerequisite: course 100, 120A, and 120B, or consent of instructor. The study of the syntactic structures of natural languages, emphasizing the following kinds of concepts: relations between nouns and verbs (case and word order), negation, comparison, existence/localization of possession, causation, interrogation, reflexivization, relativization, attribution (adjectives), tense (tense and aspect), and backforming (subordinator). Data from a range of languages presented and analyzed.

11. **Child Language Acquisition: Introduction.** Prerequisites: courses 100, 120A, and 120B, or consent of instructor. A survey of contemporary theoretical and methodological perspectives in 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. Discussion of acquisition of English and other languages and universals of linguistic development.

12. **Prerequisites:** courses 100, 120A, 120B, and 120C. Aspects of linguistic studies in relation to the teaching of language, with particular focus on the special problems entailed in the teaching of non-European languages.

13. **Prerequisites:** course 120A or consent of instructor. Supervised research or training. May be repeated for credit.

14. **Descriptive analysis of morphological and syntactic structures in natural languages; emphasis on insight into the nature of such structures rather than linguistic formalization.**

15. **Prerequisites:** course 120B. A survey of the most important theoretical and descriptive claims about the nature of meaning.

16. **Prerequisites:** course 120, 120A, 120B, or consent of instructor. The study of language as an aspect of culture; the relation of habitual thought and society; social dialects and social styles in language; problems of multilingual societies.

17. **Sociolinguistics.** Prerequisite: course 120A or consent of instructor. The study of language as an aspect of culture; the relation of habitual thought and society; social dialects and social styles in language; problems of multilingual societies.

18. **Survey of Mathematical Backgrounds for Linguistics.** Prerequisites: courses 120A, 120B, C165B (may be taken concurrently). Prior mathematics knowledge not assumed. Introduction to selected topics in set theory, logic and formal systems, modern algebra, and automata theory, with elementary applications to linguistics. Topics vary each quarter. Concurrently scheduled with course C206.

19. **Prerequisites:** course 120A, 120B, C165B (may be taken concurrently). Prior mathematics knowledge not assumed. Introduction to selected topics in set theory, logic and formal systems, modern algebra, and automata theory, with elementary applications to linguistics. Topics vary each quarter. Concurrently scheduled with course C206.

20. **Advanced Introduction to Computational Linguistics.** (Formerly numbered C145.) Prerequisites: courses 120B, C190, Program in Computing 10B. Recommended: course C165B, Program in Computing 60. Basic training in computational linguistics. Overview of the field and discussion of some applications, focusing on computational models and parsing algorithms, including transition networks and chart parsers. Students expected to complete programming exercises.

21. **Senior Essay.** Prerequisite: consent of instructor. Limited to senior linguistics majors. An extended piece of writing is undertaken on a linguistic topic selected by the student to be completed under the supervision of a faculty member. Consult the professor in charge to enroll.
196A. Honors Essay. Prerequisites: 3.5 GPA, course C165A or C165B may be taken concurrently. Recommended (but not required): completion of both courses C165A and C165B before taking the quarter in which course 196A is taken. A draft of an extended piece of writing on a linguistic topic selected by the student is prepared under the supervision of a faculty member. Consult the professor in charge to enroll in Progress grading (credit to be given only on completion of course 196B). (Sp)

196B. Honors Essay (2 units). Prerequisite: course 196A. The piece of writing drafted in course 196A is presented in a seminar, revised, and put into final form under the supervision of a faculty member. Consult the professor in charge to enroll. (F)

197. Special Topics in Linguistics. Prerequisite: course 1 or 100 or consent of instructor. Variable topics selected from any undergraduate linguistics course area in which students desire greater depth and breadth of knowledge. May be repeated for credit with topic change.

199. Special Studies in Linguistics (2 to 4 units). Prerequisites: courses 120A, 120B, consent of instructor. May be repeated for credit.

Graduate Courses

C200A. Linguistic Theory: Phonology. Prerequisite: course 120A. The theory of generative phonology in the framework of transformational generative phonology is presented. A substantial phonological universals. Concurrently scheduled with course C165A. While the topics of coverage are the same for undergraduate and graduate students, the depth of reading required of graduate students is greater for more precise and comprehensive knowledge. Also, graduate students are expected to produce a substantially longer and more thorough research paper. (Instructor: Mr. Anderson. Mr. Hayes)

C200B. Linguistic Theory: Grammar. Prerequisite: course 120B or 127. The form of grammars word formation and sentence formation: formal and substantive universals in syntax: relation between syntax and semantics. Concurrently scheduled with course C165B. While the topics of coverage are the same for undergraduate and graduate students, the depth of reading required of graduate students is greater for more precise and comprehensive knowledge. Also, graduate students are expected to produce a substantially longer and more thorough research paper. (Instructor: Ms. Munro, Mr. Schacht)

201. Survey of Current Issues in Phonological Theory. (Formerly numbered 201A.) Prerequisite: course C165A C200A. Survey of current theories and research problems in phonology.


206. Survey of Current Issues in Syntactic Theory. (Formerly numbered 206A.) Prerequisites: course C165B C200B, a passing grade on a proficiency examination. Topics of current research problems in the syntax of specific construction types, including relative clauses, passive, positive and negative coordination, agreement systems, deixis systems, and types of sentence complements.

210A. Field Methods I (6 units). Prerequisites: courses C165A C200A, C165B C200B. Grade of B or better in course 103 or in an examination in practical phonetics. Analysis of a language unknown to members of the class from data elicited from a native speaker of the language. Term papers to be a full description 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 in the same year. When there are multiple sections, continuation must be in the same section. May be repeated for credit with topic change.

211. Survey of Discourse and Functional Foundations of Grammar. (Formerly numbered 208B.) Prerequisite: course C165B C200B. Survey of current research in explaining why grammars are as they are: based on function in discourse. Discourse includes information flow, genre, research methods. Functional issues include functional correlation of grammar, motivation, grammaticization. Relation of language universals to discourse functions.

212. Survey of Lexical Semantics and Pragmatics. Topics and issues in the study of meaning, with emphasis on integration of meanings into lexical semantic systems and nonlinguistic sources of use. Semantic theories of component, field, markedness, role, frame, prototype, metaphor. Pragmatic theories of deixis, speech act, implicature, discourse comprehension.

213. Survey of Psycholinguistics. Survey of research in several areas of psycholinguistics, including grammatical and lexical development in first language acquisition, psycholinguistic models of grammatical processing, especially syntactic parsing: brain bases for language acquisition. May be repeated for credit.

214. Survey of Current Syntactic Theories. Prerequisite: course 206. Survey of several current syntactic theories, compared with one another and with the theory discussed in course 205, from the point of view of the theories’ relative descriptive and explanatory power.

215. Survey of Syntactic Typology. Prerequisite: course C165B C200B. Current results in word-order universals: the genetic classification of the world’s languages, and the cross-languages of specific construction types, including relative clauses, passive, positive and negative coordination, agreement systems, deixis systems, and types of sentence complements.

220. Linguistics and Art. Prerequisites: courses 120A, 120B or 127. Recommended: courses C165A C200A, C165B C200B. Analysis and classification of languages spoken in a particular area (e.g., Africa, the Balkans, South Asia, Southeast Asia, Australia, Aboriginal, North America, Latin America, the Far East, etc.). May be repeated for credit with topic change.

225. Linguistic Structures. Prerequisites: courses 120A, 120B or 127. Recommended: courses C165A C200A, C165B C200B. Phono logical and grammatical structure of a selected language and its genetic relationships to others of its family. May be repeated for credit with topic change.

230. History of Linguistics. Prerequisites: courses 120A, 120B, or 127. Recommended: courses C165A C200A, C165B C200B. Aspects of the history of linguistics. Different course offerings may deal with different areas of linguistics (e.g., phonology, syntax) or with different historical periods. May be repeated for credit with topic change.

231. Linguistics and Art History. (Same as Anthropology C231.) Prerequisite: consent of instructor. Problems in relations of language, culture, and society. May be repeated for credit.

Proseminars numbered 251 through 254 may be taken for either two or four units. If a proseminar 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: Proseminar (2 or 4 units). Lecture, four hours. Prerequisite: course C165A C200A. Course 201, 203, or 204 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 two units. Meets with course 256A. May be repeated for credit. S U (two-unit course) or letter (four-unit course grading).

252. Topics in Syntax and Semantics I: Proseminar (2 or 4 units). Lecture, four hours. Prerequisite: course C165B C200B. Course 206, 207, 211, 212, 214, or 215 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 two units. Meets with course 257A. May be repeated for credit. S U (two-unit course) or letter (four-unit course grading).

253. Topics in Language Variation I: Proseminar (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 two units. Meets with course 258A. May be repeated for credit. S U (two-unit course) or letter (four-unit course grading).
254. Topics in Linguistics I: Proseminar (2 or 4 units). Prerequisite: courses C165A/C200A, C165B/C200B, consent of instructor. Course 201, 202, 203, 204, 205, 206, 207, 208, 209, 211, 212, 213, 214, or 215 may be required. Individual seminars on topics such as child language, sociolinguistics, neurolinguistics, computational linguistics, psycholinguistics, etc. May not be applied toward the M.A. or Ph.D. degree requirements when taken for two units. Meets with course 259A. May be repeated for credit. S/U grading.

256A. Topics in Phonetics and Phonology II: Proseminar (2 units). Prerequisite: course C165A/C200A. Course 201, 203, or 204 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: Proseminar (2 units). Prerequisite: course 256A. Specialized topics in phonetics and phonology. May be repeated for credit.

257A. Topics in Syntax and Semantics II: Proseminar. Prerequisite: course C165B/C200B. Course 206, 207, 211, 212, 214, or 215 may be required. Specialized topics in syntax and semantics may be repeated for credit. Meets with course 252. In Progress grading (credit to be given only on completion of course 257B).

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 110. Course 202 may be required. Specialized topics in language variation. May be repeated for credit. Meets with course 253. In Progress grading (credit to be given only on completion of course 256B).

259B. Topics in Linguistics II: Proseminar (2 units). Prerequisite: course 258A. Specialized topics in language variation. May be repeated for credit.

259A. Topics in Linguistics II: Proseminar. Prerequisite: courses C165A/C200A, C165B/C200B, consent of instructor. Course 201, 202, 203, 204, 205, 206, 207, 208, 209, 211, 212, 213, 214, or 215 may be required. Individual seminars on topics such as child language, sociolinguistics, neurolinguistics, computational linguistics, psycholinguistics, etc. May be repeated for credit. Meets with course 254. In Progress grading (credit to be given only on completion of course 256B).

259B. Topics in Linguistics II: Proseminar (2 units). Prerequisite: course 259A. Individual seminars on topics such as child language, sociolinguistics, history of linguistic theory, neurolinguistics, languages of the world, psycholinguistics, etc. May be repeated for credit.

Seminar numbers 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 each). 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 each). 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 units each). 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.

596A. Directed Studies (1 to 8 units). Prerequisite: completion of all undergraduate deficiency courses. Directed individual study or research. May be applied toward the M.A. course requirements. May be repeated for credit. S/U grading.

596B. Directed Linguistic Analysis (1 to 8 units). Prerequisite: completion of M.A. degree requirements. Intensive work with native speakers by students individually. May be repeated for credit. S/U grading.

598. Research for M.A. Thesis (1 to 8 units). Prerequisite: consent of committee chair. Research and preparation of M.A. thesis. May not be applied toward the M.A. course requirements. May 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.

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.

8A-8B-8C. Intermediate Zulu. Prerequisites: courses 7A-7B-7C or consent of instructor.

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 Bambara. Lecture, five hours. Prerequisite: consent of instructor. The major language of Mali, also widely spoken in adjacent parts of West Africa; includes Maninka (Malinke), Dyula, and other mutually intelligible dialects.

32A-32B-32C. Intermediate Bambara. Prerequisites: courses 31A-31B-31C or consent of instructor.

41A-41B-41C. Elementary Hausa. Lecture, five hours. The major language of Northern Nigeria and adjacent areas.

42A-42B-42C. Intermediate Hausa. Prerequisites: courses 41A-41B-41C or consent of instructor.
**Upper Division Courses**

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<th>Code</th>
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<tbody>
<tr>
<td>103A-103B-103C</td>
<td>Advanced Swahili. Prerequisites: courses 2A-2B-2C or consent of instructor. Readings in Swahili literature and the contemporary press. Discussions mainly in Swahili.</td>
<td>Mr. Hinnebusch</td>
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<tr>
<td>123A-123B-123C</td>
<td>Advanced Yoruba. Prerequisites: courses 12A-12B-12C or consent of instructor. Readings in Yoruba literature and the contemporary press. Discussions mainly in Yoruba.</td>
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<tr>
<td>150A-150B</td>
<td>African Literature in English Translation. (Formerly numbered 150A-150B-150C.) Pre-requisite: 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.</td>
<td>Mr. Kunene</td>
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<tr>
<td>153A-153B-153C</td>
<td>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.</td>
<td>Mr. Kunene</td>
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<td>African Literature in English Translation. (Formerly numbered 150A-150B-150C.) Pre-requisite: 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.</td>
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<td>190A-190B-190C</td>
<td>A Historical and Comparative Survey of African Languages and Cultures. An introduction to the languages of Africa, with appropriate language laboratory or group of languages for which appropriate facilities are available.</td>
<td>Mr. Schuh</td>
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<tr>
<td>150A-150B</td>
<td>African Literature in English Translation. (Formerly numbered 150A-150B-150C.) Pre-requisite: 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.</td>
<td>Mr. Kunene</td>
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<tr>
<td>200A-200B-200C</td>
<td>Comparative Studies in African Languages. Prerequisites: 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, Southwestern Mande, Akan, or Senoufu.</td>
<td>Mr. Schuh</td>
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<tr>
<td>199A Special Studies in African Languages (1 to 6 units)</td>
<td>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.</td>
<td>Mr. Schuh</td>
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<td>Graduate Courses</td>
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<tr>
<td>201A-201B</td>
<td>Comparative Niger-Congo. Prerequisites: Linguistics C165A, C165B, 220. Recommended: three quarter courses in one Niger-Congo language selected from courses 1A through 32C. 199. Investigation of relationships within the Niger-Congo family as a whole or within selected branches of the family.</td>
<td>Mr. Hinnebusch</td>
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<tr>
<td>202A-202B-202C</td>
<td>Comparative Bantu. Prerequisites: Linguistics 110, C165A, C165B. Recommended: three quarter courses in one Bantu language selected from courses 1A through 8C. 199. Investigation of relationships among the Bantu languages; the extent and external relationships of Bantu.</td>
<td>Mr. Kunene</td>
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<tr>
<td>270 Seminar in African Literature</td>
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<tr>
<td>596 Directed Studies (1 to 8 units)</td>
<td>Directed individual study or research. Four units may be applied toward the M.A. course requirements. May be repeated for credit. S/U grading.</td>
<td>Mr. Kunene</td>
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**Upper Division Courses**

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<tr>
<td>119A-119B-119C</td>
<td>Advanced Quechua. Prerequisites: courses 18A-18B-18C or consent of instructor. Readings in Quechua. Dialectal and stylistic variation. Discussions mainly in Quechua.</td>
<td>Mr. Bedell</td>
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<tr>
<td>596 Directed Studies in Quechua (1 to 8 units)</td>
<td>Prerequisites: courses 119A-119B-119C or consent of instructor. Directed individual study or research in Quechua. Four units may be applied toward the M.A. course requirements. May be repeated for credit. S/U grading.</td>
<td>Mr. Bedell</td>
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**Related Courses in Other Departments (Other than Language Courses)**

**Anthropology**

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<tr>
<td>143A</td>
<td>Field Methods in Linguistic Anthropology: Practical Phonetics</td>
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<tr>
<td>143B</td>
<td>Field Methods in Linguistic Anthropology: Syntax, Semantics, Textual Crossover</td>
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<tr>
<td>150A-150B</td>
<td>African Literature in English Translation. (Formerly numbered 150A-150B-150C.) Pre-requisite: 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.</td>
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<td>153A-153B-153C</td>
<td>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.</td>
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<td>190A-190B-190C</td>
<td>A Historical and Comparative Survey of African Languages and Cultures. An introduction to the languages of Africa, with appropriate language laboratory or group of languages for which appropriate facilities are available.</td>
<td>Mr. Schuh</td>
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<tr>
<td>199A Special Studies in African Languages (1 to 6 units)</td>
<td>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.</td>
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<td>Mr. Hinnebusch</td>
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<tr>
<td>202A-202B-202C</td>
<td>Comparative Bantu. Prerequisites: Linguistics 110, C165A, C165B. Recommended: three quarter courses in one Bantu language selected from courses 1A through 8C. 199. Investigation of relationships among the Bantu languages; the extent and external relationships of Bantu.</td>
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<td>596 Directed Studies (1 to 8 units)</td>
<td>Directed individual study or research. Four units may be applied toward the M.A. course requirements. May be repeated for credit. S/U grading.</td>
<td>Mr. Kunene</td>
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**Indigenous Languages of the Americas**

**Lower Division Courses**

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<tr>
<td>18A-18B-18C</td>
<td>Elementary Quechua. Lecture, five hours. The language of the Incas and its present-day dialects, as spoken in Andean South America.</td>
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Mathematics

6363 Math Sciences, (213) 825-4701

Professors
Richard F. Arons, Ph.D.
Donald G. Babbitt, 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.
Tony F.C. Chan, 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.
Robert D. Edwards, Ph.D.
Edward G. Effros, Ph.D.
Richard S. Elman, Ph.D.
Bjorn E. Engquist, Ph.D.
Gregory I. Eskin, Ph.D.
Hector O. Fattorini, Ph.D.
Thomas S. Ferguson, Ph.D.
Yiannis N. Moschovakis, Ph.D.
Robert H. Sorgenfrey, Ph.D.
Paul G. Hoel, Ph.D.
M. R. Hestenes, Ph.D.
Masamichi Takesaki, Ph.D.
James V. Ralston, Jr., Ph.D., Vice Chair,
Sidney C. Port, Ph.D.
N. Donald Ylvisaker, Ph.D.

Emeritus Professors
John W. Green, Ph.D.
M. R. Hestenes, Ph.D.
Paul G. Noel, Ph.D.
S. T. Hu, Ph.D., D.Sc.
Paul B. Johnson, Ph.D.
Lowell J. Paige, Ph.D.
William T. Puckett, Ph.D.
Leo R. Sario, Ph.D.
Robert H. Sorgenfrey, Ph.D.
Angus E. Taylor, Ph.D.
Frederick A. Valentine, Ph.D.

Associate Professors
Jennifer T. Chayes, Ph.D.
Lincoln Chayes, Ph.D.
F. Michael Christ, Ph.D.
Rodolfo De Sapio, Ph.D.
Robert K. Lazzarfeld, Ph.D.
Ker-Chau Li, Ph.D.
Daniel Michelson, Ph.D.
William I. Newman, Ph.D.
Jonathan D. Rogawski, Ph.D.
John R. Steel, Ph.D.

Assistant Professors
Christopher R. Anderson, Ph.D.
Mladen Bestvina, Ph.D.
Thomas Mountford, Ph.D.

Lecturers
James Caballero, M.A.
David Cohen, M.A.
Bjorn E. Engquist, Ph.D.
Yehuda Pinchover, Ph.D.

Adjunct and Hedrick Assistant Professors
Erazm Behr, Ph.D., Adjunct
Georges-Henni Cottel, Ph.D. (Computational Applied Mathematics)
Fernando M. Cukierman, Ph.D., Hedrick
Laurence Halpern, Ph.D. (Computational Applied Mathematics)
David J. Ivers, Ph.D. (Computational Applied Mathematics)
Robert Johnson, Ph.D., Adjunct

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 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.

Advanced Placement in Calculus
Students who have taken the Advanced Placement (AP) Calculus AB test and obtained a score of 3 or higher receive four units of credit and Mathematics 31A equivalency. Those who take the BC test and obtain a score of 3 or higher receive eight 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 is given for at most one course in each of the following groups: (1) 3A, 31A, 31AH; (2) 3B, 3E (if completed Fall Quarter 1987 or thereafter), 31B, 31BH, or 3C, 3E (if completed prior to Fall Quarter 1987); (3) 3C, 32A, 32AH; (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 110A through 199.

Mathematics 140A-140B-140C and 141A-141B are not open for credit to students with credit for Electrical Engineering 103 (or former course 124A).

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).

Pre-Mathematics Major
All students who wish to enter one of the majors offered by the Mathematics Department must first register as pre-mathematics majors. 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 filing a change of major petition in the Undergraduate Mathematics Office, 6375 Math Sciences (206-6857).
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 two 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.

Bachelor of Science in Mathematics of Computation

Applications for admission are accepted during Spring Quarter only and must be submitted by May 15. All preparation courses for the major must be completed by the end of the quarter in which you apply for admission. Resources for the program are limited, and the number of students admitted may be restricted accordingly.

Preparation for the Major

Required: Mathematics 31A, 31B, 32A, 32B, 33A, 33B, 61, Program in Computing 10A, 10B, 10C or 30, Physics 8A, 8C, and one additional course from Physics 8B, 8D, 8E, Chemistry 11A, 11B. Each course must be passed with a minimum grade of C-. and you must have a minimum overall GPA of 2.0 for the courses.

The Major

Required: Eleven mathematics courses, including Mathematics 115A, 117, 131A, two additional courses from 110A through 199, and six courses from Plan A (scientific computing) — courses 131B or 132, 140A-140B-140C, and 135A-135B or 145 146, or Plan B (computation theory) — courses 114A-114B-114C and 118A-118B-118C, or Plan C (computation statistics) — courses 140A-140B, 150A-150B or 152A-152B, and M153A-M153B; three upper division computer science courses (12 units) selected from an approved list available in the Undergraduate Mathematics Office.

Bachelor of Science in Mathematics/Applied Science

The major is designed for students with a substantial interest in mathematics and its applications to a particular field. It is an individual major in that students, in consultation with a faculty advisor, design their own program. You may also select one of the established programs: the actuarial plan, the mathematics/economics plan, or the operations research plan. In the past, mathematics/applied science majors have combined the study of mathematics with fields such as physics, biology, chemistry, biochemistry, economics, and geography.

If you are interested in designing an individual program, you should meet with the undergraduate faculty advisor, 6375 Math Sciences, during your sophomore year. A proposed program is drawn up and then forwarded to the mathematics/applied science curriculum committee for approval. All programs must include the following preparation for the major and major courses.
Preparation for the Major

Required: Mathematics 31A, 31B, 32A, 32B, 33A, 33B, Program in Computing 10A. Each course must be passed with a minimum grade of C. Additional preparation, varying with the individual program, may be required.

The Major

Required: Fourteen courses, seven in mathematics selected from Mathematics 110A through 199 and seven upper division courses in a related field selected from one or two other departments. The seven mathematics courses must be passed with an overall GPA of 2.0, as must the seven courses outside mathematics.

At least five of the courses from the related discipline must be taken after the program has been approved. If you will have 135 or more units by the end of the 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, 150A-150B or 152A-152B, and two courses from 113, 140B or 141B, 150C, 152C, M153A; 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 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, 1988. 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 are designed so that students in this plan qualify for a specialization in computing.

Bachelor of Science in General Mathematics

The major is designed primarily for students planning to teach mathematics at the high school level. It provides exposure to a broad range of mathematical topics, especially those appropriate for the prospective teacher. Students planning to pursue graduate studies in mathematics or related fields are encouraged to enter the mathematics, applied mathematics, or mathematics of computation major.

Preparation for the Major

Required: Mathematics 31A, 31B, 32A, 32B, 33A, 33B, 61, Program in Computing 10A, and three courses from the Physics 6 or 8 sequence, the Chemistry 11 sequence, or Program in Computing 10B, 10C, 30, 60. Each course must be passed with a minimum grade of C-, and you must have a minimum overall GPA of 2.0 for the courses.

The Major

Required: Mathematics 106, 110A or 117, 115A, 123, 150A or 152A, one course from 131A through 136; one course from 140A through 147; and five additional courses from 110A through 199 or 370.

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, 149, 149HS. 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.

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 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 from the calculus sequence or from upper division mathematics courses with an overall GPA of 3.6 or better. The program entails taking a specified sequence of courses as part of your major requirements, completing an approved seminar offered by the Mathematics Department or submitting an original research project, and earning an overall GPA of at least 3.6 in approved upper division and graduate mathematics courses.

If you complete the program, you are awarded honors at graduation; if you demonstrate exceptional achievement, 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) General Test and Subject 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 90024-1555.

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 early 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.

Credential Requirements: If you plan to teach in secondary schools and do not already have valid credentials for such teaching, you should enroll in the single subject 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 100, 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 credential. To qualify for this credential, it is sufficient to have the M.A.T. degree.

In exceptional cases, an M.A.T. program may be individually designed for candidates for a credential other than the two already mentioned.

Additional Courses: Besides the six core courses described above, you must take a seventh upper division or graduate course in mathematics. Particularly recommended are Mathematics 106, 110B, 110C, 111A, 111B, 131B, 135A, and 152B. Candidates on the junior college track normally take five 100- or 200-level courses in mathematics in addition to the six core courses. However, with prior approval of the graduate vice chair, such students may present for degree credit one course of a predominantly mathematical nature taken in another department.

You may not receive degree credit for Mathematics 104 or 370. In addition, you may not receive degree credit for more than two 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
Program in Computing I is designed for students who wish a broad, general introduction to the topic of computers and computation. It is strongly recommended for those who wish to take course 3 or 10A, but who have no prior experience in computing.

Students who would like one course in programming should take either course 3 (uses FORTRAN) or 10A (uses PASCAL), depending on the advice of their major department.

The sequence (courses 10A, 10B, 10C, 30, 60) provides an extensive education in basic computer science. It is intended for Letters and Science majors who are completing a specialization in computing and for those planning to take upper division coursework in computer science. These students should take all or part of the sequence, depending on the advice of their major department.

Lower Division Courses
1. Introduction to Computers and Computing. Lecture, three hours; discussion, one hour; computer terminals, five hours. Fundamentals of computers and computing; applications software, editors, spreadsheets, file manager; machine organization and computer hardware. Brief introduction to programming.

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 10A rather than 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 sets, arrays, records, text processing; stacks; queues; linked lists; static and dynamic allocations; binary trees; binary search; quicksort.

10C. Advanced Programming. Lecture, three hours; discussion, two hours. Prerequisite: course 10B. Review of simple sorts; shellsort; heapsort; external merging, binary search trees; hashing; multithreaded trees; lexical analysis; parsing; C language.

30. Machine Organization and Assembly Language Programming. Lecture, three hours; discussion, one hour; computer terminals, five hours. Prerequisites: course 10B. 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 management and protection, I/O processing and interrupts.

60. Data Structures and Algorithms. Lecture, three hours; discussion, one hour; computer terminals, 10 hours. Prerequisites: course 10B, Mathematics 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 dispenses 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, two hours. 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. Finite mathematics consisting of elementary logic, sets, combinatorics, probability, vectors, and matrices.

3A. Calculus for Life Science Students. Lecture, three hours; discussion, one hour. Prerequisites: three and one-half 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. Functions and their graphs, zeros of polynomials. Inverse, exponential, and logarithmic functions. Trigonometric functions, derivatives, and integrals.

3B. Calculus for Life Science Students. Prerequisite: course 3A with a grade of C or better. Techniques and applications of the integral calculus.

3C. Calculus for Life Science Students. Prerequisite: course 3B with a grade of C or better. Techniques and applications of the integral calculus.

4. Introduction to Calculus. Lecture, three hours; discussion, one hour. Not open for credit to students with credit for course 3A, 3E, or 31A. Satisfies the Letters and Science quantitative reasoning requirement. A brief look at the source of many of the quantitative methods in the physical, biological, and social sciences: concepts, techniques, and applications of the differential and integral calculus of polynomials, rational, and exponential functions. Applications, with emphasis on the use of calculus in business and economics.

31A. Calculus and Analytic Geometry. Lecture, three hours; discussion, one hour. Prerequisite: course 38A. Not open for credit to students with credit for course 3A, 3E, or 31A. Satisfies the Letters and Science quantitative reasoning requirement. A brief look at the source of many of the quantitative methods in the physical, biological, and social sciences: concepts, techniques, and applications of the differential and integral calculus of polynomials, rational, and exponential functions. Applications, with emphasis on the use of calculus in business and economics.

31AH-31BH. Calculus and Analytic Geometry (Honors Sequence). 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.

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. (Formerly numbered 335A.) Lecture, three hours; discussion, one hour. Prerequisite: course 31A with a grade of C or better. Elements of matrix theory; introduction to differential equations.

33B. Matrices and Differential Equations, and Infinite Series (Honors Sequence). Prerequisites: courses 31B, 33B, with grades of A and consent of instructor. An honors sequence parallel to courses 33A, 33B.

33C. Calculus of Several Variables. Lecture, three hours; discussion, one hour. Prerequisite: course 32A or 32AH. Introduction to matrix theory; introduction to differential equations.

33AH-33BH. Matrices, Differential Equations, and Infinite Series (Honors Sequence). Prerequisites: courses 31B, 33B, with grades of A and consent of instructor. An honors sequence parallel to courses 33A, 33B.

34B. Calculus. Lecture, three hours; discussion, one hour. Prerequisite: course 33C or 33AH or consent of instructor. Infinite sequences and series; systems of differential equations.

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 used toward major credit in 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. Prerequisite: sophomore standing. Not open for credit to students with credit for any course from Mathematics 110A through 199. May not be used toward major credit in 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.
Upper Division Courses
Mathematics 110A, 113, 115A, 117, 131A-131B, 132, 141A-141B, 142, 144, 147, 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; graphs of equations and relations in the Cartesian plane, including examples with a finite field; the Pythagorean theorem from several points of view; an introduction to the theory of area, volume, and similarity; regular polygons and polyhedra, 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 synthetic and analytic plane geometry. Although primary emphasis is on geometry, the course is self-contained from its own historical and 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. Lectures, three hours; discussion, one hour. Prerequisite: course 115A or consent of instructor. Not open for credit to students with credit for course 117 or former courses 118A-118B. The ring of integers, integral domains, fields, polynomial domains, unique factorization. 110B. Groups, structure of finite groups. 110C. Further topics in rings and modules; field extensions, Galois theory, applications to geometric constructions, and solvability by radicals. 110AH-110BH-110CH. Algebra (Honors Sequence). Prerequisite: consent of instructor. An honors sequence parallel to courses 110A-110B-110C.

111A-111B-111C. Theory of Numbers. Lectures, three hours; discussion, one hour. Prerequisites: courses 110A or 117, and 115A. 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. Lectures, three hours; discussion, one hour. Prerequisites: courses 32B, 33B, 112A. Informal axiomatic set theory and model theory. 112B. Predicate logic, formalized theories. 112C. Predicate logic, formalized theories. Godel’s completeness and incompleteness theorems.

113. Combinatorics. Lectures, three hours; discussion, one hour. Prerequisites: courses 32B, 33B. Permutations and combinations, counting principles, recurrence relations and generating functions, combinatorial designs, graphs and trees, with applications including game theory and other combinatorial existence theorems, Ramsey’s theorem.

114A-114B-114C. Computation Theory and Logic. (Formerly numbered 114A-114B.) Lectures, three hours; discussion, one hour. Prerequisites: courses 33B, 61, 115A (latter may be taken concurrently with course 33A) single lineal transformation, Jordan normal form; bilinear forms, quadratic forms; Euclidean and unitary spaces, symmetric skew and orthogonal linear transformations, polar decomposition.

117. Algebra for Applications. Lectures, three hours; discussion, one hour. Prerequisite: course 115A. Linear transformations, conjugate spaces, duality, the theory of inner product spaces, limits, continuity, derivatives, infinite sequences and series. 118A. Introduction to Discrete Mathematics and Algorithms. (Formerly numbered 118.) Lectures, three hours; discussion, one hour. Prerequisites: courses 32B, 33B, 115A, 117 (latter may be taken concurrently with course 33A) single lineal transformation, Jordan normal form; bilinear forms, quadratic forms; Euclidean and unitary spaces, symmetric skew and orthogonal linear transformations, polar decomposition.

118B. Introduction to Discrete Mathematics and Algorithms. (Formerly numbered 118.) Lectures, three hours; discussion, one hour. Prerequisites: courses 32B, 61, 115A, 117 (latter may be taken concurrently with course 118A). Introduction to discrete mathematics and algorithms as used in computer science and related fields. Topics include asymptotic analysis, arithmetic algorithms, computer-oriented algorithms, graphs and matroids, coding theory and designs.


121. Introduction to Topology. Prerequisite: course 131A. Metric and topological spaces, topological properties, completeness, mappings and homeomorphisms, the metrization problem. 122. Projective Geometry. Lectures, 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. Lectures, three hours; discussion, one hour. Prerequisite: course 115A. Axioms and models, Euclid’s geometry. Hilbert’s axioms, non-Euclidean geometry, hyperbolic geometry, Poincare’s model. Independence of the parallel postulate.

Analysis
131A-131B. Analysis. Lectures, three hours; discussion, one hour. Prerequisites: courses 32B, 33B. Real numbers, point set topology in IR^p and metric spaces, limits, continuity, derivatives, infinite sequences and series. 131B. Prerequisites: courses 115A, 115A. Functions of bounded variation, Riemann-Stieljes integral, sequences and series of functions, multivariable differential calculus, explicit and inverse function theorems, extremum problems.

131AH-131BH. Analysis (Honors Sequence). Lectures, three hours; discussion, one hour. Prerequisite: consent of instructor. An honors sequence parallel to courses 131A-131B. Courses 131AH-131BH and 131CH form a full honors sequence in analysis.

131C. Complex Analysis. Lectures, three hours; discussion, one hour. Prerequisite: course 131A. Not open for credit to students with credit for course 132. Rigorous treatment of fundamental results of theory of functions of one complex variable. Topics include analytic functions, proof of Cauchy integral theorem and formula, residue theorem, winding numbers and local behavior of holomorphic functions, maximum principle, harmonic functions.

131CH. Complex Analysis (Honors). (Formerly numbered 132H.) Lectures, three hours; discussion, one hour. Prerequisites: course 131BH, consent of instructor. An honors course parallel to course 131C. Courses 131CH-131CH and 131CH form a full honors sequence in analysis.

132. Complex Analysis for Applications. Lectures, three hours; discussion, one hour. Prerequisites: courses 32B, 33B. Not open for credit to students with credit for course 131C. 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’s theorem on manifolds.

134. Measure and Integration. Prerequisite: course 131B. An intensive presentation of Lebesgue measure and integration.

135A-135B. Ordinary Differential Equations. Lectures, three hours; discussion, one hour. Prerequisites: courses 33A, 33B, 115A. Systems of differential equations, linear systems with constant coefficients, analytic solutions, characteristic exponents, 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. Lectures, three hours; discussion, one hour. Prerequisites: courses 33A, 33B. Linear partial differential equations, particularly 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 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, and eigenvalue problems. 140B. Interpolation, approximation, fast Fourier transforms, and numerical integration. 140C. Differential equations, systems of nonlinear equations, and optimization.

141A-141B. Applied Numerical Methods. Lecture, three hours; discussion, one hour. Prerequisites: courses 32A, 32B, 33A, 33B, 115A, and Program in Computing 3 or 10A or equivalent. Not normally open for credit to students with credit for courses 140A, 140B. Electrical Engineering 103 (or former course 124A). Introduction to scientific computing, with emphasis on programming, algorithms, and applications. Case studies. Numerical methods and computer implementation for the following areas: 141A. Nonlinear equations, systems of linear equations, optimization, interpolation, differentiation, and integration. 141B. Differential equations applications, Monte Carlo methods, and linear programming.

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. Emphasis on the manner in which mathematical models are constructed for physical problems. Illustrations from many fields of endeavor (e.g., physical science, biology, economics, traffic dynamics, etc.).

143. Analytic Mechanics. Lecture, three hours; discussion, one hour. Prerequisites: courses 32B and 33B. Foundations of Newtonian mechanics, kinematics and dynamics of a rigid body, variational principles and Lagrange equations, mechanics of particles and vector calculus, variational methods, and 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 110A-110B-110C or consent of instructor. One hour. Introduction to the theory and application of linear programming. The simplex method; applications to industrial and business problems. Additional topics such as sensitivity analysis, integer programming, and applications to game theory.

145. Fourier Methods for Differential Equations. Lecture, three hours; discussion, one hour. Prerequisite: course 33B. Fourier series and integral transforms, separation of variables, boundary value problems, applications to such areas as mechanical vibrations, fluid dynamics, heat conduction, and electromagnetics.

146. Methods of Applied Mathematics. Lecture, three hours; discussion, one hour. Prerequisite: course 33B. Integral equations. Green’s function, and calculus of variations. Selected applications from control theory, optics, dynamical systems, and other engineering problems.

147. Game Theory. Lecture, three hours; discussion, one hour. Prerequisites: 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 optimal strategies. Cooperative and noncooperative solutions of bimatrix games. Coalition games and applications. Additional topics such as combinatorial games, repeated games, the Lemke-Howson algorithm, assignment games and the marriage problem, economic models, cost allocation, measurement of voting power.

148. Mathematics of Computer Graphics. (Formerly numbered 169.) 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, interpolating and approximating surfaces, and other mathematical topics useful for computer graphics.

149H. Honors Seminar in Mathematics of Computer Graphics. (Formerly numbered 169HS.) Lecture, three hours; prerequisites: course 149, consent of instructor. Limited enrollment (admission to be based on performance in course 149; participants need not be in an honors program). A participating seminar on topics not covered in course 149. Each student prepares a substantial course project and presents it to the class.

150A-150B-150C. Probability and Stochastic Processes. Lecture, three hours; discussion, one hour. Prerequisites: courses 32B, 33B. Not open to students with credit for course 152A or Electrical Engineering 131A. Probability distributions, stochastic processes, conditioning, random variables, and expectation, laws of large numbers. 150B. Prerequisite: course 150A or 152A. Recursion relations, characteristic functions, central limit theorems, Poisson processes, random walks. 150C. Prerequisite: course 150B. Discrete- and continuous-time Markov chains, renewal theory, Brownian motion.

152A-152B-152C. Statistics. (Formerly numbered 152A-152B-152C.) Lecture, three hours; discussion, one hour. Introduction to the theory and application of statistics. 152A. Prerequisites: courses 32B, 33B. Not open to students with credit for course 150A or Electrical Engineering 131A. Probability, distributions, random variables, expectations, central limit theorem. 152B. Prerequisites: courses 115A, and 150A or 152A. Survey sampling, estimation, testing, data summary, and one- and two-sample problems. 152C. Prerequisites: course 152B. Analysis of variance, categorical data, linear regression, decision theory and Bayesian inference.


Special Studies

190. Honors Mathematics Seminar. Prerequisites: honors program standing, consent of instructor. A seminar presenting topics in advanced mathematics.

191. Upper Division Seminars (2 to 4 units). Prerequisites: courses 32A, 32B, 33A, 33B, consent of instructor. Limited enrollment. Each quarter the department offers a limited number of seminars in various branches of mathematics. Substantial student participation may be required for credit.

210A. Group Theory, (Formerly numbered 210A.) Lecture, three hours; discussion, one hour. Prerequisite: consent of department chair and in- structor. The study of group theory, the subject of symmetry, and its applications in various fields. Topics may include group theory, representation theory, and applications to algebraic structures, number theory, and geometry.

210B. Ring Theory, (Formerly numbered 210B.) Lecture, three hours; discussion, one hour. Prerequisites: courses 110A-110B-110C or consent of instructor. Students with credit for courses 110B and/or 110C will not receive credit for course 210B. Group theory, including the theorems of Sylow and Jordan, and applications to algebraic structures. Additional topics such as commutative rings and ideals, factorization in integral domains, modules over principal ideal rings, Galois theory of fields, and applications to algebraic number theory.

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.

202A-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 theorems. 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 in elementary, analytic, and algebraic number theory, including distribution of primes and factorization in algebraic number fields. Selected topics from additive number theory, Diophantine approximation, partition 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/or 110C will not receive M.A. degree credit for courses 210B and/or 210C. Group theory, including the theorems of Sylow and Jordan, and applications to algebraic structures. Additional topics such as commutative rings and ideals, factorization in integral domains, modules over principal ideal rings, Galois theory of fields, and applications to algebraic number theory.

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, homomorphisms and tensor products of modules, 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, transfer theory, infinite Abelian groups, group rings, 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. Presentations from the theory of commutative rings and algebraic varieties. Theory of algebraic varieties. Topics include plane curves, resolution of singularities, invariant theory, intersection theory, divisors and linear systems.
21A-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, the 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 systems: completeness and incompleteness theorems; decidable and undecidable theories; quantifier elimination. Set theory: Zermelo-Fraenkel and von Neumann-Godoel axioms; cardinal and ordinal numbers; continuum hypothesis; constructible sets; independence results and forcing.

222A-222B. Lattice Theory and Algebraic Systems. Lecture, three hours. Prerequisite: course 210A or consent of instructor. Partially ordered sets, lattices, distributivity, modularity, completeness, interaction with combinatorics, topology, and logic; algebraic systems, congruence lattices, subdirect decomposition, congruence laws, equational bases, applications to lattices.

223A. Model Theory. Prerequisites: courses 220A-220B-220C. Topics include ultraproducts, preservation theorems, interpolation theorems, saturated models, omitting types, categoricity, two cardinal theorems, enriched languages, soft model theory, and applied model theory.

223B. Set Theory. Prerequisites: courses 220A-220B-220C. Topics include constructibility theory, Cohen extensions, large cardinals, and combinatorial set theory.

223C. Recursion Theory. Prerequisites: courses 220A-220B-220C. Topics include degrees of unsolvability, recursively enumerable sets, undecidable theories, inductive definitions, admissible sets and ordinals, and recursion in higher types.


Geometry and Topology

225A. Differentiable Manifolds. (Formerly numbered 231A.) Lecture, three hours. Prerequisites: courses 121 and 131A-131B, or consent of instructor. Smooth manifolds and maps, basic examples and properties, orientability, tangent and cotangent spaces, embeddings and immersions, Sard’s theorem, transversality, vector fields and integral curves. Lie brackets and Frobenius’ theorem. Lie derivatives, tensors, differential forms and exterior derivative, Stokes’ theorem on manifolds.

225B. Introduction to Algebraic Topology. (Formerly numbered 231B.) Lecture, three hours. Prerequisite: course 225A. Topics include algebraic topology. Elementary concepts of homotopy theory; covering spaces and the fundamental group. Singular homology theory, the axioms of homology, Mayer-Vietoris sequence, calculation of homology of standard spaces, applications, Betti numbers and Euler characteristic, cell complexes and cellular homology.

225C. Further Topics in Geometry and Topology. (Formerly numbered 231C.) Lecture, three hours. Prerequisites: courses 225A and 225B, or consent of instructor. Topics may include cohomology (singular, cellular, de Rham), duality theories, de Rham’s theorem, degree theory, cup products, higher homotopy groups, transversality theory, Morse theory, Riemannian metric.

226A-226B-226C. Differential Geometry. Lecture, three hours. Prerequisite: course 225A or consent of instructor. Manifold theory: connections, curvature, torsion, and parallelism. Riemannian manifolds; completeness, submanifolds, constant sectional curvature. Geodesics, conjugate points, variational methods. Myers theorem, nonpositive curvature. Further topics such as pinched manifolds, integral geometry. Kahler manifolds, symmetric spaces, automorphism groups.

227A-227B. Algebraic Topology. (Formerly numbered 232A-232B.) Lecture, three hours. Prerequisite: course 225B or consent of instructor. CW complexes, fiber bundles, homotopy theory, cohomology theory, spectral sequence.


230. Partial Differential Equations on Manifolds. Lecture, three hours. Prerequisites: courses 226A and 251A, or consent of instructor. Topics may include Laplacian operator on a Riemannian manifold, existence and uniqueness. A priori estimates, asymptotic behavior, curvature inequalities, elliptic estimates, harmonic functions, function theory on manifolds, Green’s function, heat equation, minimal hypersurfaces, prescribed curvature equations, harmonic maps. Yang-Mills equation, Monge-Ampere equations.

234. Topics in Differential Geometry. Lecture, three hours. Prerequisites: courses 226A-226B or consent of instructor. Complex and Kahler geometry. Hodge theory, homogeneous manifolds and symmetric spaces, finiteness and convergence theorems for Riemannian manifolds, almost flat manifolds, closed geodesics, manifolds of positive scalar curvature, manifolds of constant curvature. Topics vary from year to year. May be repeated for credit by petition.

235. Topics in Manifold Theory. Lecture, three hours. Prerequisites: courses 225A and 225B, or consent of instructor. Emphasis on low-dimensional manifolds. Structure and classification of manifolds, automorphisms of manifolds, submanifolds (e.g., knots). Topics vary from year to year. May be repeated for credit by petition.

236. Topics in Geometric Topology. Lecture, three hours. Prerequisites: courses 225A and 225B, or consent of instructor. Decomposition spaces, surgery group actions, dimension theory, infinite dimensional topology. Topics vary from year to year. May be repeated for credit by petition.

237. Topics in Algebraic Topology. Lecture, three hours. Prerequisites: courses 227A-227B or consent of instructor. Fixed-point theory, fiber spaces and classifying spaces, characteristic classes, generalized homology and cohomology theories. Topics vary from year to year. May be repeated for credit by petition.

Analysis and Differential Equations

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. See also topics in analysis and topology: the Cantor-Bendixon theorem, counterexamples in measure theory, Borel and analytic sets, Choquet’s theorem.


250B. Nonlinear Ordinary Differential Equations. Prerequisite: course 250A. Selected topics, such as spectral theory or ordinary differential operators, nonlinear boundary value problems, celestial mechanics, approximate solutions of solutions to differential equations. No credit for students with credit for course 247B.


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 measure; 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 riemann theory. Cousin problems, domains of holomorphic, complex structures.

254A-254B. Trigonometrical Series. Prerequisite or corequisite: course 245A or 246A or consent of instructor. Selected topics in Fourier series, power series, orthogonal polynomials, almost periodic functions, and completeness of sets of functions.
Functional Analysis


255B-255C. Topics in Functional Analysis, Prerequisite: course 255A. Topics include Banach algebras, operators on Banach and Hilbert space, semigroups of operators, linear topological vector spaces, and other related areas.

256A-256B-256C. Topological Groups and Their Representations. Lecture, three hours. Prerequisite: course 255A or consent of instructor. Topological groups and their basic properties. Haar measure. Compact groups and their representations. Duality and Fourier analysis on locally compact abelian groups. Induced representations. Frobenius reciprocity. Representations of special groups (Lorentz, Galilean, etc.). Projective representations. Representations of totally disconnected groups.


Applied Mathematics

260. Introduction to Applied Mathematics. Prerequisite: course 142 or consent of instructor. 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; the core; totally balanced games; kernel and nucleolus; multilinear extension and the Shapley value; fixed-point theorems; Nash equilibrium; nontransferable utility; lambda-transfer method. Applications to markets, coal allocation, assignment and marriage problems, voting power.

M263. 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 variational techniques.

264. Applied Complex Analysis. Prerequisite: course 246A or consent of instructor. Topics include contour integration conformal mapping, differential equations in the complex plane, special functions, asymptotic series, Fourier and Laplace transforms, singular integral equations, and the calculus of residues.


267A-267B. Applied Algebra. Prerequisites: course 110A or equivalent. Students with credit for course 210B cannot receive credit for course 267A. Linear algebra, eigenvalues, and quadratic forms; linear inequalities, finite fields, and combinatorial analysis. Group theory, with emphasis on representation. Applications to physical problems.

268. Applied Functional Analysis. Lecture, three hours. Prerequisites: courses 115A, 115B, 131A-131B, and 132, or consent of instructor. Topics may include Hilbert spaces, distributions. Fourier transforms, Lp space, the Laplacian, linear operators, spectrum and resolvent, self-adjoint and unitary operators, problems of evolution in Banach spaces, well-posed initial value problems, semigroups, applications to applied problems.

266B-266C. Topics in Applied Functional Analysis. Lecture, three hours. Prerequisites: courses 131A, 135A, and 140A-140B-140C, or consent of instructor. Topics include special topics in functional analysis relevant to applied fields, use of functional analysis to solve applied problems.

268-268B-268C. Advanced Numerical Analysis. Prerequisites: courses 115A, 135A, and 140A-140B-140C, or consent of instructor. Topics include numerical solution methods for systems of ordinary differential equations; initial and boundary value problems; numerical solution for elliptic, parabolic, and hyperbolic partial differential equations; and numerical linear algebra. Applications to computer simulations, scientific computing, computer graphics, and image processing.

270A-270E. Mathematical Aspects of Scientific Computing. (Formerly numbered 270A-270B.) Lecture, three hours. Prerequisites: courses 115A, 140A or 141A-141B, and Program in Computing 10A or equivalent. Students with credit for course 270A, consent of instructor. Topics include: numerical solution of initial value problems, semigroups, applications to applied problems. 270A. Techniques of Scientific Computing. Mathematical modeling for computer applications, scientific programming languages, software development, graphics, implementation of numerical algorithms on different architectures, case studies. 270B-270C. Computational Linear Algebra. Direct, fast, and iterative algorithms. Overdetermined and underdetermined systems, singular value decompositions, least squares, and optimization problems. 270D-270E. Computational Fluid Dynamics. Basic equations, finite difference, finite element, pseudo-spectral, and vortex methods; stability, accuracy, shock capturing, and boundary approximation. 271A. Tensor Analysis. Prerequisite: course 131A or consent of instructor. Tensors and calculus of tensors on n-dimensional manifolds. Curvilinear coordinates and coordinate-free methods. Covariant differentiation. Green-Stokes theorem for differential forms. Applications to topics such as continuum and particle mechanics.


272B. Mathematical Aspects of Fluid Mechanics. (Not the same as course M272B prior to Fall Quarter 1987.) Lecture, three hours. Prerequisite: course 272A or consent of instructor. Review of basic theory of moving continua, fluid equations, integral theorems. Simple solutions, flow created by slowly moving obstacles, inviscid, incompressible, irrotational flows, boundary layers and their separation, wave resistance, ship waves, compressional waves, shock waves, turbulence theory (overview).


M272D. Dynamics and Stability. (Formerly numbered 272F.) (Same as Earth and Space Sciences M272F.) Lecture, three hours. Prerequisites: for mathematics students: course 272A, consent of instructor; for earth and space sciences students: Earth and Space Sciences 200B or consent of instructor. Motivational models of problems which arise outside of mathematics. Select topics.


M274A. Asymptotic Methods. (Same as Civil Engineering 274A.) Lecture, three hours. Prerequisites: course 132, Chemical Engineering M192A, or equivalent. The fundamental mathematics of asymptotic analysis, asymptotic expansions of Fourier integrals, method of stationary phase. Watson’s lemma, method of steepest descent, uniform asymptotic expansions, elementary perturbation problems.

274B-274C. Perturbation Methods. (Formerly numbered M274B.) Lecture, three hours. Prerequisite: course 266A or equivalent. Boundary layer theory, matched asymptotic expansions, WKB theory. Problems with several time scales: Poincaré’s method, averaging techniques, multiple-scale analysis. Application to eigenvalue problems, nonlinear oscillations, wave propagation, and bifurcation problems. Examples from various fields of science and engineering.

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 theorems, martingale theory.

275C. Stochastic Processes. Prerequisites: courses 275A-275B. Selected topics such as Brownian motion and potential theory. Markov processes, infinitesimal particle systems, Gaussian processes. Content varies from year to year. May be repeated for credit.
276A–276B. Statistical Theory. Lecture, three hours. Prerequisite: course 152C or consent of instructor. 276A. Sufficient, exponential families, least squares, maximum likelihood estimation, Fisher information, the Cramér-Rao inequality, confidence intervals, 276B. Asymptotic properties of tests and estimates, consistency and efficiency, likelihood ratio tests, chi-squared tests.

276C. Statistical Decision Theory. Prerequisite: course 276A. Invariant estimates and tests: best unbiased and locally best tests: multiple decision problems; application to the general linear model: other topics.

277. Data Analysis. Lecture, three hours. Prerequisites: courses M133A and 276A, or consent of instructor. An outline of the principles of applied statistics, followed by a survey of specific data analyses from the physical, life, and social sciences. Methods include regression, analysis of variance and covariance, survival analysis, categorical data analysis, and simple time-series analysis. Illustration of transformations, plotting, model selection and evaluation, and estimation and decision procedures.

278A. Multivariate Analysis. (Formerly numbered 277B.) Lecture, three hours. Prerequisite: course 276B or consent of instructor. Distributions in several dimensions, normal and multiple correlation. Normal distribution theory. Wishart distribution. Hotelling's T^2: Principal components, canonical correlation, discriminant analysis. Introduction to linear structural relations and factor analysis.

278B. Nonparametric and Robust Statistics. (Formerly numbered 278B.) Lecture, three hours. Prerequisite: course 276B or consent of instructor. Development of nonparametric and robust procedures for hypothesis testing, estimation in one- and two-sample problems, linear and non-linear regression, multiple classification, density estimation.

278C. Decision Theory. (Formerly numbered 278B.) Lecture, three hours. Prerequisites: courses 131A and 276B, or consent of instructor. Bayes, admissible, and minimax decision rules. Invariant tests and estimates, best unbiased tests, locally best tests. Application to the general linear model.

278D. Sequential Analysis. (Formerly numbered 278C.) Lecture, three hours. Prerequisites: courses 131A and 276B, or consent of instructor. Bayes sequential decision problems, stopping rule problems, optimality of the sequential probability ratio test. Wald's identity, asymptotic theory, and other topics.

M279A–M279B–M279C. Linear Statistical Models. (Same as Public Health M280A–M280B–M280C.) Lecture, three hours. Prerequisites: course 150C or 152B, Public Health 100C, or equivalent. Topics include linear algebra applied to linear statistical models, distribution of quadratic forms, the Gauss-Markov theorem, fixed and random component models, balanced and unbalanced designs.

M280. Computational Statistics. (Same as Biocomputations M280 and Public Health M207J.) Lecture, three hours. Prerequisites: courses 115A, 150C, or equivalent. Introduction to theory and design of statistical programs: pivoting and other technologies used in stepwise regression, nonlinear regression algorithms, algorithms for balanced and unbalanced analysis of variance, including the mixed model, iterative rescaling, and other methods for log-linear models.

Special Studies

285A–285L. Seminars. Prerequisite: consent of instructor. No more than two 285 courses may be applied toward the M.A. degree requirements except by prior consent of the graduate vice chair. Topics in various branches of mathematics and their applications by means of lectures and informal conferences with members of the staff.

285A. Seminar in the History and Development of Mathematics.

285B. Seminar in Number Theory.

285C. Seminar in Algebra.

285D. Seminar in Logic.

285E. Seminar in Geometry.


285G. Seminar in Analysis.

285H. Seminar in Differential Equations.

285I. Seminar in Functional Analysis.

285J. Seminar in Applied Mathematics.


289. Seminar in Current Literature. For Ph.D. candidates. Readings and presentations of papers in mathematical literature under the supervision of a staff member.

370. The Teaching of Mathematics. Lecture, three hours. Prerequisites: course 3B or 31B, senior standing, or consent of instructor. Critical inquiry into present-day tendencies in the teaching of mathematics.

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 Individual Study or Research (2 to 8 units). Supervised individual reading and study on a topic of special interest not covered by regularly scheduled courses.

598. Independent Study or Research (1 to 8 units). Independent study and research for the graduate microbiologist. May be repeated for credit. S/U grading.

Microbiology

5304 Life Sciences, (213) 825-8482

Professors

Arnold J. Berk, M.D.
Frederick A. Eiserling, Ph.D.
C. Fred Fox, Ph.D.
June Lascelles, Ph.D.
Rafael J. Martinez, Ph.D.
Gary Wilcox, Ph.D.

Owen N. Witte, M.D.
M.J. Picket, Ph.D., Emeritus
Sydney C. Ritenberg, Ph.D., Emeritus
Anthony J. Saile, Ph.D., Emeritus

Associate Professors

Robert L. Gunsalus, Ph.D.
Aldons J. Lusis, Ph.D. (Medicine)
Mary C. Territo, M.D. (Medicine)

Assistant Professors

Joan E. McEwen, Ph.D.
Virginia L. Miller, Ph.D.
Robert W. Simons, Ph.D.

Lecturer

Ralph Robinson, Ph.D.

Adjunct Professors

Keeshi Itakura, Ph.D.
Gary Wilcox, Ph.D.

Scope and Objectives

Microbiology at UCLA is a diverse science that includes bacteriology, virology, genetics, and molecular biology, and the study of single cells. The science has its roots in the fundamental human needs of health, nutrition, and environmental control, and it provides opportunities for study in the basic biological fields of genetics and cellular and molecular biology.

Undergraduate students majoring in microbiology 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 present by the department led 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 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 at least 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 Student Affairs 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, 119, M185; Chemistry 152; four additional upper division courses from the departmental list or from related departments selected with approval of your faculty adviser. All major courses must be taken for a letter grade, with a minimum overall 2.0 GPA. 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 to apply for departmental honors. In addition you must have junior standing and the sponsorship of a faculty adviser. The core of the program consists of three quarters (minimum) of Microbiology 199H research, culminating in a thesis. If the thesis is accepted by the honors committee, you are awarded the bachelor's degree with honors. The department also offers honors-designated courses each quarter for the elective program. For further information, contact the Student Affairs Office, 5205 Life Sciences.

Master of Arts Degree

Admission
Requirements for admission are the same as for the Ph.D. degree, with the addition of a research proposal. Students who select this program must obtain sponsorship for a laboratory research problem prior to submitting an application.

The department accepts relatively few students whose objective is a master's degree; applicants must contact a potential faculty sponsor at the time of application.

Ph.D. Degree

Admission
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) General Test directly to the department. The Subject Test in Biology or Chemistry is recommended. Evidence (via letters of recommendation, interviews, or direct knowledge) of superior research potential and motivation is also required. Completion of a master’s degree is not normally required.

Applications, brochures, and additional information on the master's and Ph.D. programs are available from the Graduate Adviser, Department of Microbiology, 5304 Life Sciences, UCLA, Los Angeles, CA 90024-1489.

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 is required.

A total of eight additional units of 200-level coursework to be selected from at least two of the following three subject areas is required: (1) general microbiology and cell biology, (2) host-parasite interactions and virology, (3) immunology. Acceptable courses are listed in the Graduate Office.

You are expected to complete a course in physical chemistry (Chemistry 156). 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 the faculty to evaluate continuation into the second year.

Teaching Experience
The department considers teaching experience to be an integral part of the graduate program. All Ph.D. candidates are required to serve as teaching assistants or in some other formal teaching capacity for three 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 reexamination is 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 your 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, 101, former course 10, Biology 5, 6, 7, 8, or equivalent courses taken elsewhere. Designed for the nontechnical student; an introduction to the biology of microorganisms, viruses, bacteria, protists, algae, fungi), their significance as model systems for understanding fundamental cellular processes, and their role in human affairs. (F, W, Sp, W, Sp)

6L. Microbiology Laboratory (2 units). Laboratory, four hours. Course 6, enrollment in a prehealth program (e.g., prenursing), consent of instructor. An optional laboratory, with emphasis on basic principles of diagnostic microbiology for students preparing to enter the allied health professions (e.g., nurses, public health, kinesiology). Principles and purposes and functions of the clinical microbiology lab in the diagnosis of infectious diseases, as well as the application of aseptic and disinfectant techniques. Practical laboratory and experience in modern medical procedures and new technologies.

Mr. Robinson, Ms. Wisniewski (Sp)

7. The New Cell Biology. Lecture, three hours; laboratory, two hours. Prerequisites: Biology 5, Chemistry 11A. Designed to introduce 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. Intensive 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)

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. Gunsalus (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 bacteria 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. 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 constitutive mechanisms of host defense. Concurrently scheduled with course C203B.

Mr. Martinez (Sp)

C104A. Molecular Biology of Bacterial Growth (2 units). Lecture, three hours. Prerequisites: course 101, Biology 5, 6, 7, 8, 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 C204A.

Mr. Nierlich (Sp, five weeks)

C104B. Biochemical Genetics of Eukaryotic Cells (2 units). Lecture, three hours. Prerequisites: prior 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 some aspects of eukaryotic genetics, especially human genetics, homeotic genes, transposable elements, gene amplification, and other diseases. May be concurrently scheduled with course C204B.

Mr. Lusis (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. Concepts and experimental techniques. 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. Witte (Sp, five weeks)

105AH-105BH-105CH. Honors Laboratory in Bacterial Pathogenesis. Lecture, 12 hours; laboratory, seven sites: honors standing, consent of instructor. Highly recommended: course C103A. Limited enrollment. Current research projects on the biochemistry and genetics of the bacterial infectious process under the 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, 105AH; W, 105BH; Sp, 105CH)

106. Hematology (2 units). Prerequisites: senior standing, consent of department. Diagnostic procedures used for the study of normal and pathological blood cells.

Ms. Territo (Sp)

C111. Biology of the Prokaryotic Cell. Lecture, three hours; discussion, one hour. Prerequisites: courses 101 and Chemistry 152, or consent of instructor. A review of current knowledge of the structural organization of prokaryotic cells. Emphasis on isolation methods, chemical composition, structure and assembly of subcellular components, including membranes, ribosomes, flagella, and viruses. Concurrently scheduled with course C211.

Mr. Eisering, Ms. Wisniewski (W)

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 Molecular Biology (5 units). Lecture, three hours; discussion, one hour. Prerequisites: courses 101, 102, Biology 8, Chemistry 23, 25. Recommended: Chemistry 152. An integrated, conceptual analysis of classical and modern molecular genetics of microbes, especially bacteria and their viruses, with emphasis on the nature of the gene and the control of gene expression.

Mr. Simons (Sp)

M185. Immunology. (Same as Biology 185 and Microbiology and Immunology 185.) Lecture, three hours; discussion, one hour. Prerequisites: Biology 8, Chemistry 23, 25. Recommended corequisites: Chemistry 152 or 156. Introduction to experimental immunobiology and immunochemistry; cellular and molecular aspects of humoral and cell mediated immune reactions.

Mr. Clark, Mr. Sercarz (F)

M186. Experimental Design in Immunology. (Same as Biology 186 and Microbiology and Immunology 186.) Lecture, 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 experiments.

Mr. Clark, Mr. Sercarz (W)

M187. Immunology Seminar (2 units). (Same as Biology M187 and Microbiology and Immunology M187.) Prerequisites: course M185, consent of instructor. Corequisite: 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)

189. Immunological Methods. Lecture, two hours; laboratory, four hours. Prerequisite: course M185. Immunological and immunological techniques used in the modern research and clinical laboratory.

(Sp)

195. Proseminar (2 units). Discussion, one hour. Prerequisites: senior standing, consent of instructor. Limited enrollment. Discussion by small groups of students and instructor on current research literature. Topic announced each quarter. (Sp)

199. Special Studies in Microbiology (2 to 8 units). Prerequisites: coursework in Biology 101, Chemistry 152, or consent of instructor. Grades of B or better. Junior, standing, major. Individual research project under the direct supervision of a departmental faculty member. A copy of the report describing the research must be filed with the Student Affairs Office at the end of the quarter. Four units may be applied toward the major. May be repeated for a maximum of 16 units. (F, W, Sp, W, Sp)

199H. Honors Thesis (4 or 8 units). Prerequisite: honors standing, standing, consent of instructor. Required for departmental honors; students must have a faculty sponsor. Three sequential 199H quarters are required. A progress report must be submitted to the faculty sponsor at the end of each of the first two quarters, with the honors thesis submitted at the end of the final quarter. A maximum of four units may be applied toward the major, with the balance applied toward the B.S. degree requirements. (F, W, Sp)

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 required.

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 C203B.

Mr. Martinez (W)

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 the research literature and methodology. S/U or letter grading. Mr. Nierlich (Sp, five weeks)
225. Biochemical Methods in Microbial and Cell Biology (2 units). Prerequisite: consent of instructor. Emphasis on techniques for purification and characterization of proteins, including cell disruption, column chromatography, gel electrophoresis, ultracentrifugation, various optical methods, and use of radioisotopes.

225L. Laboratory in Biochemical Methods in Microbial and Cell Biology (6 units). (Formerly numbered B225L; Lab 120C.) 12 hours. Prerequisite: consent of instructor. Corequisite: course 225. Lab: techniques in purification and characterization of proteins, including cell disruption, column chromatography, gel electrophoresis, ultracentrifugation, various optical methods, and use of radioisotopes.

M. Lusis (W, alternate years)

M226A. Principles of Microbial Pathogenesis. (Same as Biology M226A and Microbiology and Immunology M226A.) Lecture, one hour; discussion, three hours. Prerequisite: consent of instructor. Corequisite: course C104B. Laboratory in Microbial and Cell Biology (6 units). (Formerly numbered B226; Lab 120C.) 12 hours. Prerequisite: consent of instructor. Corequisite: course 225. Lab: methodology. S/U or letter grading.

M. Lusis (W, alternate years)

M226B. Principles of Microbial Pathogenesis. (Same as Biology M226B and Microbiology and Immunology M226B.) Lecture, one hour; discussion, three hours. Prerequisite: consent of instructor. Corequisite: course C104B. Laboratory in Microbial and Cell Biology (6 units). (Formerly numbered B226; Lab 120C.) 12 hours. Prerequisite: consent of instructor. Corequisite: course 225. Lab: methodology. S/U or letter grading.

M. Miller and the Staff (W)


M. 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 Biochemistry 157A, 157B, or Biology 157B. Lecture, one hour; discussion, one hour. Prerequisite: consent of instructor. Corequisite: laboratory in contemporary procedures for the analysis of nucleic acid and protein sequence data with the computer. No prior computer experience necessary; students gain both general and specialized facility with IBM PC and Digital VAX computers.

M. Nierlich, Mr. Simpson (Sp, alternate years)

250. Seminar in Microbial Metabolism (2 units). Prerequisite: consent of instructor. Discussion and study of new emerging concepts in prokaryotic and eukaryotic metabolism. Recommended for students planning research in the area of genetic regulation and physiology of bacterial metabolism.

M. Gunsalus (F, W)

251. Seminar in Regulation and Differentiation (2 units). S/U grading.

M. Gunsalus, M. Nierlich (F)

253. Seminar in Biochemistry of Host Defense Mechanisms (2 units). Lecture/discussion, one hour. Prerequisite: consent of instructor. Discussion of the literature dealing with host defense mechanisms. The biochemical mechanisms of action of host defense. S/U or letter grading. M. 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.

M. EcEwen (F, W)

256. Seminar in Microbial Molecular Genetics (2 units). Prerequisite: consent of instructor. Student and instructor presentations and critical discussion of newly emerging concepts in prokaryotic and/or eukaryotic molecular genetics. Emphasis on the nature of the gene and the control of gene expression. May be repeated for credit.

M. Romig, M. Simons

M258A. Molecular Genetics of the Immune System. (Same as Biology M258A and Microbiology and Immunology M258A.) Lecture, two hours; discussion, two hours. Prerequisite: course M185 or Microbiology and Immunology 202A or equivalent consent of instructor. Reading and discussion of current research articles on T cell ontogeny, activation and effector function of T and B cells. S/U or letter grading.

M. Bonavida and the Staff (W, five weeks)

M258B. Tand B Cell Function (2 units). (Same as Biology M258B and Microbiology and Immunology M258B.) Lecture, two hours; discussion, two hours. Prerequisite: course M185 or Microbiology and Immunology 202A or equivalent consent of instructor. Reading and discussion of current research articles on antigen, activation, and effector function of T and B cells. S/U or letter grading.

M. Bonavida and the Staff (W, five weeks)

M258C. Major Histocompatibility Complexes (2 units). (Same as Microbiology and Immunology M258C.) Lecture, two hours; discussion, two hours. Prerequisite: course M185 or Microbiology and Immunology 202A or equivalent consent of instructor. Reading and discussion of current research articles on the structure of human and murine MHC chromosomal regions and genes, MHC polymorphism, MHC-like systems, MHC-linked genes, MHC and disease, and nonimmune function of MHC. S/U or letter grading.

M. Clark, Ms. Scofield (Sp, five weeks)
M258D, Immunopathology (2 units). (Same as Biology M250D and Microbiology and Immunology M258D.) Lecture, two hours; discussion, two hours. Prerequisite: course M185 or Microbiology and Immunology 202A or consent of instructor. Reading and discussion of current research articles on attendees importance and autoimmunity, autoimmune disease models, immune complex diseases, immediate hypersensitivity and its cellular basis, and natural and acquired immune deficiency disease. S/U or letter grading. Mr. Porter (Sp, five weeks)

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 consent of instructor. Reading and discussion of current research articles on the immunology of antibodies, antigens, and complement, antigenic recognition, antibody restriction. S/U or letter grading.

Mr. Schumaker, Ms. Wimiski (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 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 grading. Mr. Sercarz (F, five weeks)

M250F, Immunochemistry (2 units). (Same as Biology M250F and Microbiology and Immunology M250F.) Lecture, two hours: discussion, two hours. Prerequisite: course M185 or Microbiology and Immunology 202A or consent of instructor. Reading and discussion of current research articles on the immunochemistry of antibodies, antigens, and complement, antigenic recognition, antibody restriction. S/U or letter grading.

Mr. Schumaker, Ms. Wimiski (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 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 grading. Mr. Sercarz (F, five weeks)

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, five weeks)

270. Seminar in Molecular Virology (2 units). Prerequisites: graduate standing, consent of instructor. Discussion and student presentations of recent work in molecular virology, including viral gene expression and function. S/U grading.

Mr. Berk, Mr. Wirtz (F, five weeks)

280. Seminar in Molecular and Cellular Endocrinology (2 units). Prerequisites: graduate standing, consent of instructor. Discussion and student presentations of recent work in molecular and cellular endocrinology. S/U grading. Mr. Fox (Sp)

290. Seminar in Molecular Genetics (2 units). Lecture, one hour; discussion, one hour. Prerequisites: graduate standing, consent of instructor. Discussion and student presentations of recent work in molecular and genetic analysis of cellular gene regulation. S/U grading.

Mr. Sercarz (F, five weeks)

M298. Seminar on Current Topics in Molecular Biology (2 units). (Same as Biochemistry M298, Biology M298, Chemistry M298, Microbiology and Immunology M298.) Prerequisite: consent of instructor and graduate adviser of interdepartmental Molecular Biology Ph.D. Program. Each student conducts or participates in discussions on assigned topics. May be repeated for credit. S/U grading.

Mr. Sercarz (F, five weeks)

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 Individual Research (2 to 12 units).

598. Research for M.A. Thesis (2 to 12 units).

599. Research for Ph.D. Dissertation (2 to 12 units).

Molecular Biology (Interdepartmental)

168 Molecular Biology Institute, (213) 825-1018

Professors

Daniel E. Akison, Ph.D. (Biochemistry)
Marcel A. Baluda, Ph.D. (Pathology)
Arnold J. Berk, M.D. (Medicine and Geophysics), Director
Paul D. Boyer, Ph.D. (Biochemistry)
William R. Clark, Ph.D. (Biochemistry)
Steven G. Clarke, Ph.D. (Biochemistry)
Edward M.F. De Robertis, M.D., Ph.D. (Biological Chemistry)
Richard E. Dickerson, Ph.D. (Biochemistry and Geophysics), Director
David S. Eisenberg, Ph.D. (Physical Chemistry and Molecular Biology)
Frederick A. Eisinger, Ph.D. (Biochemistry)
John F.essler, Ph.D. (Biochemistry and Molecular Biology)
Carl F. Fox, Ph.D. (Biochemistry and Molecular Biology)
Dohn G. Giltz, Ph.D. (Biochemistry)
Robert Goldberg, Ph.D. (Biochemistry)
Jay D. Graila, Ph.D. (Biochemistry)
Michael Gunstone, Ph.D. (Biochemistry and Molecular Biology)
Harald Herschman, Ph.D. (Biochemistry)
Wayne L. Hubsch, Ph.D. (Pathology and Biochemistry)
Harumi Kasamatsu, Ph.D. (Biochemistry)
James A. Lake, Ph.D. (Biochemistry and Molecular Biology)
George O. Laties, Ph.D. (Biochemistry)
Harold R. Martinson, Ph.D. (Biochemistry and Molecular Biology)
Jeffrey Miller, Ph.D. (Biochemistry)
Elizabeth F. Neufeld, Ph.D. (Biochemistry)
Donald P. Nierlich, Ph.D. (Biochemistry)
James C. Paulson, Ph.D. (Biochemistry)
Dan S. Ray, Ph.D. (Biochemistry and Molecular Biology)
Emil Reisler, Ph.D. (Biochemistry and Molecular Biology)
Milton W. Salser, Ph.D. (Biochemistry and Molecular Biology)
Winston A. Salser, Ph.D. (Biochemistry and Molecular Biology)
Verne A. Schumaker, Ph.D. (Biochemistry and Molecular Biology)
David S. Sigman, Ph.D. (Biochemistry)
Larry Simpson, Ph.D. (Biochemistry)
J. H. Thornber, Ph.D. (Biochemistry and Molecular Biology)
Elaine M. Tobin, Ph.D. (Biochemistry)
Joan S. Valentine, Ph.D. (Biochemistry and Molecular Biology)
Randolph Wall, Ph.D. (Biochemistry and Molecular Biology)
Frank R. Watts, Jr., Ph.D. (Microbiology and Immunology)
Richard L. Weiss, Ph.D. (Biochemistry)
Charles A. West, Ph.D. (Biochemistry)
Felix O. Wettstein, Ph.D. (Biochemistry and Immunology)
William T. Wickner, M.D. (Biological Chemistry)
Bernaide J. Wisnieski, Ph.D. (Microbiology)
Owen N. Wirtz, M.D. (Biochemistry)
Irene Zoltan, Ph.D. (Biological Chemistry)
Isaac M. Harary, Ph.D., Emeritus (Biological Chemistry)
Robert A. Smith, Ph.D., Emeritus (Biochemistry)

Associate Professors

Clifford H. Brunk, Ph.D. (Biolog)*
Kathryn L. Calame, Ph.D. (Biological Chemistry)
Asim Dasiapal, Ph.D. (Biochemistry and Molecular Biology)
Robert P. Gwinels, Ph.D. (Biochemistry)
John M. Jordan, Ph.D. (Biochemistry and Molecular Biology)
Judith A. Langfeld, Ph.D. (Biochemistry)

Aldons J. Luisis, Ph.D. (In Residence (Medicine and Microbiology)
Douglas C. Rees, Ph.D. (Biochemistry)
Leonard H. Rome, Ph.D. (Biological Chemistry)
Allan J. Tobin, Ph.D. (Biological Chemistry)

Assistant Professors

Jonathan B. Traut, M.D., Ph.D. (Pathology)
J. Chloé Bukinski, Ph.D. (Biological Chemistry)
David A. Campbell, Ph.D. (Microbiology and Immunology)
Robert E. Cohen, Ph.D. (Biochemistry)
Jul F. Feigon, Ph.D. (Biochemistry)
Lawrence T. Feldman, Ph.D. (Microbiology and Immunology)
Red C. Johnson, Ph.D. (Biological Chemistry)
Mitchell Kronenberg, Ph.D. (Microbiology and Immunology)
Michael Lovett, M.D., Ph.D. (Microbiology and Immunology)
Kevin McEntee, Ph.D. (Biological Chemistry)
Joan E. McEwen, Ph.D. (Microbiology)
Robert W. Simons, Ph.D. (Microbiology)
S. Larry Zipursky, 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 90024-1570.
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, as it is a skill needed for a future career.

Qualifying Examinations
Examinations are given in Molecular Biology M298, and four must be passed. The University Oral Qualifying Examination on original research proposed by the candidate independently of the Ph.D. adviser and on a topic distinct and separate from 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. Program. Each student conducts or participates in discussions on assigned topics. May be repeated for credit. (F,W,Sp)

Related Courses in Other Departments
The following courses offered by the departments listed are particularly appropriate to the research areas mentioned above. With the approval of the guidance committee or research supervisor, other related courses may be included in the program.


Microbiology 250, 251, 253, 256, M258A, M258B, M260, M263, 270, 290, M298

Microbiology and Immunology 208, 250, 254, M256, M258A, M258B, 261, 262, 264, M282, M293, M298

Near Eastern Languages and Cultures

376 Kinsey Hall, (213) 825-4165

Professors

Associate Professors
Elizabeth Carter, Ph.D. (Near Eastern Archaeology) Lev Hakak, Ph.D. (Hebrew) Thomas Penchoen, Ph.D. (Berber and Arabic)

Lecturers
Shimeon Brisman (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 1, 2, and 3 are required to take four language courses as follows: option 1: Semitics 140A-140B, 141, 142; option 2: Ancient Near East 120A-120B-120C, 121A; option 3: Semitics 130 and three quarters of Hebrew 120. The remaining 10 courses for all three options are to be selected from the following: three literature courses from Ancient Near East M105A, M150B, M150C, Jewish Studies M150A; three courses in history and religion from Ancient Near East M104A, M104B, 130, 170, History 105, M191A, 193D, 203, Iranian 168, 170; three courses in archaeology and art from Ancient Near East 160A, 160B, 161A, 161B, 161C, 162, Art History 102; one course in research methodology (such as Anthropology 115Q, 115R, 116P, M116Q, or Linguistics 120A, 120B, or English 100A, 140A) taken preferably in another department with the consent of the adviser.

Majors selecting option 4 are required to take 14 courses as follows: three quarters of Hebrew 120, Ancient Near East 150C, 162, 170; English 106B or History 194A; Greek 130; Jewish Studies M150A; History M191A; Semitics 130. The remaining three courses may be selected from Ancient Near East M104A, M104B, 130, 150A, 150B, 160A, 160B, Art History 102, 105A, Classics 168, Greek 131, History 105, 193D, 194B, Iranian 169, 170, Latin 120.
Bachelor of Arts in Arabic

Students majoring in Arabic may combine the major with the interdepartmental specialization in business and administration to enhance their career opportunities. Due to the number of additional courses required, you are advised to consider this option early in your academic career.

Preparation for the Major

Required: Arabic 1A-1B-1C, 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) General Test, and three letters of recommendation are required. The GRE must be taken within 24 months prior to receipt of your admission application by the department. As a rule, you are not admitted if your grade-point average is below 3.25 or if your GRE score is below 1,600. Prospective students may write to the Department of Near Eastern Languages and Cultures, 376 Kinsey Hall, UCLA, Los Angeles, CA 90024-1511. You are assigned an adviser after being admitted. Subsequently, an examining committee is established to administer the comprehensive examination.

Major Fields or Subdisciplines

Ancient Near Eastern civilizations, Arabic, Aramean, 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 East, 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 beginning of your fourth 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 and the history and archaeology of the related area. Languages available include ancient Egyptian, Akkadian, Aramaic (including Syriac), Coptic, Hebrew (with Ugarritic and Phoenician), Hittite, Old Persian, and Sumerian. 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 Turkish languages; in Arabic and Armenian, the major language and one culturally related Near Eastern language; in Iranian, either Persian and Arabic, or Persian and Sanskrit and Old and Middle Iranian.

Twelve units of course 596 may be applied toward the total course requirement; eight units may be applied toward the minimum graduate course requirement.

Comprehensive Examination Plan

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) General Test, and three letters of recommendation are required. The GRE must be taken within 24 months prior to receipt of your admission application by the department. As a rule, you are not admitted if your grade-point average is below 3.25 or if your GRE score is below 1,600. Prospective students may write to the Department of Near Eastern Languages and Cultures, 376 Kinsey Hall, UCLA, Los Angeles, CA 90024-1511.

The M.A. program need not have been completed at UCLA. You are assigned an adviser after being admitted. Subsequently, an examining committee is established to administer the qualifying examinations.

Major Fields or Subdisciplines

Ancient Near Eastern civilizations, Arabic, Aramean, 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, Turkish, or Berber, 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 languages, 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 323 B.C.
Mr. Callender (alternate years)
120A-120B-120C. Elementary Ancient Egyptian Literature. Lecture, three hours. Laboratory, two hours. Prerequisite: consent of instructor. Grammar and texts.
Mr. Callender (alternate years)
121A-121B-121C. Intermediate Ancient Egyptian Literature. 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 religiopolitical 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
145. Sumerian Literary Texts. Lecture, three hours. Prerequisites: courses 140A-140B or consent of instructor. Reading and interpretation of selected Sumerian literary texts.
Mr. Callender
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
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 and 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

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 grammatical and literary types of Greco-Roman texts. 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
240A-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.

Research Courses

M250. Seminar in Ancient Mesopotamia. (Same as History M250.) Seminar, three hours. Selected topics on the political, social, and intellectual history 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 for students who participate regularly in class meetings but without the homework required in course M250. May be repeated for credit. S/U grading.
Mr. Buccellati
260. Seminar in Ancient Near Eastern Archaeology. Lecture, two hours. Prerequisite: consent of instructor. May be repeated for credit.

Fieldwork Courses

261. 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
262. 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 Heineken, University of Southern California, Museum of Art.
Ms. Carter
Mr. Segert
Related Courses in Other Departments

Art History (Art, Design, and Art History) 101A. Egyptian Art and Archaeology
  History M104A-M104B. Ancient Egyptian Civilization
  105. History of Ancient Mesopotamia and Syria
  193D. Religions of the Ancient Near East
  201A-201U. Topics in History

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 from excerpts of 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. Lecture, three hours. Prerequisites: courses 111A-111B-111C or consent of instructor. Grammar and syntax; excerpts from literary texts using colloquial Arabic.
  113A-113B-113C. Elementary Spoken Levantine Arabic. Lecture, three hours. Prerequisites: courses 1A-1B-1C or consent of instructor. A general introduction to the spoken Arabic of Syria, Lebanon, and Palestine. Grammar and syntax, with emphasis on the language of everyday conversation.
  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 skills.
  120. Islamic Texts. Prerequisite: course 102C or equivalent. Readings from Koran, Tafsir, Hadith, Figh. May be repeated for credit.
  130. Classical Arabic Texts. (Formerly numbered 130A-130B-130C.) Lecture, three hours. Prerequisites: course 102C or equivalent. Readings from medi eval literary texts, with grammatical and syntactical analysis. May be repeated for credit.
  132. Philosophical and Kalam Texts. (Formerly numbered 132A-132B-132C.) Lecture, three hours. Prerequisite: course 120 or consent of instructor. Readings in medieval and Kalam texts. May be repeated for credit.
  140. Modern Arabic Texts. (Formerly numbered 140A-140B-140C.) Lecture, three hours. Prerequisite: course 102C or equivalent. Readings in contemporary Arabic texts, including newspapers and journals. May be repeated for credit.
  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 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.
  151. Survey of Modern Arabic Literature in English. Lecture, three hours. Readings of selected texts covering basic literary trends from the middle of the last century to the present. Ms. Fayad
  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. Readings of selected texts from major works. May be repeated for a maximum of 24 units.
  230. Medieval Literary Texts. (Formerly numbered 230A-230B-230C.) 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.
  240. Seminar in Arab Historians and Geographers. (Formerly numbered 240A-240B-240C.) Lecture, three hours. Prerequisite: consent of instructor. Readings from the works of major historians, geographers, and travelers. May be repeated for a maximum of 24 units.
  250. Seminar in Arabic Literature. (Formerly numbered 250A-250B-250C.) Lecture, two hours. Prerequisite: consent of instructor. Readings from various periods of Arabic literature. Readings from selected texts from major works. May be repeated for a maximum of 24 units.
  596. Directed Individual Study (2 to 8 units). May be repeated for credit.
  597. Examination Preparation (2 to 8 units). May be repeated for credit.

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

  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.
  130A-130B. Elementary Classical Armenian. Lecture, three hours. Grammar of the classical Armenian language and readings of selected texts.
  131A-131B. Intermediate Classical Armenian. Lecture, three hours. Prerequisites: courses 130A-130B or equivalent. Reading of selected texts.

Graduate Courses

207. Armenian Intellectual History. Lecture, three hours. Intellectual and cultural trends reflected in Armenian literature, historiography, religious and philosophical thought.
  210. History of the Armenian Language. Lecture, three hours. Prerequisite: consent of instructor. The development of the Armenian language in its various stages: classical, middle, and modern.
  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.

Related Courses in Other Departments

History 112A-112B-112C. Armenian History
  C112D. Introduction to Armenian Oral History
  113. The Caucasus under Russian and Soviet Rule
  200S. Advanced Historiography: Armenia and the Caucasus
  2013. Topics in History: Armenia and the Caucasus
  211A-211B. Seminar in Armenian History

Indo-European Studies M150. Introduction to Indo-European Linguistics

Berber

Upper Division Courses

101A-101B-101C. Elementary Berber. Lecture, three hours; laboratory, two hours. Development of oral proficiency and analysis of basic grammatical structure.
  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.

Related Courses in Other Departments

History 112A-112B-112C. Armenian History
  C112D. Introduction to Armenian Oral History
  113. The Caucasus under Russian and Soviet Rule
  200S. Advanced Historiography: Armenia and the Caucasus
  2013. Topics in History: Armenia and the Caucasus
  211A-211B. Seminar in Armenian History

Indo-European Studies M150. Introduction to Indo-European Linguistics
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

**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 who have prior knowledge of reading and some vocabulary are advised to take course 1 OA. Students with credit for course 10A will not receive credit for 1A; those with credit for course 10B will not receive credit for 1B and/or 1C. Mr. Sabar (F,W,Sp)
- **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 10A; those with credit for course 1B and/or 1C will not receive credit for 1C. Mr. Davidson (F,W,Sp)

### 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,Sp)
- **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,Sp)
- **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,Sp)
- **130. Rabbinic Texts.** Lecture, three hours. Prerequisites: courses 103A-103B-103C or consent of instructor. Readings in Mishnah, Talmud, and/or Midrash. May be repeated for credit. Mr. Davidson
- **135. Medieval Hebrew Texts.** Lecture, three hours. Prerequisites: courses 103A-103B-103C or consent of instructor. Readings 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, Tcherchinovsky, Greenberg, Shlonsky, Alterman, 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
- **190A-190B. Survey of Hebrew Grammar.** Lecture, three hours. Prerequisites: courses 102A-102B-102C or consent of instructor. Descriptive and comparative study of Hebrew grammar: phonology and morphology. Topics include the development of the Hebrew language from biblical times to the present day, its relation to Arabic and other Semitic languages, methods of language expansion in Israeli Hebrew, traditional pronunciation of Hebrew by various Jewish communities, Hebrew contribution to other Jewish languages (Yiddish, Ladino, Judeo-Arabic). Mr. Sabar (W,Sp, alternate years)
- **199. Special Studies in Hebrew (2 to 8 units).** Prerequisite: consent of instructor.

### Graduate 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 Israeli; differences in vocabulary, morphology, syntax, and the influence of other languages; problems of language expansion in Israeli 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)
- **242. Studies in Modern Hebrew Poetry.** Studies in specific problems and trends in Hebrew poetry of the last two centuries. Mr. Band (W,Sp)
- **596. Directed Individual Study (2 to 8 units).** May be repeated for credit. Mr. Sabar
- **597. Examination Preparation (2 to 8 units).** Ph.D. Dissertation Research and Preparation (2 to 8 units).

### Iranian

### Lower Division Courses

- **10A-10B-10C. Persian Conversation (2 units each).** Lecture, three hours. Prerequisite: consent of instructor. Systematic and structured Persian conversation.
- **101A-101B-101C. Elementary Persian.** Lecture, four hours; laboratory, two hours. Mrs. Milani
- **102A-102B-102C. Intermediate Persian.** Lecture, three hours; laboratory, three 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

### Upper Division Courses

- **101A-101B-101C. Elementary Persian.** Lecture, four hours; laboratory, two hours. Mrs. Milani
- **102A-102B-102C. Intermediate Persian.** Lecture, three hours; laboratory, three 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 Belles 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’edi, Golsetan; poetry—Nima, Shamtu, 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 texts, 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 not required. Each course may be taken independently for credit. Mr. Banani

### Civilized Life

- **159. Civilization of Pre-Islamic Iran.** A survey of Iranian culture from the beginnings through the Sasanian period.
- **170. Religion in Ancient Iran.** History of religion in Iran from the beginning to the Mohammedan conquest; Indo-Iranian background; Zoroastrianism, Manicheism, Mazdaism.

### Upper Division 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.
- **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. Banani
- **222A-M222B. Vedic. (Same as East Asian Languages and Cultures M222A-M222B.) Prerequisites: knowledge of Sanskrit or equivalent to East Asian Languages and Cultures 162, consent of instructor. Comparative characteristics of the Vedic dialect and readings in the Rig-Vedic hymns. Only course 222B may be repeated for credit. Mr. Band (Sp, alternate years)
- **230A-230B. Old Persian.** 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.
- **231A-231B. Middle Persian.** Prerequisite: consent of instructor. Studies in the grammars and texts of such Middle Iranian languages as best serve the students needs (e.g., Pahlavi, Sogdian, Sakian). 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. Banani
- **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. Banani
- **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. Advanced Studies 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

Islamics

Upper Division Course

110. Introduction to Islam. Lecture, three hours. The history of Islam, its scriptures, and practices, with readings from the Qur'an and hadith; schools of law and theology; piety and Sufism; reform and modernism. Mr. Poonawala

Graduate Courses

596. Directed Individual Study (2 to 8 units). May be repeated for credit.
597. Examination Preparation (2 to 8 units).
598. Master's 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

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. Mr. Sabar
130. Biblical Aramaic. Lecture, three hours. Prerequisites: Hebrew 102A-102B-102C or consent of instructor. Grammar of biblical Aramaic and reading of texts.
Mr. Segert (alternate years)
140A-140B. Modern Jewish Religious Movements and Their Ideologies. Lecture, three hours. An introduction to and an overview of Jewish religious movements and the evolution of their ideologies in the Western world from the time of the Enlightenment to the present.
Mr. Ellenson

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. (W140B)
141. Modern Anti-Semitism. Lecture, three hours. An examination of modern anti-Semitism from the 18th century to the present; a comparison of modern racist ideologies with premodern theories; case studies (e.g., the Dreyfus affair, the Beiliss Trial, 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.
Mr. Stern

M150A-150B. Hebrew Literature in English. Lecture, three hours. Each course may be taken independently for credit.
M150A. 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).
Mr. Band
150B. Rabbinic and Medieval Literature.

Mr. Davidson

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. Focus Topics 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 Movements, 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

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.

201. 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-Asiatic) 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). Prerequisites: 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 adviser and graduate dean, and host campus instructor, department chair, and graduate dean. 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. Mr. Sabar
130. Biblical Aramaic. Lecture, three hours. Prerequisites: Hebrew 102A-102B-102C or consent of instructor. Grammar of biblical Aramaic and reading of texts.
Mr. Segert (alternate years)
140A-140B. Elementary Akkadian. Lecture, three hours. Elementary grammar and reading of texts in standard Babylonian.
Mr. Buccellati
141. Advanced Akkadian. Lecture, three hours. Prerequisite: consent of instructor. Old Babylonian syntax; reading of basic Old Babylonian texts.

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.
Mr. Buccellati

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 and the survivng inscriptions and papyri. May be repeated for credit.
Mr. Segert

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.
Mr. Segert (alternate years)

220A-220B. Ugaritic. Lecture, two hours. Prerequisites: Hebrew 102A-102B-102C or consent of instructor. Study of the Ugaritic language and literature. Only course 220B may be repeated for credit.
Mr. Segert

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.
Mr. Segert
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. Bucchelli

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. Bucchelli

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. May be repeated for credit. Mr. Bucchelli

241X. Seminar in Akkadian Literature (1 unit). 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. Bucchelli

280A-280B-280C. Seminar in Comparative Semitic. 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).

Turkic Languages

Upper Division Courses


102A-102B-102C. Advanced Turkish. (Formerly numbered 102A, 103A-103B.) Lecture, five hours. Prerequisites: courses 101A-101B or 112B-112C or 114B-114C or consent of instructor. Mr. Bodrogligeti

111A-111B-111C. Elementary Uzbek. Lecture, three hours; laboratory, two hours. Prerequisite: consent of instructor. Elementary grammar, reading, and composition exercises; elementary conversation. Mr. Bodrogligeti

112A-112B-112C. Advanced Uzbek. Lecture, three hours; laboratory, two hours. Prerequisite: consent of instructor. Descriptive Uzbek grammar, reading, and analysis of Uzbek literary and folkloric texts. High-style composition and conversation. Mr. Bodrogligeti

114A-114B-114C. Bashkir. Lecture, three hours. Prerequisite: course 102A or consent of instructor. Grammar, reading 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 19th 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 Diplomacy. Lecture, three hours. Prerequisites: 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 112B-112C or 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 Uygur. Lecture, three hours. Prerequisites: course 180, consent of instructor. Textual and linguistic analysis of Turk and Old Uyghur documents: inscriptions, Manichaean and Buddhist literary works. Mr. Bodrogligeti

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 phonic, grammatical, and lexical systems from the 8th to the 20th century. Structure and analysis of the Turkic languages on a comparative basis. Mr. Bodrogligeti

235A-235B. Middle Turkic: Karakhanid, Khorazmian, Mamluk-Kipchak, and Old Anatolian. Lecture, three hours. Prerequisite: 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

235A-235B. Middle Turkic: Karakhanid, Khorazmian, Mamluk-Kipchak, and Old Anatolian. Lecture, three hours. Prerequisite: 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

235A-235B. Middle Turkic: Karakhanid, Khorazmian, Mamluk-Kipchak, and Old Anatolian. Lecture, three hours. Prerequisite: 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

235A-235B. Middle Turkic: Karakhanid, Khorazmian, Mamluk-Kipchak, and Old Anatolian. Lecture, three hours. Prerequisite: 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

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 (bellees letters 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).

Near Eastern Studies (Interdepartmental)

5353 Bunche Hall, (213) 825-1374, 825-4601

Professors

Nikki Keddie, Ph.D. (History)

Isma'il Poonaawi, Ph.D. (Near Eastern Languages and Cultures)

Georges Sabagh, Ph.D. (Sociology)

Stanford J. Shaw, Ph.D. (History), Chair

Assistant Professor

Irene A. Bierman, Ph.D. (Art History)

Scope and Objectives

The graduate major in this discipline is called "Islamic Studies." For details, see the program by that name earlier in this chapter.

The undergraduate major is designed primarily for (1) students seeking a general education and desiring a special emphasis in this particular area, (2) those who plan to live and work in the Near East whose careers will be aided by a knowledge of its peoples, languages, and institutions, and (3) students preparing for academic study in the various disciplines pertaining to the Near East.

Bachelor of Arts Degree

Preparation for the Major

Required: The first-year course in Arabic, Armenian, Hebrew, Persian, or Turkish. You must also obtain 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.
Scope and Objectives

In a recent survey conducted by the Conference Board of the Associated Research Councils, UCLA's Philosophy Department was judged among the five best in the nation in terms of the quality of its faculty. It offers programs leading to the Bachelor of Arts, Master of Arts, and Ph.D. degrees.

Philosophers, translated from the Greek, literally means "lover of wisdom." The term has come to mean someone who seeks knowledge, enlightenment, truth. The undergraduate program in philosophy is not directed at career objectives (although it is traditionally a good preparation for law, theology, and graduate work in philosophy). Philosophy is taught to undergraduates primarily as a contribution to their liberal education. All of the lower and most of the upper division course offerings should be of interest and useful to students who are reflective about their beliefs or who wish to become so. It also provides the occasion to ponder the foundations of almost any other subject to which they are exposed — whether history, religion, government, or science.

The principal goal of the graduate program is to produce philosophers of high quality, thinkers informed by the great historical traditions of Western philosophers who can apply the methods of philosophical analysis to a broad range of current philosophical problems. Since all its graduate students hope to teach at the college or university level, the department is also committed to training clear, able, and stimulating teachers.

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 one 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 199, of which five courses (20 units) must be in the 200 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 both by 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) General Test (the Subject 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.
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. A grade of B− is the lowest passing grade on the whole examination or any of its parts; C+ is a failing grade.

In the second and third years, you must write two substantial papers, prepared in accordance with specific formats, called "propositions." One must be on a topic in metaphysics and epistemology and the other on a topic in ethics and 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 are able to complete the dissertation successfully. The scope of the examination varies according to the definiteness of the dissertation topic and the extent of your preliminary investigations. In case of failure, the doctoral committee makes a recommendation for or against allowing a second oral examination.

Candidate in Philosophy Degree
You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

Final Oral Examination
The final oral examination may be waived by the doctoral committee. This determination is usually made at the time of the oral qualifying examination.

Lower Division Courses
1. 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.

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.

3. Personal and Social Ideals. Lecture, three hours; discussion, one hour. A study of various conceptions of human 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 discussions 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, and gay rights. The examination is passed or failed as a whole. Other topics may be permitted to substitute previous graduate courses taken at UCLA or elsewhere.

5. 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.

6. Historical Introduction to Moral and Political Philosophy. Lecture, three hours; discussion, one hour. A study of the historical development of moral and political philosophy. Questions that may be discussed include What is justice? Why be moral? Why obey the law? Which form of government is best? How much personal freedom should be allowed in society? Mr. Kaplan

7. Introduction to the Philosophy of Mind. Lecture, three hours; discussion, one hour. An introductory study of philosophical issues 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.

8. Introduction to the Philosophy of Science. Lecture, three hours; discussion, one hour. An introduction to philosophical questions about the nature of science, drawing samples 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?

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

Teaching Experience
Before receiving a Ph.D., you are required to spend five quarters as a teaching assistant at UCLA.
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. Can we know anything with certainty? How can we justify any of our beliefs? An introduction to the study of these and related questions through the works of some great philosophers of the modern period, such as Descartes, Leibniz, Berkeley, or Hume.

Mr. Donnellan, Mr. Furth, Mr. Yost

22. Introduction to Ethical Theory. 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. The elements of symbolic logic, sentential and quantificational; forms of reasoning and structure of language.

Mr. Burge, Mr. Kalish, Mr. Kaplan, Mr. Nelson

32. Logic, Second Course. Lecture, three hours; discussion, one hour. Prerequisite: course 31 (preferably the preceding quarter). Symbolic logic and the systematic development of course 31. Quantifiers, identity, 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 topics. 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 Greek 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 Greek philosophy, with emphasis on Greek metaphysics and epistemology of Plato and Aristotle.

Mr. Albritton, Mr. Furth

100C. History of Modern Philosophy, 1650-1800. 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, Anselm, Aquinas, and Descartes.

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

101B. Plato — Later Dialogues. Lecture, three hours; discussion, one hour. Prerequisite: course 101A. A study of selected topics in the late dialogues of Plato.

Mr. Furth, Mr. Quinn

102. 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

104. Topics in Islamic Philosophy. Lecture, three hours; discussion, one hour. Prerequisite: one course in philosophy or consent of instructor. The development of Islamic philosophy in its great age (from Kindo to Averroes, 850 to 1200), considered in connection with Muslim theologians and mystics.

Mr. Furth

105. Medieval Philosophy from Augustine to Maimonides. Prerequisite: one course in philosophy or consent of instructor. The development of early medieval philosophy within the framework of Judeo-Christian theology and its assimilation and criticism of Greek philosophical heritage. Focus on the problems of universals, the existence and nature of God, the problem of evil, and the doctrines of the Trinity and atonement. Selected readings from Augustine through Maimonides read in English translation.

Mrs. Adams

106. Later Medieval Philosophy. Prerequisite: one course in philosophy or consent of instructor. Metaphysics, theory of knowledge, and theology of Aquinas, Duns Scotus, and William of Ockham, with contribu-

107. Topics in Medieval Philosophy. Prerequisite: one course in philosophy or consent of instructor. The study of the philosophy and theology of one medieval philosopher such as Augustine, Anselm, Abelard, Aquinas, Scotus, or Ockham, or the study of a single area such as logic or theory of knowledge in several medieval philosophers. Topic announced each quarter. May be repeated for credit with consent of instructor.

Mrs. Adams

109. Descartes. Prerequisites: course 21 or two courses in philosophy or consent of instructor. A study of the works of Descartes, with discussion of issues such as the problem of skepticism, the foundations of knowledge, the existence of God, the relation between mind and body, and the connection between science and metaphysics. May be concurrently scheduled with course 200.

Mr. Burge, Mr. Nelson

110. Spinoza. Lecture, three hours; discussion, one hour. Prerequisite: course 21 or consent of instructor. A study of the philosophy of Spinoza. May be concurrently scheduled with course 210, in which case there is a weekly discussion meeting, plus fewer readings and shorter papers for undergraduates. Limited to 30 students when concurrently scheduled.

Mrs. Adams

111. Leibniz. Lecture, three hours; discussion, one hour. Prerequisite: course 21 or consent of instructor. A study of the philosophy of Leibniz. May be concurrently scheduled with course 211, in which case there is a weekly discussion meeting, plus fewer readings and shorter papers for undergraduates. Limited to 30 students when concurrently scheduled.

Mrs. Adams, Mr. Nelson

112. Locke and Berkeley. Prerequisite: one course in philosophy or consent of instructor. A study of the philosophy of Locke and Berkeley. Emphasis may sometimes vary from one figure to the other. May be concurrently scheduled with course 212.

Mr. Adams

114. Hume. Prerequisite: one course in philosophy or consent of instructor. A study of the philosophy of David Hume. May be concurrently scheduled with course 214.

Mr. Donnellan

115. Kant. Lecture, three hours; discussion, one hour. Prerequisite: course 21 or 22 or consent of instructor. A study of Kant's views on related topics in philosophy of knowledge, ethics, and politics. May be repeated for credit with consent of instructor.

Ms. Hampton

116. 19th-Century Philosophy. Lecture, three hours; discussion, one hour. Prerequisite: one course in philosophy or consent of instructor. Selected topics in the development of philosophy in 19th-century thought.

Mr. Albritton, Mr. Almog, Mr. Burge

Group II: Logic, Semantics, and Philosophy of Science

126A. Philosophy of Science. Lecture, three hours; discussion, one hour. Prerequisite: one course in philosophy or consent of instructor. A historical introduction to the philosophy of science. Several general topics discussed in the context of actual episodes in the development of the natural sciences.

Mr. Healey, Mr. Nelson

126B. Philosophy of Science. Lecture, three hours; discussion, one hour. Prerequisite: course 31 or 126A or consent of instructor. An introduction to contemporary philosophy of science, focusing on problems of central importance.

Mr. Healey, Mr. Nelson

126C. Philosophy of Science: Social Sciences. Lecture, three hours; discussion, one hour. Prerequisites: two courses in philosophy 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

127A. Philosophy of Language. Prerequisite: course 31 or consent of instructor. Syntax, semantics, pragmatics. The semantical concept of truth, sense and denotation, synonymy and analyticity, modalities and tenses, indirect discourse, indexical terms, semantic paradoxes. May be repeated for credit with consent of instructor.

Mr. Almog, Mr. Burge, Mr. Church, Mr. Kaplan

127B. Philosophy of Language. Prerequisite: course 32 or consent of instructor. Course 127A is not prerequisite to 127B. Selected topics similar to those considered in course 127A, but at a more advanced and technical level.

Mr. Almog, Mr. Church, Mr. Kaplan

128A. Philosophy of Mathematics. Prerequisites: courses 31, 32, and preferably one additional course in logic. The philosophy of mathematics; logicism of Frege and Russell, arithmetic reduced to logic; ramified type theory and impredicative definition (Russell, Poincare, the early Weyl).

Mr. Almog, Mr. Church

128B. Philosophy of Mathematics. Prerequisite: course 128A or consent of instructor. Intuitionism of Brouwer, Heyting, and the later Weyl; proof theory of Hilbert.

Mr. Almog, Mr. Church

129. Philosophy of Psychology. Lecture, three hours; discussion, one hour. Prerequisites: one four-unit course in psychology, one course in philosophy. Selected philosophical issues arising from psychological theories. Relevance of computer simulation to accounts of thinking and meaning; relations between semantic theory and learning theories; psychological aspects of the theory of syntax; behaviorism, functionalism, and alternatives; physiology and psychology.
130. Philosophy of Space and Time. Lecture, three hours; discussion, one hour. Prerequisite: two courses in philosophy or one course in philosophy and one course in physics, or consent of instructor. Selected philosophical problems concerning the nature of space and time. The philosophical implications of space-time theories, such as those of Newton and Einstein. Topics may include the nature of geometry, conventionalism, absolutist versus relationalist views of space and time, philosophical implications of relativity theory. Mr. Healey

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

133. Topics in Logic and Semantics. Prerequisite: course 32. Possible topics include formal theories, definitions, alternative theories of descriptions, many-valued logics, deviant logics. V. Haack, T. Parsons, M. Kaplan, M. Martin

134. Introduction to Set Theory. Prerequisites: course 32 or upper division standing in mathematics, consent of instructor. Introduction to axiomatic 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, satisfaction, truth, definability; logical truth and logical consequence; consistency and completeness. W. 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, quantificational extension. Mr. Almog, Mr. Kaplan, Mr. Martin (W)

Group IV: Metaphysics and Epistemology

150. Society and Morals. Lecture, three hours; discussion, one hour. Prerequisite: course 22 or consent of instructor. A critical study of principles and arguments advanced in discussion of current moral and social issues. Topics similar to those in course 4, but familiarity with some basic philosophical concepts and methods prerequisite. May be repeated for credit with consent of instructor. 151A-151B. History of Ethics. Prerequisites: two courses in philosophy or consent of instructor. Course 151A is not prerequisite to 151B. 151A. Selected Classics in Ancient Ethical Theories: Plato, Aristotle. Mr. Quinn 151B. Selected Classics in Modern Ethical Theories: Hume, Kant, Mill, etc. Mr. Quinn

153A. Topics in Ethical Theory: Normative Ethics. Prerequisite: course 22 or consent of instructor. A study of selected topics in normative ethical theory. Topics may include human rights, virtues and vices, principles of culpability and praiseworthiness (the criteria of right action). May be repeated once for credit with consent of instructor.

153B. Topics in Ethical Theory: Metaethics. Prerequisite: course 22 or consent of instructor. A study of selected problems in metaethics. 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.

155. Medical Ethics. An examination of the philosophical issues raised by problems of medical ethics, such as abortion, euthanasia, and medical experimentation. Mr. Foot, Mr. Quinn

156. Topics in Political Philosophy. Lecture, three hours; discussion, one hour. Prerequisite: two courses in philosophy or consent of instructor. Recommended: course 22. Analysis of some basic concepts in political theory. May be repeated for credit with consent of instructor. Mr. Quinn

157A-157B. History of Political Philosophy. Lecture, three hours; discussion, one hour. Prerequisites: two courses in philosophy or consent of instructor. May be repeated with consent of instructor. 157A. Reading and discussion of classic works in earlier political theory, especially those by Hobbes, Locke, Hume, and Rousseau. 157B. Reading and discussion of classic works in later political theory, especially those by Kant, Hegel, and Marx. Mr. Hampton, Mr. Morris

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

165. Introduction to Legal Philosophy. Prerequisite: one course in philosophy or consent of instructor. An examination, through the study of recent philosophical approaches, of philosophical problems provided by legal phenomena, the relationship of law and morals, legal reasoning, punishment, and the obligation to obey the law. Mr. Almog, Mr. Morris

170. Philosophy of Mind. Lecture, three hours; discussion, one hour. Prerequisites: two relevant courses in philosophy or consent of instructor. An analysis 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 and communication; how words refer to things; limits of meaningfulness; analysis of speech acts; relation of everyday language to scientific discoveries. Mr. Donnellan

175. Philosophy in Religion. Lecture, three hours; discussion, one hour. Prerequisite: course 22 or consent of instructor. An intensive investigation of one or two topics or works 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.

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, Camus. Possible topics include metaphysical foundations, nature of mind, freedom, problem of the self, other people, ethics, existential psychoanalysis. Mr. Almog (Sp)

177B. Historical Studies in Existentialism. Prerequisite: one course in philosophy or consent of instructor. A study of the central philosophic texts of one of the following: Kierkegaard, Nietzsche, Heidegger, Jaspers, Sartre, Can. Emphasis on existentialist writers and the historical development of existentialist texts. May be repeated for credit with consent of instructor. Mr. Adams

180. Phenomenology. Lecture, three hours; discussion, one hour. Prerequisites: two courses in philosophy or consent of instructor. Introduction to the phenomenological method of approaching philosophical problems via the works of some of the following: Brentano, Husserl, Heidegger, Scheler, Sartre, Merleau-Ponty, and others. Emphasis on phenomenology, epistemology, and particularly philosophy of mind.

185. Oriental Philosophy. 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.

186. 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. Almog, Mr. Yost

188. Topics in the Theory of Knowledge. Prerequisite: course 21 or consent of instructor. An analysis of the concept of empirical knowledge. Mr. Albritton, Mr. Donnellan, Mr. Healey

189. 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, and free will; and self-deception. Mr. Albritton, Mr. Burge, Mr. Donnellan

190. 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

191. 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. Albritton

Special Studies

M192. Philosophical Analysis of Issues in Women's Liberation. (Formerly numbered 192.) (Same as Women's Studies 10) For other students: one course in philosophy or consent of instructor. An examination in depth of different theoretical positions on topics related to the arguments for and against the existence of God, or the relationship between religion and ethics. Topics announced each quarter. May be repeated for credit with consent of instructor. Mr. Albritton, Mr. Burge, Mr. Donnellan

M193. History of women's liberation. Lecture, one hour. Prerequisite for women's studies majors: Women's Studies 10; for other students: one course in philosophy or consent of instructor. An examination in depth of different theoretical positions on topics related to the arguments for and against the existence of God, or the relationship between religion and ethics. Topics announced each quarter. May be repeated for credit with consent of instructor. Mr. Albritton
193. Christian Ethical Thought. Lecture, three hours; discussion, one hour. Reading of selected classic and contemporary authors in the Christian ethical tradition, with philosophical analysis and 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. 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.

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 of reading and writing; students 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 requirement, but 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 later dialogues. Mr. Furth

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. The study of the philosophy and theology 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 several medieval philosophers. Topics announced each quarter. May be repeated for credit with consent of instructor. Mrs. 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. Mrs. Adams

208. Hobbes. Prerequisite: consent of instructor. Hobbes’ political philosophy, especially the Leviathan, with attention to its relevance to contemporary political philosophy. Ms. Hampton

209. Descartes. Prerequisite: consent of instructor. A study of the works of Descartes, with discussion of issues such as the problem of skepticism, the foundations of knowledge, the existence of God, the relation between mind and body, and the connection between science and metaphysics. May be concurrently scheduled with course C109. Mr. Burge, Mr. Nelson

210. Spinoza. Prerequisite: consent of instructor. Selections from the philosophy represented may be concurrently scheduled with course C110, in which case there is a two-hour biview discussion meeting, plus additional readings and a longer term paper for graduates. 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 biview discussion meeting, plus additional readings and a longer term paper for graduates. Selected problems and philosophers. Mr. Adams

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

215. Kant. Prerequisite: consent of instructor. An intensive study of selected writings of Immanuel Kant. Mr. Adams, Ms. Hampton

216. 19th-Century Philosophy. Prerequisite: consent of instructor. Topics in 19th-century philosophy. May be repeated for credit with consent of instructor.

219. Seminar: History of Modern Philosophy. Prerequisite: consent of instructor. Selected problems and philosophers. May be repeated for credit with consent of instructor. Mr. Adams

220. Seminar: Topics in History of Philosophy. Seminar: three hours. Prerequisite: consent of instructor. Topics may include the logic of demonstratives, epistemic logic, the intensional logic of possible worlds semantics, 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

223. Seminar: Philosophy of Science. Prerequisite: consent of instructor. An examination of philosophical problems concerning concepts and methods used in the social sciences. Topics may include the relation between social processes and scientific thinking, 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. Adams, Mr. Kaplan, Mr. Martin

224. Philosophy of Physics. Prerequisite: consent of instructor. Selected problems and philosophers related to physical theory, development of interests and background of the participants, including space and time; observation in quantum mechanics; foundations of statistical mechanics. May be repeated for credit with consent of instructor. Mr. Healey

225. Probability and Inductive Logic. Prerequisites: course 134 or Mathematics 112A-112B or consent of instructor.

226. Topics in Mathematical 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. Kaisch, Mr. Kaplan, Mr. Martin

227. Philosophy of Social Science. Prerequisite: consent of instructor. An examination of philosophical problems concerning concepts and methods used in the social sciences. Topics may include the relation between social processes and scientific thinking, 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. Healey, Mr. Nelson

229. Seminar: Philosophy of Science. Prerequisite: consent of instructor. May be repeated for credit with consent of instructor. Mr. Healey

Group II. Logic, Semantics, and Philosophy of Science

221A. Topics in Set Theory. Prerequisite: Mathematics 112A or consent of instructor. Sets, relations, functions, partial and total orderings; well-orderings. Ordinal and cardinal arithmetic, finiteness and infinity, the continuum hypothesis, inaccessible numbers. Formalization of set theory; Zermelo-Fraenkel; von Neumann-Bernays-Godel. May be repeated for credit with consent of instructor. Mr. Adams

221B. Non-Neumannian Set Theory. Course 221A or consent of instructor. Standard (so-called Z-F) set theory relies on a principle of limitation 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 Z-F set theory plus a strong axiom of infinity. Mr. Church

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, Godel, and several others. The origins and significance of certain key ideas, such as set theory as logic, 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

222A-222B-222C. Gödel Theory. Prerequisites: several courses in logic, preferably including course 135. First in a series of three courses leading to Godel’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. Mr. Church, Mr. Martin

224. 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. Almgvist, Mr. Kaplan, Mr. Martin

229. Philosophy of Science. Prerequisite: consent of instructor. May be repeated for credit with consent of instructor. Mr. Healey, Mr. Nelson

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 or 156 or 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, and so forth). May be repeated for credit with consent of instructor. Ms. Hampton

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. Mr. Quinn

247. Seminar: Political Theory. Prerequisite: consent of instructor. May be repeated for credit with consent of instructor. Mr. Hampton

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 punishments, legal reasoning, and the obligation to obey the law. May be repeated for credit with consent of instructor. Mr. Munzer  

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. Selected topics in 20th-century continental European philosophy. 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. Nelson

281. Seminar: Philosophy of Mind. Prerequisite: consent of instructor. May be repeated for credit with consent of instructor. Mr. Burge

282. Seminar: Metaphysics. Prerequisite: consent of instructor. May be repeated for credit with consent of instructor. Mr. Almog

283. Seminar: Theory of Knowledge. Prerequisite: consent of instructor. May be repeated for credit with consent of instructor. Mr. Almog

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 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

288. Seminar: Wittgenstein. Seminar, three hours. Prerequisite: consent of instructor. May be repeated for credit with consent of instructor. Mr. Burge, Mr. Donnellan, Mr. Furth

289. Seminar: Philosophy of Religion. Prerequisite: consent of instructor. May be repeated for credit with consent of instructor. Mr. Albritton

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 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 each). 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.


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. Abers, Ph.D.
- Shilomo Alexander, Ph.D.
- Rubin Brauer, Ph.D.
- Charles D. Buchanan, Ph.D.
- Nina Byers, Ph.D.
- Marvin Chester, Ph.D.
- W. Gilbert Clark, Ph.D.
- David Cline, Ph.D.
- John M. Cornwell, Ph.D.
- Ferdinand V. Coronti, Ph.D.
- John M. Dawson, Ph.D.
- Sergio Ferrara, Ph.D.
- Burton D. Fried, Ph.D.
- Christian Fronsdal, Ph.D.
- Walter N. Gekelman, Ph.D., in Residence
- George Gruner, Ph.D.
- Roy P. Haddock, Ph.D.
- George J. Igo, Ph.D.
- Charles F. Kennel, Ph.D.
- Leon Knopoff, Ph.D.
- George J. Morales, Ph.D.
- Steven A. Moszkowski, Ph.D.
- Bernard M. K. Nefkens, Ph.D.
- Richard E. Norton, Ph.D.
- Raymond L. Orbach, Ph.D.
- Seth J. Putterman, Ph.D.
- Joseph Rudnick, Ph.D.
- Robert A. Satten, Ph.D.
- Peter E. Schien, Ph.D.
- Julian S. Schwinger, Ph.D. (University Professor)
- William E. Slater, Ph.D.
- Reiner L. Stenzel, Ph.D.
- Donald H. Stonk, Ph.D.
- Charles A. Whittem, Jr., Ph.D.
- Gary A. Williams, Ph.D.
- Alfred W. Wong, Ph.D.
- Chun Wa Wong, Ph.D.
- Eugene Y. Wong, Ph.D.

#### Emeritus Professors

- Alfredo Bahos, Jr., Dr.Eng., Ph.D.
- Hans E. Bommel, Ph.D.
- Robert J. Finkelstein, Ph.D.
- Joseph Kaplan, Ph.D., Sc.D., L.H.D.
- Kenneth R. MacKenzie, Ph.D.
- J. Reginald Richardson, Ph.D.
- Isadore Rudnick, Ph.D.
- David Saxton, Ph.D.
- Norman A. Watson, Ph.D.
- Byron T. Wright, Ph.D.

#### Associate Professors

- Claude W. Bernard, Ph.D.
- E.T. Tomboulis, Ph.D.

#### Assistant Professors

- Robin F. Bruninna, Ph.D.
- Robert D. Cousins, Ph.D.
- Sheehao Feng, Ph.D.

#### Lecturers

- S. Merton Burkard, M.S.
- Arthur H. Huffman, Ph.D.
- Jesusa V. Kinderman, Ph.D.

#### Adjunct Professor

- Phillip Pritchett, Ph.D.

### 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. It is the policy of the department to admit only students who plan to earn the Ph.D. degree.

### Undergraduate Study

The Department of Physics offers a choice of two undergraduate majors: the B.S. degree program in Physics and the B.A. degree program in General Physics. Courses taken to fulfill any of the requirements for either major must be taken for a letter grade.

### Bachelor of Science in Physics

This major should be taken if you intend to continue toward the Ph.D. in Physics.

### Preparation for the Major

**Required:** Physics 8A/8AL, 8B/8BL, 8C/8CL, 8D/8DL, 8E; Chemistry 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.

Transfer Students: Junior transfer students should preferably have completed (1) a two-year calculus-analytic geometry sequence or equivalent and (2) the calculus-based physics course at their previous college, but in no case should less than three semesters or four quarters of the mathematics and one year of the physics sequence be completed before transferring to UCLA. At least C grades in all mathematics and physics courses taken are required.

Bachelor of Arts in General Physics

The major is intended to provide the necessary flexibility for fields in which a strong back- ground of knowledge in physics would be helpful. If you intend to continue work toward the Ph.D. in Physics, you are advised to work for the B.S. in Physics as described earlier.

Preparation for the Major

Required: Physics 8A 8AL, 8B 8BL, 8C 8CL, 8D 8DL, 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 195), 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) Subject Test in Physics and to submit three letters of recommendation. International applicants who are applying for financial support (fellowships, teaching assistantships, and research assistantships) should have a letter of recommendation (included as one of the three required letters of recommendation) which comments on their verbal ability in English.

Application materials may be obtained by writing to the Graduate Office, Department of Physics, 3-145G Knudsen Hall, UCLA, Los Angeles, CA 90024-1547.

Master of Arts in Teaching

Major Fields or Subdisciplines

It is not required to designate an area of specialization for the M.A.T. degree.

Course Requirements

This degree leads to qualification for teaching credentials at the secondary school or junior college level. Five graduate courses, five professional (300 series) courses, and 12½ total courses are required.

(1) The five graduate physics courses must include Physics 370 and four courses from 210A, 210B, 215A, 221A, 221B.

(2) Also required are the courses necessary for completion of the preliminary State of California Single Subject Teaching Credential, K-12: Education 100, 112, 312, 315A-315B, 330B, 330C, Public Health 187.

Courses in the 500 series may not be applied toward the M.A.T. degree.

Teaching Experience

Teaching experience is required insofar as the required education courses are concerned (supervised teaching at the secondary or junior college level).

Ph.D. Degree

The graduate program in physics leads to the Ph.D. degree. Although you may obtain the M.S. degree en route to the Ph.D., the department does not admit candidates for the M.S. degree only.

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.
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.

Arrangements can be made to obtain a Ph.D. in Physics while doing research in interdisciplinary fields such as biophysics, astrophysics, geophysics, etc. The details of each program should be established in consultation with the graduate affairs officer.

Course Requirements
By the end of your first year of graduate study you are expected to acquire a mastery of the core graduate physics material presented in Physics 210A, 210B, 215A, 221A, 221B. Since knowledge of this material is tested on the written comprehensive examination, usually all or most of the five courses constitute your main course load in your first year of graduate study. Detailed syllabi for the courses are available in the Graduate Office, 3-145G Knudsen Hall.

You must fulfill a breadth requirement by passing course 220 or 221C or 231C with a grade of B or better. In addition, if you have not taken course 132 or its equivalent as an undergraduate, you must do so at the beginning of your graduate program. The core and breadth requirements should be completed by your fifth quarter in residence.

Qualifying Examinations
All departmental graduate students (master's and Ph.D.) take the same written comprehensive examination, which is graded as follows: (1) pass at the Ph.D. level of achievement, (2) pass at the master's level of achievement, or (3) fail. This examination is normally taken prior to your fourth quarter in residence.

All students in the Ph.D. program must pass the examination at the Ph.D. level of achievement. Permission to take it a second time may be granted only under exceptional circumstances.

No later than your fourth quarter in residence you are expected, in consultation with your advisor, to begin taking a series of courses, seminars, and tutorials to prepare you for original research in a given area of specialization. No later than your fifth quarter in residence you are expected to begin taking a sequence of Physics 596 courses with a faculty member in your chosen field of specialization. By the third quarter of the 596 sequence you are expected to make a substantive oral presentation describing the results of a project in your 596 program before an audience which includes the faculty member(s) with whom you are taking course 596 and three other faculty members. No later than the end of your eighth quarter in residence you are expected to make a formal arrangement with a faculty member to serve as your Ph.D. research sponsor.

The doctoral committee conducts the University Oral Qualifying Examination, which may include (1) material in your field of specialization, (2) related material that members of the committee from other departments may wish to ask, and (3) discussion of the proposed dissertation problem. Committee members guide, read, approve, and certify the dissertation. 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
Students who wish to use physics to satisfy part of the general education requirements in the physical sciences and who have no mathematics background beyond the high school mathematics required for admission to UCLA may take either Physics 10 or 3A if only one course is to be taken, or 3A and 3B as a two-course sequence.

Physics 10 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.

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.

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 and magnetic fields. Electric power. Elements of DC and AC circuits.

3C. General Physics: Light, Relativity, and Modern Physics. Lecture/demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisites: course 3B or equivalent. Light, optical instruments. Introduction to relativity. The electron and the atom. Matter waves. Nuclear and particle physics.

6A. Physics for Life Science Majors: Mechanics and Kinetic Motion. Lecture/demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisites: Mathematics 3A, 3B, 3C (may be taken concurrently), or equivalent.

6B. Physics for Life Science Majors: Electricity and Magnetism. Lecture/demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisite: course 6A.

6C. Physics for Life Science Majors: Light and Modern Physics. Lecture/demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisite: course 6B.

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. Corequisites: course 8AL, Mathematics 31B. Motion, Newton's laws, work, energy, linear and angular momentum, rotation, equilibrium, gravitation.

8AL. Physics Laboratory for Scientists and Engineers (1 unit). Lecture, one hour; laboratory, 90 minutes. Corequisite: course 8A or consent of instructor.


8BL. Physics Laboratory for Scientists and Engineers: Waves, Sound, Heat (1 unit). Lecture, one hour; laboratory, 90 minutes. Corequisite: course 8B or consent of instructor.
8CL, Mathematics 32B. Electrostatics: electric field... problems in depth.

8C. Physics for Scientists and Engineers: Electric... prerequisite for course 6A or 8A. Lectures, demonstrations, discussions, laboratory, and small group problem-solving sessions.

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. It is recommended that students take the 180 laboratories in their senior year.


105B. Analytic Mechanics. Prerequisite: course 105A. Relativity with four 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. Also, topics of fundamental importance.

110A. Electricity and Magnetism. Lecture, three hours. Prerequisite: course 131. Electrodynamics and magnetostatics.


112. Thermodynamics. Lecture, three hours; discussion, one hour. Prerequisite: course 115A or consent of instructor. 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. Prerequisite: course 8E, 105B (may be taken concurrently). 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, oscillographs, nonlinear tubes and transistor circuits.

M122. Plasma Physics. (Same as Electrical Engineering M185.) Prerequisite: courses 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 emissions.

125. 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. Lecture, three hours; discussion, one hour. Vector fields and line integrals, matrices, and operators; Fourier series and integrals.

132. Mathematical Methods of Physics. 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. Introduction to Solid-State Physics. Prerequisite: course 115B or equivalent. Introduction to the basic theoretical concepts of solid-state physics applicable to technologically important semiconductors: band theory of electrons in a periodic potential, electron Fermi level, crystal symmetry, electronic band structure; width of semiconductors.

160. Numerical Analysis Techniques and Particle Simulations. Lecture, three hours; computer terminal, six hours. Prerequisites: courses 105A, 105B, 110A, 110B, minimum knowledge of computer programming. FORTRAN introduction to the field of computer simulation of physical systems using particle models; numerical models and methods, methods of diagnosing results, experience with running interesting physical problems.

180A. Nuclear Physics Laboratory.

180B. Physical Optics and Spectroscopy Laboratory.

180C. Solid-State Laboratory.

180D. Acoustics Laboratory.

180E. Plasma Physics Laboratory.

180F. Elementary Particle Laboratory.

185. Foundations of Physics. Prerequisite: senior standing in physics or consent of instructor. The historical development and philosophical sources of classical, relativistic, and modern physics.

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 \( n \)-\( j \) symbols, continuous groups, fractional parentage coefficients, in electronic 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.

220. Classical Mechanics. Lecture, three hours. Hamilton-Jacobi theory, action-angle variables, classical perturbation theory, and selected topics such as introduction to phase space, Hamiltonian and Lagrangian methods, an introduction to quantum mechanics, quantum mechanics, electromagnetic fields, solutions to quantum mechanics, quantum mechanics, any other quantum mechanics topics.


221B. Quantum Mechanics. Lecture, 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, mechanics of continuous media.

224. Introduction to the Strong Interaction. Evidence concerning the strong interaction, particularly as exemplified in nucleon-nucleon and pion-nucleon systems. Isospin, the scattering matrix, the density matrix and polarization, the properties of pions, the octet representation of the strong interaction, phase shifts analysis.


226A-226B-226C. Elementary Particle Physics (6 units each). Lecture, four hours. Prerequisites: courses 221A, 221B, 221C, or equivalent, and 230A-230B (may be taken concurrently). Modern theories of elementary particles including symmetries and conservation laws, quantum mechanics, and quantum electrodynamics.

230A-230B-230C. Relativistic Quantum Theory (6 units each). Lecture, four hours. Prerequisites: courses 221A, 221B, and 221C, or equivalent, or consent of instructor. Modern quantum field theory, including principles of conservation, symmetry principles and conserved quantities, relativistic wave mechanics, quantum mechanics, and quantum electrodynamics.

231A. Methods of Mathematical Physics. Not open for credit to students with credit for Mathematics 266A. Linear integral equations, Hilbert space, spectral theory, Green’s functions, and integral transforms.

231B. Methods of Mathematical Physics. Not open for credit to students with credit for Mathematics 266B. Linear integral equations, Hilbert space, spectral theory, Green’s functions, and integral transforms.

231C. Methods of Mathematical Physics. Not open for credit to students with credit for Mathematics 266C. Perturbation theory. Singular integral equations, Numerical methods.

232A-232B. Relativity. The special and general theories, with applications to elementary particles and astrophysics.

232C. Special Topics in General Relativity. Introduction to High-Energy Astrophysics.

233. Introduction to High-Energy Astrophysics.

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, coexistence of 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.


250. Introduction to the Acceleration of Charged Particles. Lecture, three hours. Prerequisites: courses 210A, 210B, 215A. The principles of charged-particle acceleration, including principles of synchrotrons and storage rings, beam parameter determination, statistical behavior of beams and beam cooling techniques, synchrotron light sources, colliding beam storage rings, medical accelerators, and free electron lasers.


261. Seminar in Special Problems in Theoretical Physics.


265. 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, 180E. Laboratory experiments on the behavior of plasmas in magnetic fields. Study of the basic physics of charged-particle motion, distribution functions, and fluid dynamics. Plasma diagnostics and applications to current phenomena. Advanced probe, microwave and plasma diagnostics.

284. Advanced Laboratory in Acoustics and Cryogenics. Selected advanced experiments in acoustics and cryogenics designed to train students in the techniques and instrumentation used in acoustical research and low-temperature physics.

290. Research Tutorial in Plasma Physics (2 or 4 units). Seminars and discussion by staff and students on current research in plasma physics and the special 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.

292. Research Tutorial in Spectroscopy, Low-Temperature, and Solid-State Physics (2 or 4 units). Seminars and discussion by staff and students on current research in the field of 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.

295. 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.

298. 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.

299. 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.

300. The Teaching of Physics. Prerequisite: consent of instructor. A study of the physics laboratory and the demonstrations available today for secondary and community college physics courses. Part of the Master of Arts in Teaching (M.A.T.) program but open to other interested students.

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 and initial instruction. May be repeated for credit. S/U grading.

495. Teaching of College Physics (2 units). Lecture-discussion five or more one-hour meetings during the quarter, plus intensive training work at the beginning of the 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 are then applied and evaluated in the sections of each teaching assistant. May be repeated for credit. S/U grading.
Scope and Objectives

The undergraduate program in political science aims to provide an understanding of basic political processes and institutions as these operate in different national and cultural contexts. It also covers the interaction between national states, the changing character of the relations between citizens and governments, and the values and criteria by which the quality of political life is judged. The program may be individually focused to serve the needs of the liberal arts major, 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.

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 160), 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: Course 70 and any four 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 four additional courses, two in each of two other fields; (3) four upper division courses in one or two of the social sciences other than political science.

**M.A. and Ph.D. Degrees**

The aim of the graduate program is to train scholars in the discipline of political science, 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 coursework 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 90024-1472. 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 organization and public policy; 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 departmental 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 either (a) a sequence of three courses in mathematics or mathematical economics at or above Mathematics 31A (Mathematics 38A, 38B may not be applied) or (b) a sequence of three courses in statistics at or above the level of Political Science 204B. The same courses may not be applied toward both the research methodology requirement and either the major or minor field 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 major 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 to 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.

**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 M.A. thesis plan. Retake examinations are taken 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.

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, 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 competence in both fields.

To qualify for the Ph.D., you must receive a grade of qualified or qualified with distinction in both examinations.

Any failed (i.e., not pass or not qualified) examination may be retaken one time only at the next regular examination period. 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 methodology 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 government, with particular emphasis on national government in the United States. Fulfills the American History and Institutions 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 and 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.

3. **Introduction to Public Administration**: Lecture, three hours, discussion, one hour. An introduction to American administrative systems. Mr. Fried

4. **Introduction to Politics**: Lecture, three hours, discussion, one hour. Basic institutions and processes of democratic politics. A treatment of themes such as constitutionalism, representation, participation, and leadership with particular emphasis on the American case.

5. **Introduction to Comparative Politics**: Formerly numbered 110. Lecture, three hours, discussion, one hour. An introduction to comparative politics, international relations, and comparative politics, international relations, and public administration.

6. **Introduction to Political Theory**: (Formerly numbered 20.) Lecture, three hours, discussion, one hour. An introduction to political theory, with emphasis on the American case.

7. **Introduction to Western Political Thought**: (Formerly numbered 151.) Lecture, three hours, discussion, one hour. An introduction to political thought in the Western tradition.

8. **Introduction to Public Administration**: (Formerly numbered 121.) Lecture, three hours, discussion, one hour. An introduction to public administration.

9. **Introduction to Political Theory**: Lecture, three hours, discussion, one hour. An introduction to political theory.

10. **Introduction to Political Theory**: Lecture, three hours, discussion, one hour. An introduction to political theory.

**Upper Division Courses**

Prerequisite for all upper division courses: upper division standing or consent of instructor.

**102. 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. Petrock, Mr. Zaller
10A-10B. Introduction to Survey Research. Discussion, three hours. Prerequisite: course 6. Courses in the fundamentals of survey research as a method.

10A. 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. 10B. Prerequisite: course 10A. Conducting a survey, development of questionnaires, obtaining interview materials, maintaining quality control, and coding the interviews for machine tabulation. Performance of a computer-aided analysis of some part of the data and submission of a written report of that research.

M105. Economic Models of Public Choice. (Formerly numbered M103A.) (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, voting and majority choice, demand revelation, and voting political science courses other than Political Science 1, with special emphasis on contemporary problems.

Mr. Lofchie, Mr. Sklar

M106. Economic Models of Political Conflict and Conflict Resolution. (Formerly numbered M103B.) (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

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 their works from Plato to Machiavelli.

Mr. Campfield


Mr. Ashcraft, Mr. Campfield

111C. History of Political Thought: Late 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.

113. Problems in 20th-Century Political Theory. A study and interpretation of theorists who have focused their analyses on the social and political problems of the 20th century.

Mr. Rocco

114A-114B. American Political Thought. An exposition and critical analysis of American political thinkers from the Puritan period to 1865.

Mr. Smith

114B. Prerequisite: course 114A or consent of instructor. An exposition and critical analysis of American political thinkers from 1865 to the present.

Mr. Smith

115. Theories of Political Change. A critical examination of theories of political change, the relation of political change to changes in economic and social systems, and the relevance of such theories for the experience of both Western and non-Western societies. May be applied toward either Field I or V.

Mr. Lotchie

116. Marxism. A critical analysis of the origins, nature, and development of Marxist political theory.

Mr. Ashcraft, Mr. Wolfenstein

117. Jurisprudence. Development of law and legal systems; consideration of fundamental legal concepts; contributions and influence of modern schools of legal philosophy in relation to law and government. May be applied toward either Field I or V.

Mr. Gerstein

118. Political Violence. Examination of one or several different uses of violence in the revolutionary process: demonstrations, mass uprisings, coup d'etat, assassination, and terrorism. May be applied toward either Field I or IV.

Mr. Rapoport

119A-119Z. 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

200. 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

211. Studies in Formulation 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. Lofchie

212. 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

121. 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. Arms control in the context of international security in the nuclear age. The nuclear arms race; the relationships of deterrence doctrines and nuclear war; the roles of technology and ideology; nuclear proliferation; outer space.

Mr. Zoppo

126. Peace and War. Prerequisites: course 6, 20. The theory and research on the causes of war and the conditions of peace.

Mr. Zoppo

127. The Atlantic Alliance in World Politics. (Formerly numbered 127.)

127A. Western Europe. The external relations of the United Kingdom, Western 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 satellites in the Soviet bloc, analysis of content and effects of Communist doctrine affecting relations between the Soviet and democratic spheres.

Mr. Catlett, Mr. Kokowicz, Mr. Korobonski


Mr. Catlett


Mr. Frieden

131. Latin American International Relations. Prerequisite: course 20. The major problems of Latin American international relations and organizations in recent decades.

Mr. Gonzalez

132A-132B. International Relations of the Middle East:

132A. Prerequisite: course 20. Contemporary regional and international issues and conflicts, with particular attention to inter-Arab politics, the Arab-Israeli problem, and the Persian Gulf area.

Mr. Lofchie

132B. Role of the great powers in the Middle East, with emphasis on American, Soviet, and West 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. Lotchie, Mr. Sklar

134. Foreign Policy Decision Making and the Tools of Statecraft. Prerequisite: course 120 or consent of instructor. Contrastive and process models of individual and group decision making. The impact of situational factors and situational factors on foreign policy decision making. Implications for policy choice of the tools of statecraft (i.e., threats, promises, military/economic/diplomacy). P/NP or letter grading.

Mr. Stein

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-à-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 concurricularly scheduled with course C201.

Mr. Lake

C137B. Alternative approaches to the analysis of international politics and their application to historical and contemporary cases.

Mr. Saul

138A-138B-138C. Defense Studies. Prerequisite: course 20:

138A. Defense Strategy and Politics. Analysis of national and international security problems in the nuclear era, with special emphasis on the United States.

Mr. Saul

138B. The Conduct of Modern War. A study of recent and contemporary wars, with special emphasis on political and strategic problems.

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 V.

Mr. Baerwald

139A-139Z. Special Studies in International Relations. Prerequisites: two courses in Field II, or course 20 and one 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 M139.) (Same as Economics M130.) An interdisciplinary approach to the problem of nuclear proliferation. Economic aspects of the acquisition of nuclear weapons and economic aspects of nuclear energy treating technological, bargaining, and stability issues.

Mr. Intriligator (alternate years)

Also see courses 175A-175B

Field II: 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. Petrocik, Mr. Zaller

142. The Politics of Interest Groups. A systematic investigation of the role of political interest groups in the governmental process, with attention to the internal organization, leadership, and politics of such groups to the goals and functions of various types of groups and to the strategy and tactics of influence.  
Mr. Petrotic, Mr. Zaller

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. Snowiss

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.  
Ms. Orren, Mr. Snowiss

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 functions, and the electoral role of the parties; membership problems and party activists, political finance, and policy formulation practices.  
Mr. Marvick, Mr. Petrocik

146. Political Behavior Analysis. Prerequisites: courses 6, 141. An advanced course in the use of quantitative methods in the study of political behavior, especially in relation to voting patterns, political participation, and techniques of political action. Students conduct computer-aided analyses of issues and problems treated in course 141 and similar courses.  
Mr. Marvick, Mr. Petrocik, Mr. Zaller

M147. Minority Group Politics. (Same as Chicanos 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; ideology; convention versus unconventional political behavior, inter-minority relations, co-optation, symbolism, and repression.  
Mr. Gilliam, Mr. Rocco

149A-149Z. 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 182A

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. Freedman

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. Sklar

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. Kolokowicz, Mr. Korbski

Mr. Korbski

159. Chinese Government and Politics. Organization and structure of China, with particular attention to the issues, 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

Mr. Sisson

Mr. Gonzales, Mr. Gonzalez

164. Government and Politics in the Middle East. A comparative study of government in the Arab States, Turkey, Israel, and Iran.  
Mr. Bindar

Mr. Gonzalez

166A-166B-166C. Government and Politics in Sub-Saharan Africa. Patterns of political change in Africa south of the Sahara, with special reference to national and state development, nation building, and the problems of development.  
Mr. Lofchie, 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 seminar. 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, with 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-169Z. Special Studies in Comparative Politics. (Formerly numbered M169A-M169Z.) 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 115, 188A, 188B

Field V: Public Law

170. The Anglo-American Legal System. Lecture, four hours; discussion, one hour. Required of all students concentrating in Field V. Evolution of the English common law courts and their legal system, with emphasis on the development of the basic concepts of law which were received from that system in the United States and remain relevant today.  
Mr. Gerstein

172A-172B. American Constitutional Law. Prerequisites: course 70.  
172A. Constitutional questions concerning the separation of powers, federalism, and the relationship between government and property.  
Mr. Gerstein, Mr. Hobbs

172B. The protection of civil and political rights and liberties under the constitution.  
Mr. Gerstein, Mr. Hobbs

173. Government and Business. The nature of the corporation; the regulation of competition; government promotion of economic interests; regulation of industries clothed with a public interest; government ownership and operation. May be applied toward either Field V or VI.  
Mr. Bernstein, Ms. Orren

174. Government and Labor. The labor force and the nature of the trade union; regulation of labor relations; programs to encourage full employment and to mitigate unemployment; protective labor legislation. May be applied toward either Field V or VI.  
Mr. Bernstein

175A-175B. International Law. A study of the nature and place of international law in the conduct of international relations. May be offered in consecutive terms or simultaneously. If offered consecutively, course 175A is prerequisite to 175B, and a student may take 175A alone for four units credit. If offered simultaneously, a student must take both courses for eight units. A maximum of four units may be applied toward Field II.  
Mr. Bernstein

179A-179Z. Special Studies in Public Law. Prerequisites: course 70, one additional course in Field V, any special requirements, consent of instructor. Intensive examination of one or more special problems appropriate to public law. 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 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, policy 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.
Special Studies

195A-195B. Honors Seminar and Thesis. Prerequisites: one course in the C197 series, a 3.5 GPA in upper division political science courses, eligibility for Letters 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 progress reports or preliminary drafts. Class sessions emphasize critical and constructive discussions of students' topics, methods, and problems in research, as well as general consideration of political science research topics and methods of current or continuing interest. Students also meet privately with the instructor to discuss the progress of their research.

195B-195C. Writing of an honors 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.

217A-C197F. Seminars for Majors. Prerequisites: political science major, upper division standing, a 3.5 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 concurrent with scheduled 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

C203A-203B. Introduction to Political Inquiry. (Formerly numbered 203A-203B-C203C.)

C203. Problems of Scientific Inquiry and Normative Dispositions. Discussion, three hours. Prerequisites: three hours of upper division coursework, including a course in philosophy or other social science, and one course in political science. May be concurrently scheduled with course C197A, Mr. Wallerstein

204B. Statistical Analysis. Prerequisite: course 204A. Statistical techniques and their applications to political science data. Ms. Geddes, Ms. Rivers

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. Mr. Rivers

205A. Introduction to Public Choice. Seminar, three hours. Prerequisite: knowledge of elementary microeconomics and simple calculus. An introduction to the theoretical and practical behavioral topic. Topics include the dilemma of collective action, the theory of regulation and rent seeking, and the axiomatic approach to social choice. Mr. Wallerstein

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 Voltaire.

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 politics field will ordinarily have completed these courses before the examination sequence.

214A. Political Parties and the Electoral Process. Mr. Marvick, Mr. Petrock, Mr. Zaller

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. Lotchie, Mr. Rogowski, Mr. Sirsson

C216. Public Law. A systematic analysis of the scope and nature of public law, 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 C179E, Mr. Gerstein, Mr. Hobsley

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 C197A, Mr. Orren

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 the study of organizations, rational-choice models, and social psychological analyses. Each alternative is critically evaluated for its strengths and weaknesses as a guide to understanding organizational analysis. May be concurrently scheduled with course C197E, Ms. Geddes

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 processes as well as types of government intervention and stages of the policy process. Substantive focus primarily on American public policy and analysis. May be concurrently scheduled with course C197F, Mr. Akerbeck, Mr. D. Wilson

C219. Selected Texts in Political Theory. A critical examination of major texts in political theory, with particular attention to their philosophic 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

C222. Selected Topics in Political Theory. A critical examination of a major problem in political theory. May be concurrently scheduled with course C197A.

224A-224K. Studies in Politics:

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 political science data. Ms. Orren

C224B. 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
C224C. Politics and Society. The application of selected classical and contemporary sociological theories to politics. May be concurrently scheduled with course C197C.

C224D. Group Theories of Politics. Critical appraisal of "group theory" approaches to the study of political decision making, with special attention to empirical research problems in the study of group behavior. Mr. Oreon.

C224E. 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

C224F. 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. Snowiss

M224G. Political Psychology (Same as Psychology M228G). Discussion, three hours. Prerequisite: course 214A or Psychology 220A. Examination of political behavior, political socialization, personality and politics, racial conflict, and the analysis of public opinion on these issues. Mr. Sears.

C224H. 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 voting, protest, and violence. May be concurrently scheduled with course C197B.

Mr. Metrick, Mr. Zaller

C224I. 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. Metrick

C225A. Modern Political Economy. Seminar, three hours. A discussion of the implications for understanding the politics of the thinking of politicians, bureaucrats, producers, consumers, and nations as utilitarian maximizers. Topics include microfoundations for macromodels, forms of political participation, the state, government regulation, the growth of government, bureaucracy elections, public policy, inflation, and voting.

Mr. Stein

227. Seminar on Social Class and Political Analysis. (Formerly numbered 235.) Seminar, three hours. An investigation of the concept of social class as a tool of political analysis, with emphasis on current debates regarding the definition and utility of class as an analytic category. S.U or letter grading.

Mr. Wallerstein

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 between contemporary bureaucratic and decision theory of rational allocation of resources. May be concurrently scheduled with course C197F.

Mr. Ries

C229D. The Federal Bureaucracy. Seminar, three hours; discussion, one hour. An examination 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.

Mr. Fried

C228E. State Administrative Systems. An analysis of state administrative systems, their local subsystems, and their outputs. May be concurrently scheduled with course C197F.

Mr. Fried

C230. Comparative Development Administration. Seminar, three hours; discussion, one hour. A critical analysis of the administration of development programs and the development of administrative institutions, with special attention to ecology. 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 options. May be concurrently scheduled with course C197F. 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 social depth of nation states and their roles 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 201A 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 elective science courses C197B and their prerequisites. Mr. Zoeller.

C231D. International Relations Theory. An introduction to contemporary problems in international relations theory. May be concurrently scheduled with course C197B.

Mr. Stein, Mr. Wilkinson

232A-232B. International Political Economy. (Formerly numbered 232.) Discussion, three hours. Prerequisites: courses 236A or 236B or 236C. Selected topics in the international political economy of contemporary stable nations. Examination of political economy, political development, and international trade and Advanced Internationalized Nations. An intensive study of various theoretical approaches to international political economy, particularly as they 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 (0 units, 0 units, 12 units). Discussion, two hours. Open only to graduate students who have successfully completed the major field examinations. Workshop for 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 on a publishable length and quality required. In Progress grading.

Mr. Frieden, Mr. Lake

235. Selected Topics in Comparative Politics. Lecture, three hours. A critical examination of a major problem in comparative politics.


236A. An introduction to the literature on the development of elective institutions and the selection of candidates. An interdisciplinary approach, emphasizing historical as well as contemporary cases and modes of analysis.

236B. Prerequisite: course 236A or consent of instructor. A critical examination of the analysis of particular problems and countries.

Mr. Sisson, Mr. Snowiss

C238A-C238D. Seminars in Public Law:

C238A. Evolution of Anglo-American Law Books. Surviving early records. Case reporting, from the year books to the modern reports. Legal language, as developed by Glanvil to today. Statutes and how to find them. The language of the law. The entire English-speaking world, with 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 C197E.

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

C241. Topics in Applied Game Theory. (Same as Economics M214B.) Lecture, three hours. Prerequisites: Economies 213A or suitable mathematics courses. Bargaining theory, the core, the value, and other solution concepts. Applications to oligopoly, general exchange and production economies, and the allocation of joint costs. S.U or letter grading.

Mr. Shapley

C242A. Game Theory. (Same as Economics M214B.) Lecture, three hours. Prerequisites: Economics 213A or suitable mathematics courses. Convergence of economies with a continuum of consumers and with a continuum of goods. The basic model applied to perfectly competitive equilibrium, the core, location models, and other models with nonconvex preferences and or technology, S.U or letter grading.

Mr. Shapley

C242B. Large Economies. (Same as Economics M214C.) Lecture, three hours. Prerequisites: Economies 213A or suitable mathematics courses. Consideration of economies with a continuum of consumers and with a continuum of goods. The basic model applied to perfectly competitive equilibrium, the core, location models, and other models with nonconvex preferences and or technology, S.U or letter grading.

Mr. Ekelberg

C247. 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 unmeasured latent variables, including latent variable 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 structural-means factorial analytic models. Structural equation models, including path and simultaneous equation models. Parameter estimation, hypothesis testing, and other statistical issues. Computer implementation. Applications.

Mr. Bentler

M249. Bayesian Econometrics. (Same as Economics M232A.) Lecture, three hours. Prerequisites: Economies 231A, 231B. Subjective probability, introduction to decision theory, Bayesian analysis of regression, sensitivity analysis, simulation of models, criticism. S.U or letter grading.

Mr. Leamer

Prerequisite for graduate seminars (C250A through C271) is advance consent of instructor.

C250A-C250L. Seminars in Regional and Area Political Studies:

C250A. Latin American Studies. Seminar, three hours; discussion, one hour. May be concurrently scheduled with course C197D.

Mr. Geddes, Mr. Gonzalez
C250B. Russian and Slavic Studies. May be concurrently scheduled with course C197C.
Mr. Cattell, Mr. Kolkowicz, Mr. Kortonski

C250C. Chinese and East Asian Studies. May be concurrently scheduled with course C197C.
Mr. Baum

C250D. Japanese and Western Pacific Studies. May be concurrently scheduled with course C197D.
Mr. Baerwald

C250E. African Studies. May be concurrently scheduled with course C197D.
Mr. LoChie, Mr. Sklar

C250F. Middle Eastern Studies. May be concurrently scheduled with course C197D.
Mr. Binder

250G. Commonwealth Studies.

C250H. Western European Studies. Seminar, three hours; discussion, one hour. May be concurrently scheduled with course C197D.
Mr. Rogowski

C250J. Southeast Asian Studies. May be concurrently scheduled with course C197D.


C250L. South Asian Studies. May be concurrently scheduled with course C197D.
Mr. Sisson

252. Seminar in Public Law. May be concurrently scheduled with course C197E.

253. Seminar in International Relations. May be concurrently scheduled with course C197B.

254. Seminar in Public Administration. May be concurrently scheduled with course C197E.

257. Seminar in Political Theory. (Formerly numbered 257A-257B.) Discussion, three hours.
Mr. Ashcraft, Mr. Binder

259. Seminar in Political and Electoral Problems. Prerequisites: two graduate courses in politics.

261. Seminar on Bureaucracy and Organization. Discussion, three hours. Prerequisite: consent of instructor. Exploration of topics in the analysis of public and private bureaucracies and organizational theory. Topics include empirical theories of bureaucratic behavior; bureaucratic growth; bureaucratic behavior and political culture; organizational structures and strategies; and the function of the executive.
Mr. Wilson

C262. Seminar in Municipal Government. May be concurrently scheduled with course C197F.

C271. Seminar in Political Change. An interdisciplinary seminar directed toward the analysis of political change. May be concurrently scheduled with course C197D.
Mr. Binder, Mr. Sklar

280A-280B. Advanced Practicum in Administrative Research. Discussion, three hours; fieldwork, to be arranged. Prerequisites: at least five courses (20 units) at the graduate and upper division levels in political science, consent of instructor. An advanced laboratory/seminar in applied research on public agency operational and service delivery problems. An integrated case-study approach to task-force studies dealing with such problems as legislative and policy issues in mandated and nonmandated public functions; program and management organization; budget and financial performance measures; information systems; evaluation of outcomes; political impact analysis; and related problems in administrative decision making. 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. Teaching Political Science. A workshop in teaching techniques, including evaluation of each student's own performance as a teaching assistant. Normally to be taken by all new teaching assistants in 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 8 units). Prerequisite: consent of UCLA graduate adviser and graduate dean, and host campus instructor, department chair, and graduate dean. 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 and graduate advisers.

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. With consent of research adviser, courses 215A-215B or 232A-232B may, by petition, be accepted as equivalent to courses 590A and/or 590B. May be repeated with consent of research and graduate advisers.

596. Directed Individual Study or Research (2 to 4 units). May be repeated. S/U grading.

597. Preparation for Ph.D. Qualifying Examinations (2 to 12 units). May be repeated. S/U grading.

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.
Edward C. Carterette, Ph.D.
Barry E. Collins, Ph.D.
Andrew L. Comrey, Ph.D.
Gaylord D. Ellison, Ph.D.
Norma J. Feshbach, Ph.D.
Seymour Feshbach, Ph.D.

Morton P. Friedman, Ph.D.
Rosslyn Gaines, Ph.D., in Residence
Harold B. Gerard, Ph.D.
Michael J. Goldstein, Ph.D.
Patricia M. Greenfield, Ph.D.
Constance L. Hammer, Ph.D.
Barbara A. Henker, Ph.D.
Nancy M. Henley, Ph.D.
Eric W. Holman, Ph.D.
Keith Holyoak, Ph.D.
John P. Houston, Ph.D.
Wendell E. Jeffrey, Ph.D.
Harry J. Jerison, Ph.D., in Residence
Harold K. Kelley, Ph.D.
Franklin B. Krasne, Ph.D.
John C. Liebeskind, Ph.D.
O. Ivar Lovasa, Ph.D., Litt.D.
John H. Lyman, Ph.D.
Donald G. MacKay, Ph.D.
Irving Maltzman, Ph.D.
Albert Mehrabian, 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 O. Sears, Ph.D.
David Shapiro, Ph.D.
Edwin S. Shneidman, Ph.D., in Residence
Gerald H. Shure, Ph.D.
Marion Soifer, Ph.D., in Residence
Stanley Sue, Ph.D.
Shelley E. Taylor, Ph.D.
James P. Thomas, Ph.D.
Bernard Weiner, Ph.D.
J. Arthur Woodward, Ph.D.
Eran Zaidel, Ph.D.

Emeritus Professors
Richard P. Barthol, Ph.D.
James C. Coleman, Ph.D.
John Garcia, Ph.D.
Joseph A. Gengerelli, Ph.D.
Milton E. Hahn, Ph.D.
F. Nowell Jones, Ph.D.
George F. J. Lein, Ph.D.
Donald B. Lindsley, Ph.D., Sc.D.
George Mount, Ph.D.
Charles Y. Nakamura, Ph.D.
Jessie L. Rihlman, Ed.D.
Eliot H. Rodnick, Ph.D.

Associate Professors
Paul R. Abramson, Ph.D.
Andrew Christenson, Ph.D.
Patrice L. French, Ph.D.
Ralph E. Gesselman, Ph.D.
Gerald M. Goodman, Ph.D.
Carlos V. Grijalva, Ph.D.
Vickie M. Mays, Ph.D.
Hector Munoz, Ph.D.
Thomas D. Wickens, Ph.D.

Assistant Professors
Duane Buhmuser, Ph.D.
Felipe Castro, Ph.D.
Patricia Cheng, Ph.D.
Christine A. Dunkel-Schetter, Ph.D.
Stephen P. Hinsaw, Ph.D.
Daniel B. Kaye, Ph.D.
Thomas Minor, Ph.D.
Marie A. Morel, Ph.D.
D. Dean Richards, Ph.D.

Lecturers
Darrell C. Dearmore, M.A.
Kenneth R. Pfeffer, Ph.D.

Adjunct Professors
Joseph Bogen, Ph.D.
Marion Jacobs, Ph.D.
Claire Kopp, Ph.D.
James M. Miller, Ph.D.
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 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, 130 (for students entering Fall Quarter 1987 and thereafter). 135: (2) one course from 111, 116, 121, 126, 136A, 136B, 143, 170B, 174, 176, 186; (3) three additional upper division elective courses (12 units) in psychology.

Developmental Disabilities Immersion Program Concentration

This concentration affords students an opportunity to gain research and fieldwork experience in the area of developmental disabilities. Please see a counselor in the Psychology Undergraduate Office to discuss current requirements.

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 2 (if you have completed one year of high school chemistry with a C or better, this requirement is waived) or 11A: Mathematics 2 or two 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.

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 or 135, 185, 186, 188 (course 190C or 199 may be substituted for 188 if content is approved in advance by the Psychology Undergraduate Office); (2) an additional three upper division elective courses (12 units) from Psychology 102 through 121, 123, 124A, 124B, 131A, 150, 151, 153, 187, 189, 1906 (if content is approved by the Undergraduate Office); Computer Science 111 through M196B, Linguistics 100 through 185, Mathematics 110A through M153B, Philosophy 126A through 136.

Quantitative Methods Concentration

This concentration is intended to give students more extensive preparation in statistics. The following additional courses are required: Mathematics 32A, 33A, and either 150A-150B-150C or 152A-152B. Psychology 41 is not required if you select this specialization.

Adjunct Associate Professors
Jacqueline D. Goodchilds, Ph.D.
Morris K. Holland, Ph.D.
Dennis McGinty, Ph.D.
Jill Waterman, Ph.D.

Adjunct Assistant Professors
Paula Geiselman, Ph.D.
William McCarthy, Ph.D.
Angus Strachan, Ph.D.
Dahlia Zaidel, 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.

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 Science in Psychobiology

This major is designed for students who plan to go on to postgraduate work in psychobiology or the health sciences. Psychobiology involves the study of brain-behavior relations and laboratory training in standard brain research techniques. 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-psychobiology 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 2.0 overall grade-point average in the preparation courses): Biology 5, 6, 7, 8; Chemistry 11A, 11B/11BL, 11C/11CL, 21, 23, 25; Mathematics 3A, 3B, and 3C, or 31A, 31B, and 32A; Physics 3A, 3B, and 3C, or 6A, 6B, and 6C, 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, M118F, 118G, M119, 128, 143, M153, 190 (one course only and only if content is approved by the Psychology Undergraduate Office); Biology 102, 105, 110, 111, 120, 122, 124, 131, 135, 138, 139, 143, 144, 145A, 145B, 145C, 153, CM156, 156, 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 members, emphasize readings in the original literature, student reports and small group discussions, and may include field or research experience. All such courses offer credit toward 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 courses from the list of honors-designated courses provided by the department. 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 students is selected for the program which runs during the Winter/Spring Quarters. Students participate in courses, fieldwork, and research at selected community facilities serving the developmentally disabled.

Students are required to take Psychology/Psychiatry M180A, M180B, M181A-M181B, and selected coursework related to developmental disabilities. 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 90024-1563, 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) General Test and the Subject 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 addi-
tion, it is recommended that you have at least one course in biology or zoology, one course in mathematics (e.g., calculus), and two courses in the physical sciences (physics and/or chemistry). A course in anthropology, philosophy, or sociology may be substituted for one of the physical science courses. 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 at least three of the four core courses are required for the M.A. degree. One 596 course (four units) may be applied. Courses in the 400 series may not be applied. All undergraduate deficiencies must be cleared.

By the end of the second year, you must complete at least one individual research course (596) and at least three second-year graduate courses, including one quantitative course from Psychology 238, 247A, 249, 252, 253, 254, 255, 256, M257, 258.

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, two quarters of 277, and at least two other advanced clinical courses beyond 277; 
- **Cognitive:** courses 260A-260B, plus four courses, including at least two courses selected from 247B, 259, 261 through 266, and at least one course from 268A-268E or 269; 
- **Developmental:** courses 240A-240B, one course from 220A, 235, 286, 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 Psychiatry 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, and two approved physiological seminars (it is expected that students will take Anatomy M206A, M206B as part of a minor in neuroscience); 
- **Social:** courses 220A-220B, 223A or 224, three social seminars taught by three different faculty members, and course 226 each quarter for the first three years of the program.

**Minor Area Course Requirements:** You must select two minor areas. These minors are normally satisfied by taking three to four specified courses. See departmental bulletins for further details.

**Qualifying Examinations**

The qualifying examination generally consists of three separate sections. The first is an examination administered by the major area, which examines in breadth your knowledge of the major field. The second section is an individual examination which examines in depth your knowledge of your area of specialization within the major field. The third section is the University Oral Qualifying Examination. All Ph.D. requirements listed above must be completed before this section can be taken.

After successful completion of the oral examination, you are advanced to candidacy and may begin work on the dissertation.

Contact the department for the specific examination requirements of the various areas of specialization.

**Practicum and Internship Requirements for Clinical Students**

1. At least six quarters of approved supervised internship practicum (Psychology 401 — 12 to 15 hours per week) are required and are usually taken in the second and third years.
2. The equivalent of one calendar year of supervised internship (Psychology 451) in an acceptable setting approved by the faculty, taken either full-time in one year or half-time in two years in one or two settings, is required. This is usually taken in the fourth or fifth year. Contact the department for further information on internship assignments.

**Candidate in Philosophy Degree**

You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

**Final Oral Examination**

The final oral examination is required of all candidates for the Ph.D. degree.

**Psychology Clinic**

The Psychology Clinic in the Department of Psychology is a major training center for clinical psychology students in the Ph.D. program. It provides a broad range of psychological services to clients, including assessment and individual, family, couples, and group therapy. Clients cover the entire age range and represent diverse populations in the community.

Student therapists receive very close supervision and are encouraged to relate their case material to academic learning and current research. Students and faculty members are also involved in a variety of clinical research projects.

**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 (SSMHRC) promotes basic and applied research on the mental health needs of the Hispanic population. SSMHRC 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 Group Mental Health awarded the SSMHRC 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.
11. Principles of Psychology (5 units). Lecture, three hours; discussion, one hour; laboratory, one hour. Recommended for premajors. Introduction to psychology, with emphasis on critical analysis and research. Readings include selections from the primary research literature. Discussion sections focus on writing assignments; labs focus on research stimulation.

15. Introductory Psychobiology. Designed for nonmajors. A survey of genetic, evolutionary, physiological, pharmacological, and experiential factors affecting behavior. Using the comparative approach where appropriate, emphasis on the relevance of biological mechanisms to an understanding of man and his interaction with his environment.

41. Psychological Statistics. Lecture, five hours. Prerequisites: courses 10, Mathematics 2, and psychology premajor standing or consent of instructor. Basic statistical procedures and their application to research and practice in various areas of psychology.

42. Research Methods in Psychology. Lecture, one hour; laboratory, four hours. Prerequisites: courses 10, 41, with grades of C- or better. Introduction to research methods and critical analysis in psychology. Lecture and lab topics include experimental and nonexperimental research methods, statistical design and analysis as applied to a broad range of basic and applied research issues.

88. Lower Division Seminars. (Formerly numbered 95.) Seminar, three hours. Prerequisite: course 10. Limited to freshmen and sophomores. Intensive analysis of selected topics of current psychological interest. See the Schedule of Classes for current topics and instructors. May be repeated for credit.

Upper Division Courses

102. History and Systems of Psychology. Prerequisite: senior standing or consent of instructor. A historical and systematic analysis of psychological thought and point of view.

M107. Asian American Personality and Mental Health. (Formerly numbered M195.) (Same as Asian American Studies M107.) Lecture, three hours. Prerequisite: course 10. Foundations of personality development with an emphasis on Asian and Asian American mental health. Topics include culture, family patterns, achievements, stressors/resources, and immigrant and minority group status. Mr. Sue

110. Fundamentals of Learning. Lecture, three hours; discussion, one hour. Prerequisites: courses 10, 41, junior standing. Experimental laboratory on animal and human conditioning; retention and transfer of training; the relation of learning and motivation. Intended to provide an empirical basis for theory and research in this area.

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 with animal and human subjects. May be repeated for credit with instructor.

112. Human Learning. Prerequisite: course 110. Acquisition, retention, and transfer of verbal and nonverbal human learning.


112C. Thinking. Prerequisite: course 110. An analysis of experimental studies of problem solving, reasoning, insight, concept formation, and related topics.

112E. Current Topics in Learning. Prerequisite: course 110. A study of related issues in the psychology of learning. Topics vary with the interests of the instructor and class. 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.

115. Physiological Psychology. Lecture, three hours; discussion, one hour. Prerequisites for majors: course 41, Biology 2, junior standing; for nonmajors: Biology 5, 7, consent of instructor. Integrative activities, receptor and effector processes in relation to nervous system structure and function. Facts, problems, and methods.

116. Physiological Psychology Laboratory. Lecture, one hour; laboratory, three hours. Prerequisites: courses 41, 42, 115 (may be taken concurrently), junior standing. Laboratory experience with various topics in physiological psychology.

117. Seminar in Psychobiology. Prerequisite: course 115. Advanced topics in brain and behavior. Only one section of course 117 may be applied as an elective toward the psychology major. May be repeated for credit with consent of instructor.

118A. Comparative Psychobiology. Prerequisite: course 115. A survey of the determinants of species-specific behavior, including genetic influences and learning.

118B. Behavioral Pharmacology. Prerequisite: course 115. Experimental and theoretical treatment of drug-behavior relationships. Particular emphasis on behavior and pharmacological mechanisms of drug action and drug interaction with neuronal functions as tools to investigate various behavioral processes such as mood, aggression, learning, and motivation, experimental studies of addiction.

118C. Psychophysiology of Motivation. Prerequisite: course 115. The basic psychophysiology, including biological and endocrine mechanism, involved in the control of motivation. Discussion of homeostatic drives such as hunger and thirst and nonhomeostatic drives such as reproductive behavior.

118D. Experimental Neuropsychology. 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.

118F. Ethology: Physiology of Behavior and Learning in Animals. (Same as Psychiatry M190.) Lecture, four hours; laboratory, one hour. Basic course for undergraduate students which integrates a systematic overview of common forms of behavioral phenomena with emphasis on the experimental study of animal and human conditioning. Includes ethological studies of animal (in behavioral, neurophysiological, and pharmacological 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 perception, response selection, motor patterns, and learning and motivation, with emphasis on the operation of these processes in well-defined neural circuits.

M119. Evolution of Intelligence. (Same as Psychiatry M119.) Lecture, two hours; discussion, two hours. Prerequisites: course 150, 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. Qualitative and quantitative approaches in evolutionary biology and the neurosciences.

120. Human Information Processing. Lecture, three hours; discussion, one hour. Prerequisites: courses 10, 41, 42, junior standing. A survey of how people process, 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 120. An introduction to the study of language, behavior, communication, and speech perception, including acquisition, structural sequence, and semantic aspects. Recent developments in linguistics, theory of information transfer, analysis and synthesis of speech. Social communication. Aphasia 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 production, acquisition, production, and comprehension; errors in speech perception and production; speech physiology and pathology.

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 110, 41, 42, 115, junior standing. 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 10, 41, 42, 125 (may be taken concurrently), psychology major standing. Laboratory experience with various topics in personality.

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 emotion. Current topics and instructors. Some hypothesis testing 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, and psychosomatic disorders. Particular emphasis on psychoses, character disorders, psychosomatic reactions, and other abnormal personality patterns.

127H. Abnormal Psychology (Honors). Lecture, three hours; discussion, one hour. Prerequisite: course 10. An honors course parallel to course 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 of disease, with 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 anorexia and enuresis).

129A. Personality Measurement. Prerequisite: course 120. Theories, methods, and content of studies dealing with the problems of describing persons in terms of a limited set of dimensions. Detailed consideration of research literature dealing with a few representative personality dimensions.

129B. Personality Dynamics. Prerequisite: course 120. Detailed conceptual examination of one or two areas of personality in which the main and interactive effects of personality and situational variables have been studied, especially related to the study of psychological processes, particularly motivation. Examination of current research literature.
129. Personality and Cognition. Prerequisite: course 125. Theoretical and experimental analyses of cognitive processes such as imagery, attention, language, and memory and their implication for theories of personality.

129D. Special Topics in Personality. 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.

129E. Human Sexuality. Lecture, three hours. Prerequisite: senior psychology major standing. An overview of the psychology of human sexuality. Psychological research, assessment, and therapy described in a format which highlights their significance for understanding human sexual functioning. The psychological mechanisms underlying the expression of human sexuality.

130. Developmental Psychology. Lecture, three hours; discussion, one hour. Prerequisites: courses 10, 41, junior standing. An elaboration of the developmental aspects of physical, mental, social, and emotional growth from birth to adolescence.

132. Learning Disabilities in Perspective. (Formerly numbered 133.) Prerequisite: upper division standing. Exploration of different orientations to persons with learning problems, emphasizing assessment and intervention approaches and the impact of the sociocultural contexts. Topics include the interaction of learner and environment, the sociopolitical nature of the classroom, the psychological impact of schooling, grades, and evaluations, process vs. goal focus in learning.

133A. Adolescent Development. Lecture, three hours. Prerequisite: course 130. An examination of the cognitive, social, physical, and psychological development of the adolescent.

133B. Exceptional Children. (Same as Psychiatry M133.) Prerequisite: course 130. Study of the issues and research problems in the areas of mental retardation, giftedness, learning disorders, emotional disorders, and childhood psychosis.

133C. Psychological Development in the Adult Years. Prerequisite: course 130 or consent of instructor. Theory and research on changes in motivation, aptitudes, and abilities as related to genetics, age, sex, and sociocultural variables.

133D. Social and Personality Development. Lecture, two hours; discussion, one hour. Prerequisites: courses 10, 41, 130. An advanced course that surveys theory and research on social and personality development during childhood. Topics include parent-child attachment, temperament, self-control, aggression, sex-typing, self-concept, moral reasoning and behavior, social status and social skills, and peer group relations.

133E. Current Issues in Developmental Psychology. Prerequisite: course 130, upper division psychology standing. A critical examination of current issues in developmental psychology. Specific topics vary depending on the interests of the class and instructor. May be repeated with consent of instructor.

134. Psychology and Education. Lecture, three hours. Prerequisites: course 110, 130. Application of principles of cognitive development, learning, and perception to educational problems. Topics include general instructional issues, psychology of reading and mathematics, exceptional children, early childhood education, and prevention of the disadvantaged.

135. Social Psychology. Lecture, three hours; discussion, one hour. Prerequisites: courses 10, 41, junior standing. The interrelationships between the individual and his social environment. Social influences on motivation, perception, and behavior. The development and change of attitudes and opinions. Psychological analysis of small groups, social stratification, and mass phenomena.

136. Social Psychology Laboratory. Lecture, two hours; laboratory, two hours. Prerequisites: courses 41, 42, 135 (may be taken concurrently), psychology major standing. Laboratorial psychological methods such as such topics as small group behavior, attitude measurement, and interpersonal influence.

136B. Survey Methods in Psychology. (Formerly numbered C136B.) 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.

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. Study of interpersonal problems and theories concerned with interactions and relationships between persons. Focus on such phenomena as interpersonal attraction, exchange, assertiveness, conflict, control, power relations, and the initiation, development, and dissolution of relationships.

137D. 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 how the psychological perspective might be enlarged and extended in the medical area.

137E. Work Behavior of Women and Men. (Same as Women's Studies M137E.) Prerequisite: course 10 or Women's Studies 10 or senior standing. Examination of work behavior of women and men. Topics include antecedents of career choice, job findings, learning, performance, evaluation, discrimination, and evaluation bias, job satisfaction, and interdependence of work and family roles.

137F. Special Topics in Social Psychology. Prerequisite: course 135. Study of selected topics in social psychology. May be repeated for credit with consent of instructor.

138. Political Psychology. (Same as Political Science M138.) Prerequisite: course 10. Examination of political behavior, political socialization, personality and politics, racial conflict, and the psychological analysis of public opinion on these issues.

139. Psychology of Social Issues. Prerequisite: course 10. An analysis of the contribution of current psychological theory and research to the understanding of selected historical, social, and political problems.

142. 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, psychology major standing. Outline and examination of concepts associated with psychological investigation and the interpretation of results of psychosexual, mental, and social personality tests and projective tests.

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.

147. Elements of Psychology of Sport. The application of psychological theories, principles, and techniques to recreation, games, and sport. Current theoretical and practical considerations for understanding and predicting the performance of athletes, the significance of the role of learning and performance in the development of skills and the utilization of Oriental philosophies and the martial arts in Western sport.

148. Industrial and Organizational Psychology. Lecture, three hours. Prerequisite: course 10. Introduction to the application of psychology in industrial and other organizations.

150. Mathematical Models in Psychology. Lecture, two hours; discussion, two hours. Prerequisites: Mathematics 3C or 318, Computer Science 10C or 10F. Development of mathematical models and the experimental evidence for these models in various areas of psychology. Topics include mathematical computer models of learning, perception, cognition, and personality.

151. Computer Applications in Psychology. Lecture, two hours; laboratory, two hours. 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 using in the evaluation of models of psychological processes of the various content areas such as learning, perception, social, personality, and clinical.

153. Principles of Biotechnology. (Same as Materials Science and Engineering M153.) Prerequisite: upper division standing. The principles of biological science developed in an engineering design context. Emphasis on how physiological, psychological, and sociological factors affect the integration of man into environmental and managerial systems through engineering design.

162. The Personological System of Henry A. Murray: An Undergraduate Seminar. Lecture, two hours: discussion, one hour. Prerequisite: consent of instructor. The study of lives and the personality theory of Henry A. Murray, touching on autobiographical writings and biographical materials; personality as a dynamic system of growth and change; Creative, productive, normal, and supernormal aspects of personality; the roles of values in the study of personality, society, and culture.

M163. Death and Suicide: Psychological and Sociological Aspects. (Same as Sociology M163.) Lecture, two hours; discussion, one hour. Prerequisite: consent of instructor. The definition and taxonomy of death; the new permissiveness and taboos relating to death; the romanticization of death; the role of the individual in his own determination of modes of death; the development of ideas about death through the life span; ways in which ideas about death influence the conduct of lives; the impact of dying on the social structure surrounding the individual; preventive, interventive, and postventive practices in relation to death and suicide; partial death; megadeath; lethality; the psychological autopsy; the death of institutions and cultures. P/NP grading recommended (letter grading required if course to be applied toward the psychology or sociology major).

M165. The Psychology of Gender. (Same as Women's Studies M165.) Lecture, two 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.

168. Environmental Psychology. Prerequisite: course 125. A research-oriented course which surveys theoretical and methodological issues which comprise the area of environmental psychology. Discussion of basic dimensions of emotional response to physical and social environments, measurement of information of rate of situations, and personality variables that are relevant to environmental theory. Residential, therapeutic, work, and recreational environments within a unified framework.
170A. Behavior Modification. Lecture, three hours. Prerequisites: 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: consent of instructor. Advanced fieldwork in applied behavior theory, especially problems of retardation and autistic children, adult psychotic disorders, etc. May be repeated once for credit.

170C. Practicum: Design and Implementation of Behavioral Interventions. One hour; discussion, one hour; fieldwork, six hours. Prerequisites: courses 170A or 110, 170B (two quarters), upper division psychology or psychobiology 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 rights and responsibilities; and system considerations. May be repeated once for credit.

M172. The Afro-American Woman in the U.S. (Same as Afro-American Studies M172 and Women's Studies M172.) Prerequisite: upper division standing. Focus on the historical, political, and cultural forces which impact the life of African 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, 42, 127, psychology major standing. An introduction to the conceptual tools for analyzing interpersonal processes in goal-oriented human interaction such as psychotherapy, persuasion, courtship, etc. Small group exercises integrated with lecture and discussion (additional laboratory work to be arranged). May be repeated once for credit.

175. Community Psychology. Prerequisites: junior or senior psychology major standing, consent of instructor. The application of psychological principles to the understanding and solution of community problems. Topics include social control development, community mental health problems, drugs, racism, and rehabilitation of prisoners.

176. Experimental Community Psychology. Lecture, three hours. Prerequisites: courses 42, 127, 175, psychology major standing, consent of instructor. Examination and experimental application of concepts derived from interpersonal and community psychology for understanding the behavior of individuals in structured social systems (communities, schools, mental hospitals, prisons, etc.).

177. Counseling Relationships. Prerequisites: courses 10, 41, 127, junior or senior standing, and consent of instructor, or junior or senior psychology major standing. Conceptual and empirical foundations of human counseling; comparison and evaluation of alternative models of counseling processes. Emphasis on counseling approaches in community mental health areas such as drug abuse, suicide prevention, and crisis intervention.

178. Human Motivation. Prerequisite: upper division standing. Examination of current theories of human motivation, the experimental 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 profession (medicine, clinical psychology, sociology, counseling, 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 41, 127, 170A, 170B. Corequisites: courses M180A-M181B. Limited to Immersion Program students. Presentation of the concepts, issues, and research techniques in the area of mental retardation. Biological, psychological, and community considerations, 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. Psychosocial issues in mental retardation relating literature to ongoing field experiences through lectures, discussions, media, and six student presentations and/or discussions.


M182A. Advanced Statistical Methods in Mental Retardation. (Same as Psychiatry M182A.) Prerequisite: course 41. Limited to Immersion Program students. Introduction of statistical methods and design in experiment in experimental principles of statistical inference and appropriate testing methods. Emphasis on the use of computers and various software packages.

M182B. Advanced Design and Statistics. (Same as Psychiatry M182B.) Prerequisite: course M182A. Continuation of course M182A.

M182C. Perception. (Same as Psychiatry M182C.) Limited to Immersion Program students. Human information processing, both physical and psychological, with special emphasis on pathologies in the mentally retarded.

M182D. Current Issues in Mental Retardation. (Same as Psychiatry M182D.) Limited to Immersion Program students. Advanced topics in mental retardation. May be repeated for credit with consent of instructor.

M183. Introduction to Neurosciences. (Same as Psychiatry M183.) Limited to Immersion Program students. Gross anatomy of the human brain and spinal cord.

M184. Human Genetics. (Same as Psychiatry 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 to answer current questions in the fields of medical and human genetics. Mr. Flaherty.

185. Cognitive Science. Lecture, three hours. Prerequisites: courses 10, 41, 42, and 120, or consent of instructor. Survey of theories and methods in the study of cognition. Topics include perception, attention, memory, language, problem solving and reasoning, comprehension, construction, and transformations, cultural neuroscience, artificial intelligence, human models of brain function, artificial intelligence, knowledge representation, programming, and thinking.

186. Cognitive Science Laboratory. Lecture, one hour; laboratory, three hours. Prerequisites: courses 10, 41, 42, 120, 186 (may be taken concurrently). Includes presentation of computer-based projects, information processing methods and analyses, experimental tests of cognitive theories and models; simulation of cognitive processes.

187. 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. Hospital and police personnel may participate in presentations and/or discussions.

187H. Legalistic Psychology (Honors). Discussion, two hours; seminar, one hour. Prerequisite: junior standing. An honors course parallel to course 187.

188. Fieldwork in Cognitive Science. Lecture, two hours; fieldwork, six hours. Prerequisites: cognitive science major standing, department consent. Fieldwork (approved community setting) or research (approved community setting) in applications of cognitive science. May be repeated for credit and further information. Four units of course 190C or 199H may be substituted for 188 if content is approved in advance by the Undergraduate Office. P/NP grading.

189. Human Factors. Lecture, two hours; discussion, one hour. Prerequisites: courses 10, 110, sophomore standing. The principal objective of human factors is the design of systems for the maximum 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 legal and laboratory human-computer interaction, computer and guided vehicle safety, pollution control, transportation, and urban design.

190A-190B-190C. Honors Course. Seminar, two hours. Prerequisite: psychology honors program standing. Opportunity for the development and analysis of creative ideas through conceptual or experimental research and discussion of student and faculty research presentations. Information and applications may be obtained from the Psychology Undergraduate Office, 1531 Franz Hall. If approved in advance by the Undergraduate Office, one unit of course 190B may be applied toward the elective course requirement for the psychology, psychobiology, and cognitive science majors.

192. Practicum in the Teaching of Psychology. Prerequisites: upper division psychology major, department consent. Training and supervised practicum for advanced undergraduates in the teaching of psychology. Students serve as junior teaching assistants and/or tutors in introductory psychology materials. Opportunity for 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 advanced 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; fieldwork (approved community setting), six 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 experimental setting), seven hours. Prerequisites: sophomore pre-psychology or psychology major standing, department consent. Practical 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.
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195. Current Issues in Psychology. Lecture, three hours. Prerequisite: junior or senior psychology major standing (some sections may require consent of instructor). A study of selected current topics of psychological interest. See Schedule of Classes for topics and instructors. May be taken for credit without consent of instructor and may be applied as an elective toward the psychology major. May not be applied as an elective toward the psychology major.

199. Directed Individual Research and Study. Prerequisites: junior or senior psychology, psychobiology, psychopharmacology, or cognitive science major standing (instructor must have at least a 3.0 GPA in the major), consent of instructor and vice chair for Undergraduate Affairs (based on a written proposal outlining the course of study). Students should consult the Psychology Undergraduate Office, 1531 Franz Hall, for further information and approval forms. Only one four-unit 199 course may be taken per quarter and only one for a letter grade (additional 199 courses may be taken on a P/NP basis). If approved in advance by the Undergraduate Office, four units of course 199 may be applied toward the elective course requirement for the psychology major and toward the Psychology 188 requirement for the cognitive science major.

Graduate Courses

200A. Animal Learning and Behavior. Basic principles and characteristics of learning and behavior, including Pavlovian conditioning, instrumental learning, and species-specific behavior.

200B. Human Learning and Behavior. Topics include human learning and conditioning and the application of learning principles in the etiology and treatment of a variety of social and psychological 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.

204A-B. Seminar in Critical Problems in Learning. Each course may be taken independently and in any order. Critical problems drawn from the following:

204A. Psychophysiology of Attention and Learning. The study of research and theories concerned with the psychophysiology of attention and learning primarily in humans. Concepts and areas include the orienting reflex, dominant focus, classical conditioning, and their implications for the psychophysiology of psychopathology and psychotherapy.

204B. Theories of Learning. Prerequisite: course 200A or equivalent. Critical discussion of the major theories in learning and their current status.

204C. Applied Learning. Lecture, three hours. Prerequisites: graduate standing in psychology, consent of instructor. Lectures and discussion on current research in application of learning principles to clinical and social problems such as alcohol and drug abuse, aggression, fear management, mental retardation, behavioral medicine, autism/schizophrenia, etc.

205A-205B. Physiological Correlates of Behavior. Lecture, three hours. The physiological substrate of behavior and the neural and endocrine mechanisms which underlie psychological phenomena and behavior. New concepts of structural and functional organization in the nervous system and the ways these relate to behavioral and neurological dysfunction.

206. Psychophysiology of Brain Function. Modern concepts of the functional organization of the brain, with particular reference to psychological phenomena and behavior. Recent advances in neurophysiology and electroencephalography bearing on perception, attention, drive, sleep-wakefulness, levels of consciousness, etc. Some emphasis on neurophysiology of behavior resulting from brain injury.

207A-207B-207C. Seminar in Physiological Psychology. Prerequisite: course 115 or equivalent. Mr. Butcher, Mr. Ellison, Mr. Krause

208. Seminar in Comparative Psychobiology. Mr. Arnold

210. Comparative Psychobiology. Prerequisites: course 115 or equivalent, consent of instructor. A survey of the determinants of species-specific behavior, including genetic influences and learning.

211. Seminar in Behavioral Neuroimmunology (1 unit). Lecture, one hour per month; discussion, 30 minutes per month. A series of lectures presented once a month throughout the academic year by invited speakers from UCLA and around the world. S/U grading.

212. Evaluation of Research Literature in Physiological Psychology (1 unit). Discussion, 90 minutes. Prerequisites: consent of instructor. Papers of current interest presented by members of the seminar and their significance and methodology discussed and critiqued in depth. May be repeated for credit. S/U grading.

218A-218B. Advanced Industrial Psychology. Selection and training of employees, factors influencing efficiency of work.

219. Special Problems in Industrial Psychology. Mr. Barthol

220A-220B. Social Psychology. Prerequisite: course 135 or equivalent. An intensive consideration of the concepts, theories, and major problems in social psychology.

221. Seminar in Attitude Formation and Change. Discussion, three hours. Prerequisites: courses 220A-220B or consent of instructor. Social psychological theories and research on opinions and attitudes. Effects of mass communication, social factors in assimilation of information and influence.

222A. Seminar in Interpersonal Relations. Discussion, three hours. Prerequisites: courses 220A-220B or consent of instructor. Theory and evidence on interpersonal relations, with intensive study of the theory of interdependence (interdependence, power, conflict, dispositional, and interpersonal processes).

222B. 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 the doctor/patient, doctor/nurse, and counselor/patient relationship. Supervisor/worker, parent/child, wife/husband, and teacher/student applications also considered.

223A. Survey Research in Psychology. Formerly numbered C223A. 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.

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 processes.

225. Seminar: Critical Problems in Social Psychology. Discussion, three hours. Prerequisites: courses 220A-220B or consent of instructor. May be repeated for credit with consent of instructor.

226. Current Literature in Social Psychology (2 units). Recent and current research papers on social psychology presented by members of the seminar and their significance and methodology discussed and criticized 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 or disabled, and the practice of institutional health care and self-care.

Ms. Taylor

M228. Political Psychology. (Same as Political Science 224.) Discussion, three hours. Prerequisites: course 220A or Political Science 214A. Examination of major socialization theories and personality, social, and political influences on public opinion on these issues.

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 on particular research topics in the field. Weekly papers, as well as a lengthy final paper, required.

Ms. Taylor


M231. The Psychology of Gender. Seminar, three hours. Prerequisite: one prior course on gender/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 social behavior.

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, socialization, and the treatment of 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 over time or between-individual differences to the same situation. Review of all literature relating information rate from environments to arousal and preferences for those environments.

Mr. Abramson

M233. 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 appropriate responses. Individual differences and drug-induced states as these relate to the environmental response dimensions used to explain within-individual differences in response to the same environment over time or between individual differences to the same situation. Review of all literature relating information rate from environments to arousal and preferences for those environments.

Mr. Mehrabian

M234. Social Psychological Aspects of Competitive Youth Sports. (Same as Kinesiology M273.) 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 dropout, and socialization through sport.

Ms. Scanlan

238. Seminar in Mental Measurements. Mr. Woodward

M239. Personality, Motivation, and Attribution. (Same as Education M215.) Current research and theory relating personality variables (e.g., attributional styles, self-esteem) to motivational concerns such as persistence and intensity of behavior. Consideration of causes and outcomes in achievement and affiliative domains.

240A-240B. Developmental Psychology. (Formerly numbered 240.) Lecture; three hours. Prerequisites: one undergraduate course in developmental psychology, graduate standing. Consideration of variables influencing the cognitive social and emotional development of the human organism from conception through adolescence. Emphasis on research methodology and the research base for current theories of development.

242A-242F. Seminar in Developmental Psychology. Seminar; three hours. Prerequisites: courses 240A-240B or equivalent, consent of instructor. Each course may be taken independently and may be repeated for credit.

242A. Perceptual Development. Ms. Greenfield, Mr. Jeffrey

242B. Cognitive Development. Ms. Greenfield, Mr. Jeffrey

242C. Socialization. Ms. Adelman

242F. The Development of Language and Communication. Ms. Padilla

243A-243B. Seminar in Practical and Societal Issues in Developmental Psychology. Lecture, three hours. Prerequisites: courses 240A-240B or equivalent, consent of instructor. Socialization processes in human development and implication for social-political, educational, research issues, values, and societal change. In Progress grading. Mr. Nakamura

244. Critical Problems in Developmental Psychology. Lecture, three hours. Prerequisites: courses 240A-240B or equivalent, consent of instructor. Current problems; content varies depending on the interest of the class and instructor. May be repeated for credit with consent of instructor.

M245. Personality Development and Education. (Same as Education M217C.) 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

M246. Psychological Aspects of Mental Retardation. (Same as Psychiatry M246.) Prerequisite: consent of instructor. Discussion of the psychological aspects of mental retardation, including classification, description, etiology, theory, prevention, treatment, assessment, modern and future developments, and input from other disciplines (ethics, law, religion, welfare systems). Mr. Tymchuk (F)

247A-247B. Theory and Methods of Computing in the Behavioral Sciences. 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, socio, clinical, personality, and physiological). Mr. Carterette

247B. Prerequisite: course 247A or consent of instructor. Topics in human problem solving, information processing, automata, language cognition, and problems arising in computer simulation of behavior. Each student undertakes a substantial independent project. 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 evaluation, efficacy 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 investigation, multivariate models. Mr. Woodward

251A-251B-251C. 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 allowed). S/U grading (course 251A only).

252. Multivariate Analysis. Prerequisites: courses 250A, 250B. Introduction to the analysis of data having multiple dependent measures. Topics include model and data set identification, multivariate analysis of variance, discriminant analysis, multivariate analysis of variance. Example 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

253. Factor Analysis. Theory and practice of factor analysis in psychological research. Methods of factor extraction and rotation; applications of computer programs to computations in factor analysis. Mr. Comrey

254. Seminar in Psychological Scaling. Theory of measurement, law of comparative judgment, methods of unidimensional scaling, multidimensional scaling, and related topics of current interest. Mr. Holman


256. Seminar in Critical Problems in Psychological Measurement. Seminar, three hours. Prerequisites: courses 250A, 250B, or consent of instructor. Critical examination of issues in the major approaches to psychological measurement; relation in psychological methods and data to a general theory of measurement. Mr. Mount

M257. Multivariate Analysis with Latent Variables. (Formerly numbered M247.) Prerequisite: consent of instructor. Introduction to models and methods for the analysis of data hypothesized to be generated by unmeasured variables, including latent variable analogues of traditional methods in multivariate analysis. Causal modeling; theory testing via the analysis of moment structures. Measurement models such as confirmatory, linear, and structural-equation models. Parameter estimation, selection, and testing of latent variables. Mr. Wickens

259. Quantitative Methods in Cognitive Psychology. Prerequisites: courses 250A and 250B, or consent of instructor. A number of research problems utilizing mathematical methods and techniques commonly used in cognitive psychology. Topics include Markov chains, other stochastic processes, queuing theory, information theory, frequency analysis, etc. Mr. Wickens

260A-260B. Proseminar in Cognitive Psychology (1 unit each). Presentation of research topics by students, faculty, and visiting scholars. May be repeated for credit. S/U grading.

261. Perception. Lecture, three hours. Prerequisite: consent of instructor. Concepts, theories, and research in the study of perception. Considers the questions: Why do things look, sound, smell, taste, or feel as they do? What is the nature of perceptual systems? How do these systems process information? Mr. Thomas

262. Human Learning and Memory. Lecture, three hours. Prerequisite: consent of instructor. Contemporary theory and research in human verbal learning and memory; verbal and nonverbal learning and memory processes, the structure and organization of short- and long-term memory. Mr. Bjork

263. Psycholinguistics. Lecture, three hours. Prerequisite: consent of instructor. Contemporary theory and research in psycholinguistics: coding and decoding, psycholinguistic parameters of language learning, speech recognition and perception. Ms. French, Mr. MacKay

264. Judgment and Decision Processes. Lecture, three hours. Prerequisite: consent of instructor. Contemporary theory and research in judgment and decision processes: psychophysical scaling, contextual effects on rating scales, models for the analysis of value judgments. Mr. Parducci

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 to artificial intelligence. 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. Each course 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. Parducci

268D. Language and Thought. Mr. MacKay

268E. Human Performance. Mr. Beatty, Mr. Carterette

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. Analysis of phenomenological, theoretical, and research issues regarding the etiology and mediating mechanisms in neurotic, affective, schizophrenic spectrum, and other personality disturbances.

270B. Principles and methods of psychological assessment and evaluation.

270C. Principles and methods of psychological intervention in individuals, families, and community settings.

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. Acquaints students with faculty research interests and involves them in their course 251 research at an early stage to insure cooperation. S/U grading. Mr. Christensen

272A-272F. Advanced Clinical Psychological Methods. Seminar, three hours. Prerequisite or corequisite: course 401 or 451. Each course may be taken independently for credit.

272A. Behavior Modification with Children. Prerequisites: courses 271A-271B-271C or consent of instructor. A course in the series of clinical intervention and assessment offerings for second- and third-year clinical students that covers behavior modification research and practice in clinic, school, institution, and home settings. Mr. Baker

272B. Psychotherapy with Adults.

272C. Clinical Interventions for Psychological Problems of Children.

272D. Family Therapy and Family Dynamics.

272E. Special Problems.

272F. Behavior Modification with Adults. Prerequisites: second-year graduate standing in clinical psychology. Current cognitive behavior modification principles and techniques. Major conceptual issues; specific techniques demonstrated and practiced by students to cover a range of adult problems such as depression, stress and anxiety, anger management, assertion problems. Ms. Hammes, Ms. Mays

273. Interpersonal Communication Seminar. Prerequisite: course 282 or consent of instructor. Development of a design for studying help-oriented interaction in community and clinical settings. Initial focus on measuring interpersonal deficit, response styles, and training effects. Mr. Goodman

274A-274B. Group Therapy Dynamics.

275. Family 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 Problems. Lecture, three hours; discussion, one hour. Prerequisite: doctoral standing. Theoretical and research issues and problems related to purposes and practices involved in assessment and treatment for children with learning and behavior problems. Practicum experiences to illustrate course content and provide opportunities to improve research and clinical competence. Mr. Adelman

277. Advanced Clinical Assessment. Projective techniques, clinical interpretation, case studies, the psychological test battery, psychopathology, and application of assessment to problems in psychotherapy.

278. Seminar in Motivation, Conflict, and Neuropsychology. Mr. Nezach

279. Seminar in Research in Psychopathology. M280A-M280B. Affective Disorders (2 or 4 units each). (Same as Psychiatry M234A-M234B.) Lecture, one hour; laboratory, one hour. Prerequisites: graduate standing, consent of instructor. General topics related to the primary affective disorders (depression, manic depressive illness), including diagnosis, pharmacology, epidemiology, psychology, phenomenology, biology, and treatment. Students enrolled for four units are assigned a more intensive reading list and required to make a presentation or prepare a research paper. Ms. Gitlin, Ms. Hammes

280. Seminar in Behavior Therapy. Mr. Lovass

282. Interpersonal Forms Analysis of Human Interaction. Seminar, three hours. Prerequisite: 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

289. Special Problems in Psychology. Content depends on the interests of the particular instructor. May be repeated for credit.

290. History of Psychology. (W, M294A, M294C; Sp, M294B, M294D) Seminar, three hours. Prerequisite: consent of instructor. In-depth examination of the nature and source of drugs, general aspects of pharmacology, neurotransmitters and basic neurophysiology, principles of behavioral pharmacology, categories of psychopharmacological agents, and related biological, psychological, and clinical changes. Emphasis is on the nature and source of drugs, general aspects of pharmacology, neurotransmitters and basic neurophysiology, principles of behavioral pharmacology, categories of psychopharmacological agents, and related biological, psychological, and clinical changes.

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 neurophysiology, principles of behavioral pharmacology, categories of psychopharmacological agents, and related biological, psychological, and clinical changes.

292. Biobehavioral Mechanisms of Stress and Disease. Seminar, three hours. Prerequisite: graduate standing in psychology or consent of instructor. The behavior-physiology interactions of some major bodily systems: the nervous, cardiovascular, gastro-intestinal, and endocrine systems. Usual and altered states of these systems (e.g., stress) as these can promote permanent tissue injuries, disease, or improved bodily function, health enhancement.

293. Developmental Methodology. Mr. Taylor

295. Developmental Methodology. Mr. Goodman

296. Seminar in Psychology and Communication. Mr. Goodman

297. Issues in the Social Development of the Minority Child. (Formerly numbered 229A.) Seminar, three hours. Prerequisite: 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


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 receive practical assignments required of all students majoring in personality. Each course may be repeated for credit. S/U grading.

410A-410B. Clinical Teaching and Supervision. Prerequisites: completion of Ph.D. comprehensive examinations, advancement to candidacy or preparation for dissertation research actively under way, consent of instructor and clinical committee. Study and practice of the knowledge, concepts, and theories on teaching and supervision of applied clinical psychology. Ms. Jacobs, Ms. 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, students apply the knowledge acquired in class to research observation and/or clinical work in the community. 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.

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.

452. 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. A writing course designed to help graduate students improve their writing skills. Students serve as discussion section leaders in selected undergraduate courses. S/U grading.

Presentation of Psychological Materials. Supervisors: psychology and teaching assistant. Students serve as discussion section leaders in selected undergraduate courses. S/U grading.
Religion, Study of (Interdepartmental)

383 Dodd Hall, (213) 825-7831, 825-4641

Professors
Marilyn Adams, Ph.D. (Philosophy)
Robert Merritew Adams, Ph.D. (Philosophy), Chair
Rogers Albritton, Ph.D. (Philosophy)
Amin Banani, Ph.D. (Persian and History)
Arnold J. Band, Ph.D. (Hebrew)
Robert L. Benson, Ph.D. (History)
Kees W. Bale, Ph.D. (History)
Seeger A. Bonebakker, Ph.D. (Arabic)
Giorgio Buccellati, Ph.D. (Ancient Near East and History)
John Callender, Ph.D. (Egyptology)
Claus-Peter Clansen, Ph.D. (History)
Herbert A. Davidson, Ph.D. (Hebrew)
Vinton A. Dearing, Ph.D. (English)
Patrick K. Ford, Ph.D. (English)
Amos Funkenstein, Ph.D. (History)
Marija Gimbutas, Ph.D. (Archaeology)
Richard Davodson, Ph.D. (History)
Daniel W. Howe, Ph.D. (History)
Henry Asparg Kelly, Ph.D. (English)
William R. LaFleur, Ph.D. (Japanese Buddhism)
Bengt T. M. Lofstedt, Ph.D. (Medieval Latin)
Jacques Maquet, Ph.D. (Anthropology)
Afaf Marzouk, D. Phil. (History)
Ronald J. Meier, Ph.D. (History)
Ismaïl Poumany, Ph.D. (Arabic)
Merrick Posansky, Ph.D. (History and Anthropology)
Douglas R. 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)
Hannes Peter Schmidt, Ph.D. (Indo-Iranian)
Stanislav Segert, Ph.D. (Northwest Semitics)
Johannes Wilbert, Ph.D. (Anthropology)
Milton V. Anastasios, Ph.D., Emeritus (Classics)
Kenneth K.S. Chen, Ph.D., Emeritus (Buddhism)
Hilda Kuper, Ph.D., Emeritus (Anthropology)
Gerhard B. Ladner, Ph.D., Emeritus (History)
William A. Lessa, Ph.D., Emeritus (Anthropology)

Associate Professors
Edward G. Berelson, Ph.D. (History)
Ruth Bloch, 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. Putschow, Ph.D. (Japanese Religion and Cultural History)

Assistant Professor
Robert E. Buswell, Ph.D. (Chinese and Korean Buddhism)

Lecturer
David L. Lieber, D.H.L. (Hebrew)

Adjunct Associate Professor
S. Scott Barkocy, 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. Coherence 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 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, 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 Hittite, 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 151, 162, 166A, 166B, History 197 (Roman History: Christianity and Imperial Rome); three courses in either Latin or Greek.

Group 4: Israel and Judaism

Group 5: Christianity

Group 6: Islam

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, 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 tutelage of a faculty member. If you are admitted to honors, you should take three 199 courses under the
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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, visions of revelation, myth and religion, 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 H. Barcia, Lic. F. y L. (Spanish)
Rubén A. Benítez, Ph.D. (Spanish)
Marc Bensimon, Ph.D. (French)
Franco Betti, Ph.D. (Italian)
Giovanni Cecchetti, Ph.D., Dottore in Lettere (Italian)
Pedro Chiappelli, Dottore in Lettere (Italian)
Margherita Cottino-Jones, Ph.D., Dottore in Lettere (Italian)
Hassan el Nouty, Docteur es Lettres (French)
Eric Gans, Ph.D. (French)
Joaquín Gimeno, Ph.D. (Spanish)
Per Haidu, Ph.D. (French)
Claude L. Hulet, Ph.D. (Spanish and Portuguese)
Carroll B. Johnson, Ph.D. (Spanish)
Bengt T. M. Löfstedt, Ph.D. (Classics)
Gerardo Luzziari, Ph.D. (Spanish)
C. Brian Morris, Litt.D. (Spanish)
C. P. Otero, Ph.D. (Spanish and Romance Linguistics)
Edward F. Tuttle, Ph.D. (Italian)
Stephan D. Werner, 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)
Bruce P. Hayes, Ph.D. (Linguistics)
Shuhsi Kao, Ph.D. (French)
Sara Melzer, Ph.D. (French)
Susan Plann, Ph.D. (Spanish)
A. Carlos Quicolí, Ph.D. (Portuguese and Romance Linguistics), Chair
Richard M. Reeve, Ph.D. (Spanish)

Enrique Rodriguez-Cepeda, Ph.D. (Spanish)
A. John Skirius, Ph.D. (Spanish)
Paul C. Smith, Ph.D. (Spanish)

Assistant Professors
Jean-Claude Carron, Ph.D. (French)
Hilda J. Koopman, Ph.D. (Linguistics and African Languages)
Timothy A. Slowell, Ph.D. (Linguistics)
Eric Wehrli, 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 General 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 90024-1535. Students admitted from elsewhere whose preparation is considered deficient in view of their intended specialization are required to take specified upper division courses. Such courses may be taken concurrently with graduate courses, but they may not be applied toward the course requirements for the M.A. degree. Before enrolling for the first quarter in the program, new students are encouraged to attend the program's orientation 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.

Course Requirements

Twelve courses are the minimum requirement, of which six courses (at least five of them graduate) must be in your major language, with specialization either in linguistics or in literature. One course in the history or development of the major language is highly recommended. At least three courses would be in the minor language, also with specialization in either linguistics or in literature. The remaining three courses should be selected in consultation with the guidance committee so as to be logically supportive of your major field of study. Linguistics 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 grade on the examination are encouraged to proceed to candidacy for the Ph.D. degree.

Comprehensive Examination Plan

The comprehensive examination is administered by three members of the guidance committee, appointed by the chair. The written examination, consisting of one four-hour examination in the major field, one two-hour examination in the minor field, and one oral examination not to exceed one hour, is given each 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) General Test (normally with a combined verbal/quantitative score of 1,100 or better) are also required.

Formal application is required of all students. Entering students who have completed the UCLA M.A. in Romance Linguistics and Literature with a high pass grade are automatically eligible for admission to the Ph.D. program; those who received a middle pass grade are reviewed as candidates from other institutions; those who received a low pass grade are ineligible for admission. Students whose M.A. program registers deficiencies in scope or quality may be admitted but are required to complete three graduate courses (with grades of B or better) approved by the chair.

Following your formal admission, you select your guidance committee in consultation with the chair. You then meet as soon as possible with your committee to work out your program of courses and set a tentative date for the qualifying examinations. The guidance committee has final authority to prescribe the course of study. Until you have met with this committee and placed yourself under its direction, you are not officially in the Ph.D. program.

**Major Fields or Subdisciplines**

The program recognizes two fields of specialization: linguistics and literature.

**Linguistics:** Major fields include (1) the present-day grammar of the Romance language of your major interest and its relation to the grammar of its sister languages and to language in general, (2) the development of the Romance language of your major interest in relation to its sister languages (and possibly other interrelated cultural aspects) from the perspective of historical linguistics, and (3) the genetic and typological relationships of the Romance languages to other Indo-European languages and to language in general. The two minors may be other Romance languages, or one other Romance language plus a field of Romance literature.

**Literature:** Major fields include one of the following in the literatures of at least two Romance languages: (1) early Romance literature and 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 prospects for the dissertation is also discussed and approved. Failed portions of the examination may be repeated once after any remedial preparation the committee may specify.

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.
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ROTC Programs

In accordance with the National Defense Act of 1920 and with the concurrence of The Regents of the University, a unit of the Senior Division Reserve Officer Training Corps (ROTC) was established on the Los Angeles campus of the University in July 1920.

This voluntary training allows you to qualify for an officer’s commission in the Army, Navy, Air Force, or Marine Corps while completing your college education. ROTC courses are offered by three departments within the College of Letters and Science: Aerospace Studies (Air Force), Military Science (Army), and Naval Science (Navy and Marine Corps). They are not considered academic majors, but ROTC courses may be taken as free electives and applied toward the total course requirements of your major. The ROTC program is also available through UCLA Extension.

All three ROTC departments offer voluntary four-year programs for incoming freshmen and two-year programs for students who apply early in their sophomore year. All have leadership laboratories which help to build management skills.

Active duty obligation following commissioning varies depending on type of commission, type of financial aid received, and individual requests for Active or Reserve Duty assignments.

Scholarships

ROTC Scholarships are awarded on a competitive basis to U.S. citizens regardless of parents’ income. Scholarships provide tuition, a book allowance, fees, and a monetary allowance of $100 per month during the academic year. Applications for four-year scholarships may be obtained by calling the appropriate department at UCLA — Army, 825-7384; Air Force, 825-1742; Navy, 825-9057 — or by writing to the Armed Forces Opportunities, P.O. Box 2865, Huntington Station, NY 11746-2102. When writing, specify which service (Army, Air Force, Navy/Marine) scholarship is...
Aerospace Studies

210 Men’s Gym, (213) 825-1742

Professor
George P. Pehlvanian, M.A., Colonel, Chair

Adjunct Assistant Professors
Dean S. Allred, 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 every other week and four or two hours of academic class (each week that laboratory does not meet) during the academic year.

Prerequisites for the two-year program are successful completion of the GMC and a four-week field training course (see “Four-Year Program” above), or successful completion of a six-week field training program on an Air Force base during the summer preceding enrollment in the program.

Students interested in the six-week field training program are encouraged to apply to the department chair early during the Fall Quarter of their sophomore year. The application deadline normally is March 1, but earlier submission is recommended, as the selection board considers applications monthly. U.S. citizenship is required. There is no obligation to apply. Students are selected on a competitive basis with consideration given to academic major, grade-point average, aptitude examination scores, medical examination results, 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 required. P/ NP or letter grading. 1A. Examination of the roles and norms expected from military officers, with emphasis on the characteristics of national power, the U.S. national security apparatus, and key elements of current strategic doctrine. The role of the U.S. Navy, Marine Corps, and Army. 1B. Focus on the roles, missions, and organization of the Air Force, covering basic elements of air doctrine and the functions of general purpose, strategic, and aerospace support forces. Emphasis on how aerospace forces are utilized during conflict, as well as current problems in defense procurement. 1C. A "threat assessment" of U.S.S.R. military and political policies and the potential for military conflict in selected regions of the world. Examination of low-level conflict as represented by terrorist actions and guerrilla warfare. Analysis of basic elements of strategy which deter war. Capt. Johannsen (F,W,Sp)

Sophomore-Year Courses

20A-20B-20C. The Developmental Growth of Air Power (1 unit each). 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. P/ NP or letter grading. Capt. Pehlvanian (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, qualitative methods, and computer systems. Group discussions, case studies, films, and role-playing used as teaching devices. Communicative skills strengthened through preparation of written reports and oral presentations. Capt. Calloway (F,W,Sp)

140A. Military Judicial System (3 units). Seminar. An introduction to the military justice system, international laws of armed conflict relating to air operations, and the foundations of military professionalism. Oral and written reports to strengthen communicative skills. P/ NP or letter grading. Capt. Allred (F)


140C. American Defense Policy (3 units). Seminar. 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 communication abilities oriented to Air Force requirements through preparation of papers and classroom presentation and discussion. P/ NP or letter grading. Capt. Allred (Sp)

199. Special Studies in Aerospace Studies (1 or 3 units). Prerequisite: consent of instructor. A course of study for undergraduates who wish to engage in independent research under the direct supervision of a department faculty member. Col. Pehlvanian

Military Science

142 Men’s Gym, (213) 825-7381

Professor
William Coffey, M.E.A., Major, Chair

Assistant Professors
Cari Cannon, M.B.A., Captain
Duane Covino, M.S., Captain
Anthony Denard, M.A., Major
Richard Murrell, M.B.A., Captain
Carla J. Smith, M.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 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 training 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, 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 Military Science 22 and 23, with consent of the ROTC adviser.

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 and informal 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.

112. The Psychology of Leadership II (3 units). Lecture, two hours. Limited to military science students. Introduction to various individual leadership styles and personalities to assist students in development of their own individual style. Different philosophies of leadership, along with the dimensions of leader behavior, special consideration to counseling, management, and control, and communication techniques that must be mastered to be an effective leader.

113. Theory of Learning Applied to Teaching (2 units). Limited to military science students. A study of instructional processes, lesson content planning procedures, techniques of evaluation and, classroom and supervision with emphasis on the Uniform Code of Military Justice and the rights of the accused under the constitution.

123. Military Legal Systems (2 units). Limited to military science students. Introduction to the theory and 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.

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 processes.

126. Military Professionalism and Ethics (2 units). Lecture, 90 minutes; discussion, 30 minutes. Limited to military science students. The ethical concepts held by America's military institution. 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.

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.
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 enroll in NROTC as juniors, with the same obligations and privileges as in the College Program described above. The age limit is 27½ years at the time of graduation. Applicants should contact the department no later than March 1 of their sophomore year.

Freshman-Year Courses


Lt. Westreich (F)

1B. Naval Ship Systems I. An introduction to naval engineering, with emphasis on basic power cycles used in naval propulsion systems, basic thermodynamic principles inherent in ship propulsion, and salt water distillation systems. Detailed examination of ship hull and superstructure design, ship stability, and buoyancy.

Lt. Alt (Sp)

Sophomore-Year Courses

20A. Naval Ship Systems II. (Formerly numbered 20B.) A study of naval weapon systems, with emphasis on infrared, radar, and sonar principles. Target designation and acquisition, methods of solving fire control problems, target detection systems. Analysis of transfer and feedback functions inherent in weapon systems.

Lt. Alt (W)

20B. Seapower and Maritime Affairs (2 units). (Formerly numbered 20A.) A conceptual study of seapower, emphasizing the historical development of naval and commercial power. Seapower examined in relation to economic, political, and cultural strengths, focusing on current abilities of specific nations to use the oceans to attain national objectives.

Capt. Sexton (Sp)

Junior-Year Courses


Lt. Mayer (W)

101B. Navigation II. Prerequisite: course 101A. A study of rules of the road, shiphandling, and basic concepts of multiple ship formations and maneuvering. In-depth analysis of problems associated with operations on high seas and inland waters applying to civil and U.S. Naval craft.

Lt. Mayer (Sp)

*103. Evolution of Warfare. A study of the evolution of warfare, including historical and comparative consideration of the influence that leadership, political, economic, and sociological and technological development factors have had on warfare and the influence they continue to exert in the age of limited warfare.

Capt. Farrar (W)

Senior-Year Courses

102B. Naval Leadership and Management I. An examination of current and classical leadership and management theories, with emphasis on their application to the junior military officer's role as a leader-manager. Topics include managerial functions, performance appraisal, motivation theories, group dynamics, leadership theories, and communication.

Capt. Sexton (F)

102C. Naval Leadership and Management II (2 units). Prerequisite: course 102B. Current leadership and management in the U.S. Navy. Areas include human resources management, personnel management, material management, and performance and career evaluation.

Lt. Westreich (W)

*104. Amphibious Operations. A study of the historical development of the doctrine, tactics, and equipment used in amphibious operations. Examination of topics through the study of amphibious landings throughout history, including Gallipoli, World War II, Korea, and Grenada. Study of contemporary doctrine through a map exercise.

Capt. Farrar (W)

Scope and Objectives

The undergraduate program, leading to a Bachelor of Arts degree in Slavic Languages and Literatures, is designed to provide students with a basic mastery of the Russian language, a familiarity with the classics of Russian literature, and a general background in the cultural, political, and social history of the Slavic peoples.

The program presents a considerable range of options to students with specialized interests. Besides the traditional major in Slavic languages and literatures, the program also offers B.A. degrees in Russian Civilization (language, literature, history, economics, political science, geography, art, music, film) and Russian Linguistics (language, literature, Russian and Slavic linguistics, general linguistics, psychology). The graduate program provides advanced training in Slavic linguistics and literature leading to the master's degree and the Ph.D. The primary task of the department faculty is to develop and refine the critical and analytic skills of its students in preparation for productive careers in college teaching and research in the Slavic field. Alternative careers include secondary language teaching, translation, interpreting, librarianship, and government service.
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, 99A.

**The Major**


Bachelor of Arts in Russian Civilization

Preparation for the Major

**Required:** Russian 1, 2, 3, 4, 5, 6, 99A.

**The Major**

**Required:** Russian 101A-101B-101C, 111A-111B-111C, 119, 120; three additional courses in Russian literature, seven courses from Russian M170, M180, 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 1, 2, 3, 4, 5, 6.

**The Major**


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 do 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 90024-1502.

Major Fields or Subdisciplines

Candidates for the M.A. and Ph.D. degrees select a specialization in either literature or linguistics, with Russian as the principal language and literature. On the Ph.D. level, students may specialize in a language or literature other than Russian by special arrangement.

Master of Arts Degree

**Foreign Language Requirement**

There are two foreign language requirements which must be completed 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"), and (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 retake 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 examinations, 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 case 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

179. 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**

201. Introduction to Old Church Slavic. Lecture, three hours. Required for the M.A. (linguistics, literature). Introduction to phonology and grammar; readings.


223. Introduction to South Slavic Languages. Lecture, three hours. Prerequisite: course 202. Recommended: Serbo-Croatian 103A-103B-103C or Bulgarian 103A-103B-103C. Required for the Ph.D. (linguistics). Introduction to the structure and history of the South Slavic languages.

224. Introduction to Ukrainian and Belorussian. Lecture, three hours. Prerequisite: course 202. Introduction to the history and structure of Ukrainian and Belorussian.

241A-241B. 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.


251. Introduction to Baltic Linguistics. Lecture, three hours. Prerequisite: course 202. Introduction to Baltic linguistics, with special attention to the relationship between Baltic and Slavic.

261. Slavic Paleography. Lecture, three hours. Prerequisite: course 201. Introduction to Slavic paleography: inscriptions, birch bark letters, Gigantic and Cyrillic texts.

262A-262B. West Slavic Linguistics. Lecture, three hours. Prerequisite: course 222. 262A. Lekptic; 262B. General Survey.

263A-263B. South Slavic Linguistics. Lecture, three hours. Prerequisite: course 223. 263A. Serbo-Croatian, Slovene; 263B. Bulgarian, Macedonian.

281. Seminar in Slavic Linguistics. Seminar, three hours. Selected topics in comparative and historical Slavic linguistics. May be repeated for credit with consent of instructor and graduate adviser.

282. Seminar in Structural Analysis. Seminar, three hours. Selected topics. May be repeated for credit with consent of instructor and graduate adviser.

**Literature**


290. Seminar in Comparative Slavic Literature. Seminar, three hours. Prerequisites: courses 230A-230B-230C. Recommended: reading knowledge of one Slavic language in addition to Russian. Selected topics in literature of more than one Slavic literature or Slavic and Western literatures. May be repeated for credit with consent of instructor and graduate adviser.
**Upper Division Courses**

103A-103B-103C. Elementary Bulgarian. Recitation, five hours. Basic course in the Bulgarian language.

154. 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.

**Czech**

Upper Division Courses

102A-102B-102C. Elementary Czech. Recitation, five hours. Basic course in the Czech language.

102D-102E-102F. Advanced Czech. Recitation, three hours. Prerequisite: course 102C

155A-155B. Czech Literature. Lecture, three hours. Lectures and readings in English. 155A. Survey of Czech Literature from the Middle Ages to the Present; 155B. Selected Topics.

**Polish**

Upper Division Courses

102A-102B-102C. Elementary Polish. Recitation, five hours. Basic course in the Polish language.

102D-102E-102F. Advanced Polish. Recitation, three hours. Prerequisite: course 102C

152A-152B. 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.

160. Polish Romanticism. Lecture, three hours. Lectures and readings in English. Comparison of Polish Romanticism with that of other Slavic and Western European countries.

**Graduate Course**

200. 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.

**Russian**

Language Courses

1. Elementary Russian. Recitation, five hours; laboratory, one hour.

2. Elementary Russian. Recitation, five hours; laboratory, one hour.

3. Elementary Russian. Recitation, five hours; laboratory, one hour.

4. Intermediate Russian. Recitation, four hours; laboratory, one hour.

5. Intermediate Russian. Recitation, four hours; laboratory, one hour.

6. Intermediate Russian. Recitation, four hours; laboratory, one hour.

7. Russian Conversation (2 units each). Prerequisite: course 3 or consent of instructor. Russian conversation designed to supplement the grammar and readings courses 4, 5, 6.

8. 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 118 and 119 require the completion of or simultaneous enrollment in all courses lower in the sequence.

9. Advanced Grammar and Reading (3 units each). Prerequisite: course 101C or consent of instructor. Required for the M.A. (linguistics, literature). Advanced grammatical analysis; reading of difficult texts.

10. Russian for Social Scientists (2 to 12 units). Lecture, one hour (per each two units); discussion, one hour (per each two units). Prerequisite: course 3 or equivalent. Reading, oral practice, and translation of the Russian that is relevant for students of social sciences. May be repeated for credit.

11. Conversation and Composition (1 unit each). Recitation, two hours. Prerequisites: courses 6 and 10C, or consent of instructor. Required of majors. Conversation and composition. Conducted in Russian.

12. Advanced Conversation and Composition (1 unit each). Recitation, two hours. Prerequisite: course 111C or consent of instructor. Required for the M.A. (linguistics, literature). Advanced conversation and composition. Conducted in Russian.

**Literature and Civilization Courses**

99A. Introduction to Russian Civilization. Formerly numbered 99A. 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.

110. Survey of Russian Language to Pushkin. Lecture, three hours. Prerequisite: upper division standing. Slavic majors should take this course during their sophomore year. Lectures and readings in English.

110A. Survey of 19th-Century Russian Literature. Lecture, three hours. Prerequisite: upper division standing. Slavic majors should take this course during their sophomore year. Lectures and readings in English.

120. Survey of 20th-Century Russian Literature. Lecture, three hours. Prerequisite: upper division standing. Slavic majors should take this course during their sophomore year. Lectures and readings in English.

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. Turgeniev; 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.

126. 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.

130A-130B-130C. Russian Poetry. Lecture, three hours. Prerequisite: course 6. Lectures and readings in Russian. 130A. Introduction to Analysis of Poetic Texts; 130B. From Mid-18th Century through Predecessors of Symbolism; 130C. From Late-19th Century through Contemporary Soviet Verse.


140A-140D. Russian Prose. Lecture, three hours. Prerequisite: course 6. Lectures and readings in Russian. 140A. Major Writers from Karamzin to Turgeniev; 140B. Dostoevsky to Gorky; 140C. Contemporary Writers; 140D. Advanced Readings in Russian Prose.

150. Russian Folk Literature. (Same as Folklore M150.) Lecture, three hours. Lectures and readings in Russian.

1510. Russian Folklore. (Same as Folklore M170.) Lecture, three hours. A general introduction to Russian folklore, including a survey of genres and related folkloric phenomena. Lectures and readings in English.

180. Russian Art. (Formerly numbered 180.) (Same as Art History M113.) Lecture, three hours. Recommended prerequisites: Art History 51, 54, 57. Knowledge of Russian not required. A survey of the art and architecture of Russia from its beginning to the present day. Emphasis on the development of Russian art in its religious, social, and political context.

193. Seminar in Russian Literature. Lecture, three hours. Prerequisite: course 6 or consent of instructor. Recommended: course 101C. Reading and discussion of selected authors; written seminar papers usually required.
Graduate Courses

Linguistics

201A-201B-201C. Style and Composition. Lecture, three hours. Prerequisites: course 102C or consent of instructor. Required for the M.A. (linguistics, literature). Text analysis and theory of text; stylistics, genre, and pragmatics.

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. Prerequisites: course 123, 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. Prerequisite: Slavic 215A. Survey of Old Russian literature from the beginnings through the Kievan and the Muscovite periods up to the end of the 17th century. 251B. Detailed discussion of specific writers, periods, or genres.

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. Kotliarevsky, 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


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, 1843; 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.

Social Sciences

3232 Campbell Hall, (213) 825-2974

Professors

Lucie C. Cheng, Ph.D. (Sociology), Coordinator
Harry H.L. Kitano, Ph.D. (Social Welfare)
Claudia Mitchell-Kernan, Ph.D. (Anthropology)
Gary B. Nash, Ph.D. (History)
Amado M. Padilla, Ph.D. (Psychology)
Alexander P. Saxton, Ph.D. (History)
David O. Sears, Ph.D. (Political Science, Psychology)
Stanley Sue, Ph.D. (Psychology)
The following undergraduate course is offered:

**Jeffrey Prager, Ph.D.** (Sociology)

**Judith Blake, Ph.D.**

**Melissa L. Meyers, Ph.D.** (History)

**Steven J. Loza, Ph.D.** (Music)

for interested students.

There is no major in social sciences; however, there are increasing career opportunities for those students whose interests are broad and unspecialized. At both undergraduate and graduate levels, students study history, politics, statistics and mathematics, race relations, demography, psychology, language, and many other topics. A sociology student becomes a member of an intellectual community in which all these interests are represented.

The primary purpose of the major in sociology is to enhance the student's capacity for critical analysis and understanding of social phenomena. It is intended, at the same time, to serve as preparation for careers in high school or junior college teaching, social work, architecture and urban planning, law, public health, and government service, among others. It also provides training for advanced graduate work in sociology and social psychology.

The Ph.D. in Sociology usually leads to a career in research and/or teaching. Although most sociologists are employed by universities, there are increasing career opportunities in government and other nonuniversity research centers.

**Bachelor of Arts Degree**

**Preparation for the Major**

**Required:** 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 (Anthropology 5, 6, 22, Economics, 1, 2, Geography 3, History 1A, 1B, 1C, Political Science 1, Psychology 10).

All courses required for the major in sociology, including lower division and allied field courses, must be taken for a letter grade. A 2.0 grade-point average is required for the preparation and for the major.

**The Major**

**Required:** Ten upper division sociology courses, 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 (may be taken on a P/NP grading basis).

**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, indepth 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: 131, 132, 134, 135, 136, 137, 139

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

**Sociology**

264 Haines Hall, (213) 825-1313

**Professors**

Jeffrey Alexander, Ph.D.

Rodolfo Alvarez, Ph.D.

Judith Blake, Ph.D.

Judith Blake, Ph.D.

Judith Blake, Ph.D.

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Judith Blake, Ph.D.

Judith Blake, Ph.D.

Judith Blake, Ph.D.
(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: 131, 132, 134, 135, 136, 137, 139

(6) **Social Change and Modern Society**
Required: 120
Two of the following: 123, 140, 150
One of the following: 124, 125, 136, 139, 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: 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 articulateness), the department pays particular attention to applicants who seem likely to contribute considerable intellectual, social, or cultural diversity to its student body. Women and minorities are therefore encouraged to apply. The deadline for receipt of applications is January 15. Applications forms and more detailed information are available from the Graduate Affairs Assistant, Department of Sociology, 254C Haines Hall, UCLA, Los Angeles, CA 90024-1551.

**Major Fields or Subdisciplines**
In the first two years you usually satisfy the course requirements for the M.A. degree and write a master's paper that is evaluated by the department in your sixth 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.

(2) ** Macrosociology:** Political sociology, economy and society, historical and comparative sociology, macrosociological theory, and comparative stratification.

(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; sociology 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 are 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.

(1) Sociology 202A-202B (must be taken in the first year).

(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.


Because four of the five area programs require successful completion of Sociology 210A-210B, you would ordinarily take these courses in your first two years and are strongly urged to do so in your first year.

Students intending to affiliate with an area would do well to satisfy some of its requirements in the first two years. Contact the department for information about entering the area programs.

After the Master's Paper Review: Two courses (eight units) are required. An additional methodology sequence (from courses 211A through 218B) must be completed before the awarding of the Ph.D. degree.

Course requirements for the five area programs are listed below. Contact the graduate affairs assistant or area directors for more specific details 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. 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).

(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 215A-215B and a graduate-level course in sampling, such as Public Health 201H or Management 215E.


(5) Social Psychology: Completion of an undergraduate program equivalent to at least two courses from Sociology 150 through 157 and at least two courses in psychology, selected from the fields of learning, language and communication, personality, social psychology, and abnormal psychology, Sociology 224A-224B, 289A-289B-289C; a second methods sequence, in addition to the one required for the M.A., selected from courses 214A-214B, 215A-215B, 216A-216B, or 217A-217B.

Courses in the 500 series (596, 597, 599) are normally taken in preparation for the master's paper review, the field examinations, and for dissertation research. They may not be applied toward the course requirements for the degree.

Master's Paper Review
By the end of your second year of study, you must submit an acceptable master's paper for approval by the general faculty. The paper must demonstrate a general competence in sociological theory, methodology, and selected substantive areas and in intellectual attainment.

The paper should demonstrate that you (1) have an accurate grasp of the intellectual traditions of sociology, (2) can bring evidence to bear on theoretical problems, (3) can describe how some aspect of the social order works, and (4) can adequately handle research and methodological issues. The main concern is with your capacity to do Ph.D.-level work.

After review of the paper, any of the following options may be recommended:

(1) The paper is passed. You are granted the M.A. and permitted to proceed to the Ph.D.

(2) The paper is passed conditionally. You are granted the M.A. and permitted to proceed to the Ph.D. after completion of specified revisions of the paper.

(3) You are granted a terminal M.A.

(4) The paper is not acceptable (you may resubmit at a later time or may be asked to withdraw).

If you enter UCLA with an M.A. degree in Sociology from another institution, you normally come up for a master's paper review in your first quarter of residence at UCLA, and under no circumstances later than the third quarter of residence. In this review, the department determines whether you may proceed directly to preparation for the field examinations or whether additional work must be done, and if the methodology sequence requirement has been adequately satisfied. In addition to a paper, which can be an M.A. thesis written at another university, you should submit for the master's paper review a transcript from the university at which the M.A. degree was earned.

Contact the department for further details on master’s paper review.
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 your 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 departmental 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. Changing Society and Making History. Lecture, three hours; discussion, one hour. Leading question is how do politics, economics, and culture interact in changing society and making history? Answers provided by an introductory level of study of the contending substantive theories and contrasting methods of inquiry contained both in classic and exemplary contemporary works.

3. The Sociology of Everyday Life. Lecture, three hours; discussion, one hour. Examination of the ways in which taken-for-granted aspects of everyday life and relationships are shaped by interactional, cultural, and historical processes. Cultivation of the capacity to critically observe the tacit practices through which everyday life is constructed.


5. Computers and Social Change. Lecture, two hours; laboratory, three hours. The impact of technological change from computers and computing on people, jobs, business firms, industries, and educational and legal institutions. Necessary for an adequate understanding of those topics, course also provides information on selected aspects of contemporary computers and the history of computing. In addition to reading assignments and lectures, course involves direct experience in a computing laboratory.

Mr. McFarland

18. Interpretation of Quantitative Data. Prerequisite or corequisite: course 1. Satisfies the statistics requirement for the major in sociology. Reading graphic presentation of data; 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 the population of Mexico as a model example of a developing country. Popular treatments of future social and technological possibilities. Class discussion on reading assignments.

Mr. Levine

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 10 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.

109. Introduction to Sociological Research Methods. A systematic treatment and semiquantitative skills of 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 comparison of basic concepts and theories in sociology. (Formerly numbered 120Z.) A study of paradigms or modification of McScheme; a critical analysis of trends in theory construction.

Mr. Alexander, Mr. Hortons, Mr. Lopez

113. Contemporary Sociological Theory. A critical examination of significant theoretical formulations from 1920 to the present. Analysis of the relation between theoretical development and current research emphasis.

Mr. Alexander, Mr. Champagne, Mr. TenHouten

114. Marxist Sociology. The fundamentals of Marx- ist 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

116. Introduction to Mathematical Sociology. Prerequisites: course 18, Mathematics 2, 3A (a course whose content includes introductions 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 (6 units). Lecture, two hours; discussion, two hours; fieldwork, 12 units. Prerequisites: upper division standing, consent of instructor. Fieldwork and extensive field notes required. Theory and practice of field research, with particular emphasis on the interaction between fieldwork role and substantive findings.

Mr. Emerson, Mr. Rabow

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, analysis of variance, or factor 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 behavior of organizations in society.

Mr. Alvarez, Mr. Grusky, Mr. Surace

122. Mass Communications. Lecture, three hours. Fieldwork may be required. Development, functions, and effects of the mass media in industrialized societies; social theory and social research in 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. Exposure to research innovations and their effects on future social systems.

Mr. Levine

123. Social Stratification. An analysis of American social structure in terms of evaluative differentiation. Topics include criteria for differentiation, bases for evaluation, types of 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, acculturation, 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 comparative materials drawn from Jamaica, Hawaii, and other areas.

Mr. Alvarez, Mr. Kilano, Mr. Prager

125. Urban Sociology. Lecture, three hours. Description and analysis of urbanization and urbanism in the United States and other areas.

Mr. Bailey, Mr. Light, Mr. Oliver


Mr. Bailey, Ms. Oppenheimer, Mr. Sabagh
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 society's economic system. American and European historical studies of family socioeconomic and demographic characteristics and behaviors of first half course; the U.S. experience since the 1930s in the second half. Ms. Oppenheimer

128. Occupations and Professions. Description and analysis of representative occupations and professions, with emphasis on the contemporary United States.

129. Social Policies and Social Programs. Lecture, three hours; discussion, one hour. Prerequisites: junior standing or course 1, or consent of instructor. Analysis of problems of social disorganization, with emphasis on social structure explanations. Consideration of social policies and intervention strategies related to control and management of social problems. Mr. Freeman, Ms. Zucker

130. Latin American Societies. A descriptive survey of the major Latin American societies, emphasizing their historical backgrounds and their emergent characteristics, with special attention to the relations between rural and urban life. Mr. López, Mr. Zeitlin

131. Population and Society in the Middle East. Prerequisites: 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 American Indian Societies. Lecture, three hours; discussion, one hour. 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. Champlagne

134. 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. Roy, Mr. Zeitlin

135. Comparative Studies of Jewish Communities in the U.S. and Abroad. The history, distribution, 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. Levine

136. 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, including the development of nationhood, the emergence of capitalism, racialization, and population growth. Variation in contemporary society, viewed from a variety of theoretical perspectives. Mr. Champlagne, Mr. Roy

137. Japanese Society. Lecture, two and one-half hours; discussion, two hours. Prerequisites: junior standing or 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 leisure in the life course, and (3) education and opportunity. Emphasis on structural perspectives, more than cultural perspectives. Mr. Yamaguchi

140. Political Sociology. The contributions of sociology to the study of politics, including the analysis of political aspects of political life, the social context of action, and the social bases of power. Mr. Prager, Mr. Roy, Mr. Zeitlin

141. Economy and Society. The sociology of economic life, with emphasis on principal economic institutions of the United States. Mr. Light, Mr. Mink

142. Sociology of the Family. Theory and research dealing with the modern family, its structure, and functions, including historical changes, variant family patterns, family as an institution, and the influence of the culture on family life. Mr. Mink

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, socialization, and the 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. Rabow, Ms. Wrigley

144A. Conversational Structures I. (Formerly numbered 144A.) 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 1. A consideration of some of the more expanded sequence structures, story structures, topic-based sequences, and the overall structural organization of single conversations. May be concurrently scheduled with course C244B. Mr. Sabagh

145. Sociology of Deviant Behavior. An examination of the leading sociological approaches to the study of deviant behavior and a general survey of the major types of deviance in American society. Mr. Katz, Mr. Rabow

146. Criminology. Theories of the genesis of crime, factors in the organization of criminal behavior from the points of view of the person and group; criminal behavior systems. Mr. Horblit, Mr. Surace

147. Control of Crime. Theories of punishment; methods of dealing with convicts; social organization of the police, courts, prisons, probation, and parole. Fieldwork required. Mr. Emerson

148. Normal Environments. Structural interpretation of the concerted production, management, and alteration of perceived normal interpersonally significant environments. Fieldwork required. Mr. Garfinkel, Mr. Poliner

149. A Study of Norms. Properties of norms of normatively governed conduct, of lay and professional methods for describing, producing, using, and validating norms in contrasting settings of socially organized activities; relevance of these properties for the programmatic applications of analytic sociology. Fieldwork required. Mr. Garfinkel, Mr. Poliner

150. Collective Behavior. Prerequisites: courses 1, 18, or equivalent, upper division standing. Characteristics of group mobs, publics, social movements, 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 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, Mr. Rabow, Ms. Zucker

153. Process and Socialization in the Family. Prerequisite: course 1, or consent of instructor. Upper division standing. Examination of the processes of interaction, decision making, role differentiation, conflict, integration, and socialization within the family and their interrelations with society. Mr. Katz

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 deviation; reference groups; and interaction process. Mr. Bonacich, Mr. Rabow, Ms. Zucker

155. Intergroup Conflict and Prejudice. A study of the causes and consequences of group conflict, with emphasis on majority-minority relations, prejudice, and discrimination. Special attention to alternative sociological and psychological theories of prejudice; the effects of minority status on the individual, and the possibilities for attitude and behavioral change. Mr. Oliver, Mr. Seeman

156. Psychoanalytic Sociology. Prerequisites: courses 1, 18. Recommended: a course in theory (course 112 or 113) and in social psychology. Designed to review psychoanalytic approaches to social psychology and psychoanalysis and sociology. Application of this analytical perspective to selected substantive areas and social processes, including but not limited to, group development, delinquency, deviance, socialization, identity and self formation, role formation and role making. Mr. Rabow

157. Sociology of Mental Illness. Analysis of the major sociological and psychological models of madness. Study of the social processes involved in the definition, recognition, labeling, and treatment of "mental illness." Mr. Emerson, Mr. Goldstein, Mr. Pollner

158. Death and Suicide: Psychological and Sociological Aspects. (Same as Psychology M163.) Lecture, three hours; discussion, one hour. Junior standing required. The definition and taxonomy of death; the new permissiveness and taboos relating to death; the romanticization of death; the role of the individual in his own demise; the modes of death; development of ideas of death through the life span, changes in the role of death influence the conduct of lives; the impact of dying on the social structure surrounding the individual; preventive, intervention, and postiveprac- tices in relation to death and dying; partial death; megadeath; lethality; the psychological autopsy; the death of institutions and cultures. P/NP grading recommended (letter grading required if course to be applied toward the psychology or sociology major). Mr. Seidenman

159. The Sociology of Knowledge. Prerequisite: course 1 or equivalent. A study of the social production of modes of thought and forms of knowledge. The study of ways in which bodies of knowledge and cognitive styles are produced, defined, and transformed in everyday, organizational, and extraordinary contexts. Mr. Pollner, Mr. TenHouten

160. The Demography and Sociology of Women's Economic Roles. Prerequisites: courses 1 and 18 or Mathematics 50 or Psychology 10 Economic Mobility, or Public Health 100A, or consent of instructor. A demographic and sociological analysis of the factors affecting women's economic roles in the world of work and the family. Topics include demographic determinants of women's socioeconomic 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 their future trends, and social policy affecting women's status. Ms. Oppenheimer, Mr. Treiman

161. The Social Organization of Psychiatric Treatment. Strongly recommended prerequisite: course 157. Review of current research and theory on psychiatric and mental health treatment and treatment organizations, including mental hospitals and community mental health organizations. Mr. Emerson, Mr. Grusky

162 Sociology of Law. The political impact of court decisions; galvanization 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, as well as students preparing for health science careers, with an understanding of the overall framework of recent and the interpersonal and organizational relations that are involved in the receipt and delivery of health services. Mr. Goldstein

164. White-Collar Criminality. Lecture, three hours. Prerequisite: course 1 or consent of instructor. Theories of the genesis of crime, with particular reference to white-collar illegality. Mr. Katz

165. Entrepreneurship. Lecture, three hours; discussion, one hour. Prerequisite: course 1. A 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. Mr. Light

197. Undergraduate Seminar. Prerequisites: upper division standing, major in sociology, consent of instructor, Mr. Alexander, Mr. Lopez

199. Special Studies (2 to 8 units). Prerequisites: senior standing, major, course 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 courses, (2) want to pursue a particular problem, and (3) want to 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-199HC. Special Study for Honors. Prerequisite: honors program standing; Mr. Oliver, Ms. Zucker

199HA. 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.

199HB. Continuation of work initiated in course 199HA. A series of progress reports are prepared in consultation with instructor.

199HC. Completion of the written report or honors thesis.

Graduate Courses

210A-210B. Intermediate Quantitative Methods I, II. Prerequisite: course 210 or equivalent. An intermediate-level treatment of fundamentals of statistical theory and procedures; probability theory, basic distributions, normal, binomial, t, chi-square, tests of their interrelations, and statistical procedures based on them; analysis of contingency tables; multiple and partial correlation and regression; analysis of variance and experimental designs; the general linear model; systems of equations. Additional special topics include use of computers; log-linear models; factor analysis, discriminant function analysis; scaling and measurement; sampling design; nonparametric techniques; and major algebraic techniques in coverage of listed topics. In Progress grading. Mr. Bonacich, Mr. McFarland, Mr. TenHouten

210C. Intermediate Quantitative Methods III. Prerequisite: course 210B. Not required for the M.A. or Ph.D. degree. Additional and more advanced multi-variate techniques of particular value to sociologists. Mr. Bonacich, Mr. Yamaguchi

211A-211B. Comparative and Historical Methods. 211A. Strategies of Research and Conceptualization. Prerequisite: consent of instructor. Topics include relationship of theory and fact to the social sciences, the history and logic of methodological and substantive paradigms of comparative and historical analysis. Reading involves methodological examination of basic works in representative problem areas. In Progress grading (final report to be given only on completion of course 211B). Mr. Horton

211B. Research Techniques. Prerequisite: course 211A. Topics include the problem of evidence, quantitative and qualitative data. Techniques of data analysis, including use of manuscript census, content analysis, collective biography, and secondary analysis. Mr. Light, Mr. Prager, Mr. Roy

212A-212B. Marxist Methodology. Prerequisite: course 112 or consent of instructor. Practice in the dialectical method of attaining scientific knowledge about society as a process of change. Critical analysis of the Marxist paradigms and substantive paradigms of comparative and historical analysis. Reading involves methodological examination of basic works in representative problem areas. In Progress grading (final report to be given only on completion of course 212B). Mr. Sabagh

213A-213B. Techniques of Demographic and Ecological Analysis. Prerequisite: course 210A or equivalent. Procedures and techniques for the collection, evaluation, and analysis of demographic and ecological data; models of population and ecological structure and change; applications to the study of social change and ecological change. Mr. Sabagh

214A-214B. The Measurement of Sociological Variables. Prerequisites: courses 210A-210B, consent of instructor. Theory and technique of measurement in sociology and social psychology; construction, application, and evaluation of measurement techniques, especially the forms of scaling. In Progress grading. Mr. TenHouten

215A-215B. Experimental Sociology. Prerequisites: course 210A or equivalent, consent of instructor. The basic fundamentals of the experimental method, particularly as it is used in social psychology. In Progress grading. Mr. Grusky, Mr. Rabow, Mr. Shure

216A-216B. Survey Research Methods. Course in methodology and techniques: formulation of research problems; study design; history sampling methods; sampling measurement; questionnaire and schedule construction; interviewing and data collection; processing and tabulation; analysis and interpretation; presentation of findings; and evaluation. Approaches to social science and social policy problems. Mr. Horton

217A-217B. Ethnographic Fieldwork. Prerequisite: consent of instructor. Theories and techniques of ethnographic fieldwork. The kinds of problems amenable to ethnographic approaches, methods, and techniques for doing fieldwork, and ethical problems involved in such research. In Progress grading. Mr. Emerson, Mr. Katz, Mr. Poliner

218A-218B. Ethnomet hodological Methods. Prerequisite: consent of instructor. Examination of techniques used in ethnological research, practice in the critical evaluation of research, and directed experimentation in the conduct of an extended ethnological investigation employing ethnomet hodological 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 role process, social interaction and in formation in the social 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 micro-ecology and macro-ecology, including geological and ecological, classical and neoclassical ecology, social area analysis, sociological ecology, city-size distributions, effects of population density on animals and humans, proxemics, territoriality, and the effects of the physical environment on human behavior. Mr. Garfinkel

222. Foundations of Ethnomet hodological, Phenomenological, and Analytic Sociologies. Lecture, three hours. Prerequisite: graduate standing or consent of instructor. Basic issues, methods, and topics of ethnomet hodological, phenomenological, and analytic sociologies; conversation-analytic, and related varieties of inquiry. Mr. Linz

223. Phenomenological and Interactionist Perspectives on Selected Topics. Lecture, three hours. Prerequisites: courses 210A-211B or consent of instructor. Examination of topics in phenomenological and symbolic interactionist perspectives by examining a particular body of live or currently unresolved substantive issues. Topics vary; attention on development of phenomenological and symbolic interactionist perspectives by examining a particular body of live or currently unresolved substantive issues. Mr. Katz

224A-224B. Problems in Social Psychology. Prerequisites: course 210A, consent of instructor. Basic course for graduate students intending to specialize in social psychology. Theoretical and practical contributions to the field. Mr. Garfinkel

225A-225B. Demographic Perspectives on the Relationship of Family and Economic Systems. Prerequisites: courses 210A-210B or 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 between population and economic systems over time. Mr. Sabagh

225A. Lectures and readings. 225B. Individual research projects involving a term paper and classroom reports of results.

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. Horten

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 substance and method, critically evaluated, and written up in papers. Usually taught by faculty of varying orientations.
229. Processes of Social Control. Prerequisite: graduate standing or consent of instructor. Current theory and research on social control processes. Specific topics include concepts of social regulation, formal and informal control mechanisms, the relation between informal and formal control systems, typification and practical concerns in the processing of social control, and problems of "rationality" in social control decision making. Mr. Emerson

230. Theories of Deviance. An examination of various sociological approaches to the study of deviant behavior, with emphasis on anomie theory as the major orientation today. Special attention to problems of defining deviance and the articulation of sociological and psychological levels of explanation. Mr. Emerson, Mr. Rabow, Mr. Surace

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 formal 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 design, sampling, interviewing, and data management. Parallel attention paid to various sources of non sampling response bias that influence survey results. An ongoing survey that employs Computer-Assisted Telephone Interviewing is 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 fields of political sociology, oriented around critical themes in the major theoretical traditions and contemporary examples. Special attention paid to competing theoretical accounts of power; the theory of the state, and the relationship of class structure to politics. Mr. Prager, Mr. Roy

234. Sociology of Community Organization. Prerequisites: graduate standing, consent of instructor. A survey of recent research on sociological issues dealing with predominantly political institutions, the problem of order, and the organization of communal life in the village and the metropolis.

236. 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 political and social consequences of industrialization and urbanization. Mr. Sabagh

237. Social Stratification in the Middle East. Modes of social differentiation in traditional Middle Eastern societies, the impact of Western influence on processes leading to the recurrent emergence of societies of large scale and their distinctive structural characteristics. Mr. Sabagh

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 fieldwork.

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, plus selected topics on more complicated population models. Mr. Levine

244A. Conversational Structures I. Lecture, three hours; discussion, one hour. 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 structure sequences with limited expansions. May be concurrently scheduled with course C144A. Graduate students have additional assignments and/or meet as a group one additional hour each week. Mr. Schegloff

244B. Conversational Structures II. Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. The investigation of some of the more expanded sequence structures, such as structured topical sequences, and the overall structural organization of single conversations. May be concurrently scheduled with course C144B. 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 a focus 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 consideration of related questions such as: structuralist, functionalist, Weberian, Durkheimian, and semiotic. Theory, method, and substantive empirical issues. Mr. Alexander

247. Neurosociology. Prerequisites: graduate standing and 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. 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. Mr. Ten-Houten

250. Methological Problems. Mr. Bailey, Mr. Ten-Houten

251. Topics in the Problem of Social Order. Mr. Roy, Mr. Surace, Mr. Zeitlin

252. Criminology. Mr. Katz, Mr. Rabow

253. Quantitative Methods in Sociology. Mr. Bailey, Mr. Bonacich, Mr. Freeman

254. Sociology of Law. (Formerly numbered 254B.) Lecture, three hours. Prerequisites: Public Health 182, three psychology, sociology, or anthropology courses, or equivalent, consent of instructor. Sociological examination of the concepts "health" and "illness" and role of state in relation to health of specially physicians. Attention to the meaning of professionalization and professional-client relationships within a range of organization settings.

255B. Sociocultural Aspects of Health and Illness: Health Professions. (Same as Public Health M255B.) Lecture, three hours. Prerequisites: Public Health 182, three psychology, sociology, or anthropology courses, or equivalent, consent of instructor. Sociocultural examination of the concepts "health" and "illness" and role of state in relation to health of specially physicians. Attention to the meaning of professionalization and professional-client relationships within a range of organization settings.

256. Demography. Mr. Bailey, Mr. Sabagh

258. Sociology of Religion. Mr. Garfinkel

259. Social Structure and Economic Change: Historical and Comparative Perspectives. Ms. Cheng, Mr. Surace, Mr. Zeitlin

260. Economy and Society. Discussion, two hours. Prerequisite: graduate standing or consent of instructor. Review of major analytical traditions in economy and society. Mr. Light, Mr. Zeitlin

261. Ethnic Minorities. Mr. Levine, Mr. Seemann

262. Selected Problems in Urban Sociology. (Same as Afro-American Studies M200C.) 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. Grusky, Ms. Zucker

266. Selected Problems in the Analysis of Conver- sation. Prerequisite: course C144A or consent of instructor. Mr. Schegloff

267. Selected Problems in Communication. Mr. Poitner, Mr. Schegloff

268. Selected Problems in Psychoanalytic Sociolo- gy. Discussion, three hours. Recommended prere- quisite: at least one year of methods courses. Se- lected problems in the interpretation of sociology and psychoanalysis, which may be substantive (group development, socialization, culture, deviance, collective behavior) or methodological; the latter focuses on clinical fieldwork and experimental use of psychoanalytic and sociotechnical 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. Seemann

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.

275. Contemporary Issues of the American Indian. (Same as American Indian Studies M200C and Anthropology M268.) 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. Mr. Champagne, Ms. Heth, Ms. Joe

276. Selected Topics in the Sociology of East Asia. Prerequisite: graduate standing, consent of instructor. Selected problems in China, or in China and Japan. Some comparative topics may include (1) China's Great Proletarian Cultural Revolution, (2) internal contradictions in Chinese society; male-female relations, the city and the countryside, minority nationalities, class struggle under socialism, etc.; (3) China and Japan: two models of development.

278. Selected Problems and Issues in Mass Media Research. Seminar, two hours. Prerequisites: graduate standing, consent of instructor. Focus includes methodological problems of mass media research (content analysis); research on audiences; problems of comparative, international media research; exposure and socialization; social, psychological, and political effects of technological innovation. Mr. Levine

280. Seminar in Evaluation Research. Prerequisite: graduate standing. The technical and political aspects of implementing 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 Sociolo- gy. 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. Prerequisites: course 157 or equivalent, graduate standing. Mr. Emerson, Mr. Grusky, 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.

M287A-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 is prerequisite to M287B. Analysis of research concerning major issues in population policy, with special emphasis on human fertility. Mr. Blake.

M287C. Seminar in Population Policy and Fertility. (Same as Public Health M274C.) Seminar, two 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. Ms. 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. Ms. Blake.

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. A seminar for the presentation of advanced work in social 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 advancement. May be repeated for credit. In Progress and S/U grading. Mr. Oliver.

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 couple and institutional 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 C171A-C171B or C18A-C18B and C222, or consent of instructor. Participants present ongoing work and read and discuss exemplary past work of common interest. A continuing colloquium in which participation is expected of faculty and graduate students affiliated with the ethnomethodological, phenomenological, and observational sociologies area program (students taking a minor field examination may be exempt on request). S/U grading. Mr. Zeitlin.


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 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 curriculum and instruction 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. 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). May be repeated for credit. In Progress and S/U grading.


599. Research in Sociology for Ph.D. Candidates (4 to 12 units).
Spanish literature, one in Spanish-American literature, and three others not including courses 160A, 160B).

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. 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) General Test, and three letters of recommendation, preferably from professors with whom you have studied in the major field, who can comment on your potential as a graduate student. For admissions information, write to the Department of Spanish and Portuguese, 5310 Rolfe Hall, UCLA, Los Angeles, CA 90024-1532

You may be required to take one or more complementary courses (which may not be applied toward the M.A.) if the committee determines that some area of your preparation in language or literature is deficient.

Foreign Language Requirement

You are required to study one of the following languages: French, German, Italian, Latin, Portuguese, or another language approved by your guidance committee. The requirement may be fulfilled by (1) passing the 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. Two additional courses must be selected from 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 that language 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 form the basis of the literature section of the examination (the reading list for linguistics is established by the guidance committee).

Thesis Plan
You may petition to present a thesis in lieu of taking the comprehensive examination only after you complete five graduate courses, one of which must be a seminar. The graduate adviser and your committee will approve your petition only if they find evidence of exceptional ability and promise in your term papers and coursework.

Ph.D. in 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) General Test is also required. A combined score of 1,000 is preferred; the verbal score is considered more important than the quantitative.

Students who hold the M.A. in Spanish or in Portuguese from UCLA fall into one of three categories and are so notified on receipt of the degree. The categories are (1) low pass (terminal M.A.) — not eligible for admission into the Ph.D. program, (2) mid pass — may continue toward the Ph.D. on a probationary basis, and (3) high pass — automatically eligible to enter the Ph.D. program.

Major Fields or Subdisciplines
The department recognizes the following areas of specialization, from which you select one major field and two minor fields, together with an optional complementary support area: (1) Spanish linguistics; (2) Portuguese linguistics; (3) diachronic Hispanic linguistics and philology; (4) medieval Spanish literature; (5) Renaissance and Golden Age Spanish literature; (6) 18th- and 19th-century Spanish literature; (7) 20th-century Spanish literature; (8) colonial and 19th-century Spanish-American literature; (9) 20th-century Spanish-American literature; (10) early Portuguese literature; (11) modern Portuguese literature; (12) Brazilian literature; (13) Spanish and Luso-Brazilian folklore.

Foreign Language Requirement
Reading knowledge of two foreign languages in addition to both Spanish and Portuguese is required. The languages are selected in consultation with your guidance committee. The requirement may be fulfilled by (1) passing the Educational Testing Service (ETS) language examination with a score of 500 or better, (2) passing the University reading examination in the language when no ETS examination is available, or (3) passing at least a level three course at UCLA. You must fulfill the requirement in one of the languages no later than the sixth quarter of graduate study.

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, and (3) a two-hour University Oral Qualifying Examination on the three fields and at which your prospectus for the dissertation is discussed and approved. The written examinations are normally taken no later than nine 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.

2. **Advanced Reading Course for Graduate Students.** Lecture, three hours. Knowledge of Spanish not required. May not be applied toward degree requirements. S/U grading.

3. **Elementary Spanish.** Discussion, five hours; laboratory, one hour. Prerequisite: course 1 or equivalent as determined by the placement test.

4. **Intermediate Spanish.** Discussion, five hours; laboratory, one hour. Prerequisite: course 1 or equivalent as determined by the placement test.

5. **Advanced Spanish.** Prerequisite: course 5 or equivalent. May not be applied toward degree requirements. S/U grading.

6. **Introduction to the Study of Literature: Poetry and Drama.** Lecture, three hours. Recommended prerequisite: course 120A. A study of the main genres through representative works. Mr. Luzuriaga, Mr. Oviedo, Mr. Reeve, Mr. Skirius

**Upper Division Courses**

Prerequisite to all upper division courses except Spanish 160A-160B is Spanish 25 or equivalent as determined by the placement test.

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. Mr. Otero, Ms. Plann

105B. **Advanced Composition.** (Formerly numbered 109.) Lecture, three hours. Practice in writing Spanish with appropriate vocabulary, syntactical structures, and stylistic patterns. Mr. Otero, Ms. Plann

107. **The Spanish of Southern California.** (Formerly numbered 117D.) Lecture, three hours. Prerequisites: courses M35, 100A, and 100B, or consent of instructor. Analysis of pronunciation, word formation, syntax, and lexicon of the Spanish of Southern California, with attention to regional features, social and age levels of speech, and interference from English. Mr. Otero, Ms. Plann

115. **Applied Linguistics.** Lecture, three hours. Prerequisites: courses M35, 100B. Survey of the major linguistic problems faced by the teacher of Spanish. Ms. Plann

118A. **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. Mr. Plann, Mr. Quicoli, Mr. Smith

118B. **The History of Portuguese and Spanish Morphology and Syntax.** (Formerly numbered 118B.) 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 119.) 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 119.) Lecture, three hours. An introduction to the study of literary devices, figures of speech, and distinctive stylistic features in the poetry and drama of Spain and Spanish America, particularly in the 18th and 19th centuries. Ms. Arora, Mr. Johnson, Mr. Rodriguez-Cepeda

120A. **Advanced Composition.** Lecture, three hours. Recommended prerequisite: course 120A. A study of the main genres through representative works. Mr. Luzuriaga, Mr. Oviedo, Mr. Reeve, Mr. Skirius

121. **Medieval Literature: Prose.** Lecture, three hours. Recommended prerequisite: course 120A. A study of the main genres through representative works. Mr. Milam

123. **Medieval Literature: Poetry.** (Formerly numbered 123.) Lecture, three hours. Recommended prerequisite: course 120A. A study of the main genres through representative works. Mr. Milam

124. **The Golden Age: Poetry and Drama.** Lecture, three hours. Recommended prerequisite: course 120A. A study of the main genres through representative works. 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 of the main genres through representative works. Mr. Milam

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 1889. Mr. Benitez, Mr. Smith

132. **20th-Century Spanish Prose.** (Formerly numbered 132.) Lecture, three hours. Recommended prerequisite: course 120B. A study of several representative works of Spanish prose literature 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 120A. A study of the most important genres and authors from the Spanish conquest to 1810. Ms. Arora, Mr. Oviedo

139. **Romanticism and Realism in Spanish-American Literature.** Lecture, three hours. Recommended prerequisite: course 136A. A study of the main literary works and currents of thought and literary trends from 1810 to 1880. Mr. Luzuriaga, Mr. Oviedo, Mr. Reeve, Mr. Skirius

140. **Modernismo.** Lecture, three hours. Recommended prerequisite: course 136A. A study of the main literary works and currents of thought and literary trends from 1810 to 1880. Mr. Luzuriaga, Mr. Oviedo, Mr. Reeve, Mr. Skirius

142. **20th-Century Spanish-American Literature: Fiction and the Essay.** (Formerly numbered 142B.) Lecture, three hours. Recommended prerequisite: course 136B. A study through representative novels, short stories, and essays of Spanish-American prose literature since 1910. Mr. Luzuriaga, Mr. Reeve, Mr. Skirius

143. **20th-Century Spanish-American Literature: Poetry and Drama.** (Formerly numbered 142A.) Lecture, three hours. Recommended prerequisite: course 136B. A study through representative novels, short stories, and essays of Spanish-American prose literature since 1910. Mr. Luzuriaga, Mr. Reeve, Mr. Skirius

144. **Mexican Literature.** (Formerly numbered 141.) Lecture, three hours. Recommended prerequisite: course 136B. A study of the major movements and authors of Mexican literature. Mr. Reeve, Mr. Skirius

145. **Introduction to Chicano Literature.** (Same as Chicano Studies M145.) Lecture, three hours. Recommended prerequisite: course 25 or 26. Recommended prerequisite: 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 a number of important scholarly and critical statements pertaining to the characteristics and development of the Chicano literary corpus. Mr. Hernandez

149. **Folk Literature of the Hispanic World.** (Same as Folklore M149.) Lecture, three hours. A study of the history and present dissemination of the principal forms of folk literature throughout the Hispanic countries. Ms. Arora

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 with 202. Mr. 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. (F)

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. (W)

170C. Senior Honors Seminar: Topics in Hispanic Linguistics. Lecture, three hours. Prerequisite: senior Spanish major with a 3.5 GPA in the major. Directed research on topics within the general area of Hispanic linguistics. Two senior seminars required for departmental honors. (Sp)

197. Undergraduate Seminar. Lecture, three hours. Prerequisites: upper division Spanish major, consent of instructor. Limited to 15 students. 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.

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 advisor 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.

M201. Literary Theory and Criticism. (Same as Portuguese M201.) Lecture, three hours. Definition and discussion, and application of the main currents of contemporary literary theory and criticism.

M202. Phonology and Morphology. (Formerly numbered 202B.) Lecture, three hours. Prerequisite: consent of instructor. 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, semiotics, and phonology on style, metaphor, and meter.

M205A-M205B. The Development of the Portuguese and Spanish Languages. (Formerly numbered M203A-M203B.) Lecture, three hours. Prerequisite: consent of instructor. 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, semiotics, and phonology on style, metaphor, and meter.

M206. Contemporary Spanish-American Novel. (Formerly numbered 244A.) Lecture, three hours. A study of the important novelists from modernism to the present.

M246. Contemporary Spanish-American Poetry. Lecture, three hours. A study of the important poets of Spanish-American literature from modernism to the present.

M247. Folk Literature of the Spanish and Portuguese Worlds. (Same as Folklore M248 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.

M251A-M251B. Studies in Galegan-Portuguese and Old Spanish. (Formerly numbered M251.) Lecture, two hours. A study of the problems related to the historical development of Galegan-Portuguese and Old Spanish. Mr. Otero, Mr. Smith

M256A-256B. Studies in Spanish Linguistics. (Formerly numbered 256A.) Lecture, two hours. A study of problems in the analysis and description of the contemporary Spanish language. Mr. Otero

M257. Studies in Dialectology. (Formerly numbered 256B.) Lecture, two hours.

M262A-262B. Studies in Medieval Spanish Literature. (Formerly numbered 262A-262B.) Lecture, two hours.

M264A. Spanish Drama and Poetry from 1898 to the Civil War. Lecture, three hours. Readings of and lectures on representative plays and poems.

M265. Cervantes. Lecture, two hours.

M270A-270B. Studies in 18th-Century Spanish Literature. (Not the same as courses 270A-270B prior to Fall Quarter 1984.) Lecture, two hours.


M272A-272B. Studies in 20th-Century Spanish Literature. (Formerly numbered 272A-272B.) Discussion, two hours.

M276A-276B. Studies in Galegan-Portuguese and Old Spanish. (Formerly numbered M276A-M276B.) Lecture, two hours. A study of the problems related to the historical development of Galegan-Portuguese and Old Spanish. Mr. Otero, Mr. Smith

M278A-278B. Studies in Contemporary Spanish-American Literature. (Formerly numbered 278.) Lecture, two hours.


M286A-M286B. Studies in Hispanic Folk Literature. (Formerly numbered M286A-M286B-M286C.) Lecture, two hours. Ms. Arora

M289. 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). Prerequisites: 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). Prerequisites: 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.

495. The Teaching of Spanish at the College Level. Prerequisite: graduate standing in department. 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 12 units). Prerequisites: official acceptance of candidacy by the department, consent of graduate adviser. Individual preparation for M.A. comprehensive examinations 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.

2. Elementary Portuguese. Discussion, five hours; laboratory, one hour. Prerequisite: course 1 or equivalent.

3. Intermediate Portuguese. Discussion, five hours; laboratory, one hour. Prerequisite: course 2 or equivalent.

4. BA-8B. Portuguese Conversation (2 units each). Discussion, three hours. 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 Language. (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 and diversity; 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 role in European, 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. Reese, Mr. Skirius

**Upper Division Courses**

Prerequisite to all upper division courses except Portuguese 140A-140B is Portuguese 25 or consent of instructor.

100A. Phonology and Morphology. (Formerly numbered 100.) Lecture, three hours. Analysis of the phonetic, phonemic, and morphological systems of Portuguese. Mr. Quicoli

100B. Syntax. (Formerly numbered 163.) Lecture, three hours. A review of the patterns of prosthetic language. Mr. Quicoli

101A. Advanced Reading and Conversation. Lecture, three hours. Reading and discussion of writings by modern Brazilian and Portuguese authors. Mr. Quicoli

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 101B.) Practice in writing Portuguese with appropriate vocabulary, syntactical structures, and stylistic patterns.

M118A. The History of Portuguese and Spanish: Phonology. (Formerly numbered 118.) 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.

M118B. The History of Portuguese and Spanish: Morphology and Syntax. (Formerly numbered 118.) (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

M118H. The History of Portuguese and Spanish: Morphology. (Formerly numbered 118H.) (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

M120A-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.

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 Camões. 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

C130A-130B. Survey of Brazilian Literature. (Formerly numbered C121A, C121B.) 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

140A-140B. Portuguese, Brazilian, and African Literature in Translation. (Formerly numbered 140.) Lecture, three hours. Reading and discussion of selected works in translation. Papers and examinations in English. 140A. Portuguese and Portuguese-African Literature. 140B. Brazilian Literature. Mr. Dias, Mr. Hulet

141. Film and Literature of the Portuguese-Speaking World. (Formerly numbered 141.) 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 for department counselor for topic to be offered in a specified 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 202.) 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, meter, and meter. Mr. Quicoli

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

C224. Medieval Portuguese Literature. (Formerly numbered C242A) 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 C242B) Lecture, three hours. A study of the main genres of baroque and neoclassical Portuguese literature 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

C229. 20th-Century Portuguese Literature. (Formerly numbered C242D) Lecture, three hours. A study of representative trends and authors. May be concurrently scheduled with course C129. 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

M249. Folk Literature of the Spanish and Portuguese Worlds. (Same as Folklore M249 and Spanish 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

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. Dias

252. Studies in Early Portuguese Literature. (Formerly numbered 252A-252B-252C.) Lecture, two hours. Mr. Dias

253. Studies in Modern Portuguese Literature. (Formerly numbered 252A-252B-252C.) Lecture, two hours. Mr. Dias

254. Studies in Early Brazilian Literature. (Formerly numbered 253A-253B-253C.) Lecture, two hours. Mr. Hulet

255. Studies in Modern Brazilian Literature. (Formerly numbered 253A-253B-253C.) Lecture, two hours. Mr. Hulet

256A-256B. Studies in Portuguese Linguistics. Lecture, two hours. A study of problems in the analysis and description of the contemporary Portuguese language. Mr. Quicoli

370. The Teaching of Portuguese in the Secondary School. For future teachers in this field. Mr. Hulet

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. Dias

597. Preparation for Graduate Examinations (4 to 12 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.


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

107. Principles of Argumentation. Analysis of propositions, tests of evidence, briefing. Study of hindrances to clear thinking, ambiguity of terms, and prejudices. The critical analysis of selected argumentative speeches. Mr. Miller

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 crises. Mr. Richardson

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 his effect on the nation. Mr. Richardson (W)

190A-190B. Forensics (2 units each). Prerequisite: consent of instructor. May be repeated once for credit. Mr. Miller

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. Mr. Miller

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.

Speech

232 Royce Hall, (213) 825-3303

Professors
Neil M. Malamuth, Ph.D. (Communication Studies), Chair
Donald E. Hargis, Ph.D., Emeritus
Charles W. Lomas, Ph.D., Emeritus

Associate Professors
Paul I. Rosenthal, Ph.D. (Communication Studies)
Ralph Richardson, Ph.D., Emeritus

Lecturers
Dee A. Bridgewater, Ph.D.
Stephen A. Doyle
Eugenie Dye, Ph.D.
Marc S. Gregory
Thomas E. Miller
Sonya H. Packer

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 undergraduate specialization 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 specializations 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 Specializations

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)
Dolores Hayden, M.Arch. (Urban Planning)
Nancy M. Henley, Ph.D. (Psychology)
Christine A. Littleton, J.D. (Law)
Neil M. Matamuth, Ph.D. (Communication Studies)
Anne K. Mello, Ph.D. (English)
L. Anne Poplaw, Ph.D. (Psychology)
Kathryn Kish Sklar, Ph.D. (History)
Ruth B. Yeazell, Ph.D. (English)

Associate Professors

Ann L.T. Bergren, Ph.D. (Classics)
Ruth Block, Ph.D. (History)
Vickie M. Myers, Ph.D. (Psychology)
Sara Melzer, Ph.D. (French)
Kathryn Norberg, Ph.D. (History)
Karen E. Rowe, Ph.D. (English)

Assistant Professors

Susan Brienza, Ph.D. (English)
Jennie Joe, Ph.D. (Anthropology)
Nancy E. Levine, Ph.D. (Anthropology)
Gary A. Richwald, M.D., M.P.H. (Public Health)
Sylvia Rodriguez, Ph.D. (Anthropology)

Scope and Objectives

The Women's Studies Program, established in 1975, is an interdisciplinary academic program spanning departments, disciplines, and ideologies and offering two options for study: an undergraduate major and a specialization. Students wishing to focus their studies on multidisciplinary perspectives in order to create a coherent and comprehensive analysis of women and gender may elect the major. Those wishing to enhance study in a traditional discipline may elect the women's studies specialization in addition to a major in their chosen discipline.

The field of women's studies has exploded over the past 20 years. It has developed a theoretical base, body of knowledge, and perspective which cannot be attained as a by-product of studying other fields. While it shares the aim of all liberal arts education in imparting information, sharpening analysis, and transforming students' perceptions, the field goes beyond those objectives. Where the study of women has been neglected or omitted, the field develops new knowledge through research and fills in gaps in the existing curricula.

Further, women's studies generates new perspectives on existing knowledge of women and gender, offering a critique of accepted beliefs and ideas. Beyond these, the field intellectually challenges existing structures of knowledge and introduces new conceptual paradigms.

The core faculty members who teach women's studies courses come from various UCLA departments and professional schools. Many professionals within and outside the University contribute their time, expertise, and enthusiasm. The program sponsors a Student Association for Women's Studies and assists other student groups with extracurricular programming on feminist issues. Research in women's studies is sponsored in cooperation with the recently established Center for the Study of Women. A library of information related to women's studies is housed in the program office.

While no formal graduate program exists at UCLA at this time, graduate students are invited to use the program's resources, attend lectures and events, and participate in the faculty seminar on women, culture, and theory.

Requirements for the Undergraduate Programs

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 either the major or specialization, you must have completed Women's Studies 10, have a grade-point average of 2.0 or better, and formally register with
the program. You are encouraged to declare your major or specialization as early as possible and to discuss your proposed course of study with the director or undergraduate advisor.

You are encouraged to draw on the University’s diverse resources in creating your major or specialization program. You may pursue traditional and/or innovative subjects in fields ranging from the humanities and fine arts to the social and life sciences. In addition to courses on the women’s studies approved list, you may petition to have diverse courses accepted, including courses outside the College of Letters and Science, independent studies, or field study courses.

**Bachelor of Arts in Women’s Studies**

The interdisciplinary major in women’s studies may be taken alone or in conjunction with another Letters and Science major. In the case of a double major, no more than five courses may be applied toward both majors.

All courses applied toward the major must be taken for a letter grade, and you must have a GPA of 2.5 or better in women’s studies courses to receive credit for completing the program. Courses in which you receive a grade below C may not be applied toward the major.

**Preparation for the Major**

**Required:** Women’s Studies 10.

**The Major**

**Required:** Thirteen upper division courses as follows:

1. Three core courses, including Women’s Studies 197, one course from 110A or 110B or 110C, and one course on the study of American ethnic minority women from the approved list of women’s studies credit courses issued each quarter by the program.

2. One breadth course from each of four different departments, selected from the approved list of women’s studies courses.

3. Six additional concentration depth electives from one or two of the departments in which a breadth course has been taken. You may petition for interdepartmental concentrations such as feminist theories or American ethnic women.

No more than four units of course 199 may be applied toward the major.

**Women’s Studies Specialization**

The specialization augments study in a traditional field. Students participating in this program are required to complete both a departmental major and the women’s studies specialization.

You must take three core courses (Women’s Studies 10, 197, and one course from 110A or 110B or 110C), plus five upper division elective courses from the approved list of women’s studies credit courses issued each quarter by the program. One course on American ethnic minority women is strongly recommended. At least one of the five courses must be taken in a department other than the major department. Up to two may be experimental courses offered by the Council on Educational Development (CED). No more than four units of course 199 may be applied.

All courses applied toward the specialization must be taken for a letter grade, and you must have a GPA of 2.5 or better in women’s studies courses to receive credit for completing the program. Courses in which you receive a grade below C may not be applied toward the specialization.

**Lower Division Course**

10. Perspectives on Women and Men in Society. Lecture, three hours. Prerequisite: course 10. Examination in depth of different theoretical positions on gender and women as they have been applied to the study of women and men in contemporary society. Emphasis on the theoretical contributions made by the new scholarship on women in the social sciences.

110A. Feminist Theories: Perspectives from Social Science. Lecture-discussion, three hours. Prerequisite: course 10. Examination in depth of different theoretical positions on gender and women as they have been applied to the study of the arts, literature, religion, history, and related fields. Emphasis on the theoretical contributions made by the new scholarship on women in the humanities.

110B. Feminist Theories: Perspectives from the Humanities. Lecture-discussion, three hours. Prerequisite: course 10. Examination in depth of different theoretical positions on gender and women as they have been applied to the study of the sciences. Emphasis on the theoretical contributions made by the new scholarship on women in the humanities.

110C. Feminist Theories: Perspectives on Gender and Science. Lecture-discussion, three hours. Prerequisite: course 10. Examination in depth of different theoretical positions on gender and women as they have been applied to the study of the sciences. Emphasis on the theoretical contributions made by the new scholarship on women as it applies to the shaping of the scientific enterprise.

**Supporting Upper Division Courses**

M102. Sex Roles and Society. (Same as Sociology M102A.) Lecture, three hours; discussion, one hour. Prerequisite: course 10 or Sociology 1 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.

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.

M128. Women in Higher Education. (Same as Educational M128.) 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, affirmative action, and other recent legislation.

M158. Women in Italian Culture. (Same as Italian M158.) 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 "liberated" women of our times. Historical and political documents and social and religious taboos presented and discussed, together with other data derived from literature and art. Italian majors required to read texts in Italian and to prepare papers written in Italian.

M163. Women in Culture and Society. (Same as Anthropology M163.) Prerequisite: Anthropology 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 from traditional cultures and contemporary American culture.

Ms. Joe, Ms. Levine, Ms. Rodriguez
M165. The Psychology of Gender. (Same as Psychology M165.) Lecture, two 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. Ms. Peplau

170. Jurisprudence of Sexual Equality. Prerequisites: course 10 and one course from 110A through M110D or Political Science 10 or Philosophy 8 or 9 or consent of instructor. Exploration of models of equality described and or advocated by legal theorists — equality of opportunity, equality of outcome, equality of respect, etc. — using specific problems of women (e.g., sexual harassment or pregnancy leave policy) for purposes of comparison and critique. Ms. Littleton

M172. The Afro-American Woman in the U.S. (Same as Afro-American Studies M172 and Psychology 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. Ms. Mays

185. Special Topics in Women's Studies. Prerequisites: upper division standing, one prior course in women's studies. Specialized or advanced study in an area within women's studies.

199. Special Studies in Women's Studies. Prerequisites: at least two upper division women's studies courses, minimum 3.0 GPA, consent of instructor and program director. 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 136f. Topics in European History: Prostitution in the Western World, 1550 to the Present
137A-137B-137C. History of Women in Europe
156C-156D-156E. Social History of American Women
197. Undergraduate Seminars

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 160. The Demography and Sociology of Women's Economic Roles
197. Undergraduate Seminar

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.

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Photo: The graceful sculpture of dancer Isadora Duncan, a 1923 work by Harriet W. Frishmuth, adds to the serenity of UCLA's Architecture Quad.
College of Fine Arts

A239 Murphy Hall, (213) 825-9705

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, theory, music education, ethnomusicology, history and literature, and performance. 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 90024-1427.

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 is mailed to you on receipt of the application. Deadline date for applications is November 30, 1987, for admission in Fall Quarter 1988.

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 Student Services Office by the end of the fourth week of instruction.

If you have not filed your Study List by the end of the second week of classes, you must obtain the consent of the dean of the 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 1987-88. 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.

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

*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.
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, 10H, 11; biology (except Biology 10, 30, 35); chemistry; earth and space sciences (except Earth and Space Sciences 8, 20, 115); Honors Collegium 44; Kinesiology 12A, 12B, 13, 14; microbiology; physics; psychology (physic 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, 156); economics (principles, history, and theory only); geography (except Geography 1, 2, 5); history (except medical or geological); Honors Collegium 42, 56, 60A-60B, 61, 63, 64, 65; Near Eastern Languages (Ancient Near East 130, Iranian Languages and Cultures 129; Folklore and Mythology 15, 101, 108, 113, 130, 131; German 119A through 119F; Honors Collegium 51, 52, 54; humanities, except those that are M or C courses; Near Eastern languages (Arabic 140, Hebrew 120, Iranian 140, Jewish Studies 150B, 151A, 151B).

Philosophy/Religion Courses: Anthropology 156; Classics 166A, 166B; East Asian Languages and Cultures 41, 139, 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 multiple-listed courses (M), 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 on those numbered in the 1 through 199, 200, 300, 400, or 600 series may not be applied toward the degree.

Credit earned through the College Entrance Examination Board (CEEB) Advanced Placement Tests may be applied toward the general 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 advisor, 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 final examination.

Scholarship and Minimum Progress
A 2.0 (C) average is required in all work attempted at the University of California, exclusive of courses in 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 — see Sylvia Dillon (history/art history) in the History Department and Wendy Uffrig (world arts and cultures) in the Dance Department. For details on the majors, see the respective sections later in this chapter and in Chapter 5.

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, 3.66; 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 UCLA Film and Television Archive, 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 John E. Anderson Graduate School of Management in offering a Master of Business Administration (M.B.A.) in Business Administration. 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 additional requirement. 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)
Jack S. Carter, M.A. (Design)
Susan B. Downey, Ph.D. (Art History)
Elliott J. Elgart, M.F.A. (Art)
Robert H. Gray, M.F.A. (Art)
Robert F. Heinecken, M.A. (Art)
J. Bernard Kester, M.A. (Design)
David M. Kunzle, Ph.D. (Art History)

Vasa Mihich (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 Slusky, M.F.A. (Art)

Emeritus Professors

Laura F. Andreason, M.A.
E. Maurice Boch, Ph.D.
Archine V. Fetty, M.A.
Thomas Jennings, M.A.
John A. Neuhart
Gordon M. Nunes, M.A.
Katharina Otto-Dorn, Ph.D.

Associate Professors

James W. Bassler, M.A. (Design), Chair
William C. Brown, M.A. (Design)
Chris Burden, M.F.A. (Art)
Loli 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)
Arnold Rubin, Ph.D. (Art History)
Adrian Saxer, B.F.A. (Design)
Nathan Shapra, Dottore in Archittetura (Design)
Lois Swinoff, M.F.A., Acting (Design)

Assistant Professors

Kathleen A. Bick (Design)
Inge 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 Mcdadden, M.F.A. (Art)
Charlies Ray, M.F.A. (Art)
Patricia Wickman, M.F.A. (Art)
Joanna Woods-Marsden, Ph.D. (Art History)
Alice E. McCloskey, M.A., Emeritus
Madeleine Sunkees, B.Ed., Emeritus

Lecturers

Shelley M. Bennett, Ph.D. (Art History)
Leslie Biller, M.A. (Art)
Jerrold Burchman, M.A. (Art)
C.C.Y. Lee, M.F.A. (Design)
Paul McCarthy, M.F.A. (Art)
Alexis Smith (Art)
Don Suggs, M.F.A. (Art)
Jean S. Weisz, Ph.D. (Art History)

Adjunct Assistant Professors

James Cuna, Ph.D. (Art History)
Edith A. Tonelli, Ph.D. (Art History)

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 with specialties in art and design and a Ph.D. in Art History.

Art courses include painting and drawing, sculpture, printmaking, photography, and new forms and convergents (which include performance, 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 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, and two courses from Art History 50 through 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, 55A or 55B, 56A or 56B, 57.

**The Major**

*Required:* Eleven upper division art history courses as follows:

1. A total of eight courses (32 units) from the following 13 areas, including one course from three different areas in Group A (three courses total), one course from three different areas in Group B (three courses total), and two courses from any of the 13 areas:


   (2) Three art history electives, which may include courses M113, 125, 197, 199, courses from the above 13 areas, and no more than four units from Classics 151A, 151B, 151C, 151D. Design or art studio courses may not be applied as electives.

   (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**


**The Major**

*Required:* Twelve upper division courses, selected in consultation with an adviser, including Design 162A, 165A, 167A, 171A, three courses from 161A, 161C, 161E, 161H, and five upper division art, design, or art history 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, California 90024-1615.

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.

A minimum of 36 quarter units of art history, theory, and criticism in undergraduate and/ or graduate study is required. Art history courses completed at the undergraduate level may be applied toward the art area's 36-unit art history requirement but may not be applied toward the 36 units required for the degree. Students with few or no art history courses in undergraduate study may take art history upper division or graduate courses at UCLA as electives to be applied toward the 36-unit art history requirement and toward the total units required for the degree. Subjects related to your special interest may be substituted by petition.

A total of eight units of Art 596 may be applied toward the 36 units required for the degree; four units may be applied toward the graduate course requirement.

**Comprehensive Examination Plan**

Each degree is granted on the basis of the quality of work as demonstrated in the 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 Quarter only. An acceptable portfolio is required, in the form of slides (maximum 20) or videotape (if applying to the electronic imagery field). Acceptance is by a majority vote of the design faculty.

Applicants 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 four units must be from Design 290 and of which at least eight units must be devoted to a comprehensive project in your area of study. In addition, eight quarter units of art history are required (if you have a B.A. or B.F.A. in Art which includes a background in the history of art, you may substitute eight units in other courses that are germane to your graduate pursuit).

A total of eight units of course 596 may be applied toward the 36 units required for the degree; four units may be applied toward the graduate course requirement.

Comprehensive Examination Plan
The 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 material, 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 major 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 90024-1615, 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 Asian (i.e., Chinese, Japanese, South Asian), pre-Columbian, Islamic or, with consent of the adviser, Italian art history. Students majoring in Chinese or Japanese art history must substitute either Chinese or Japanese respectively for either French or German. Those majored in South Asian or Islamic art history must substitute, for either French or German, an appropriate classical research language of South Asian or Islamic culture respectively. Those majoring in Italian art history may, with consent of their major adviser, substitute Italian for French. In all cases, the final decisions regarding choice must be made in consultation with, and with the consent of, the major adviser. Students majoring in pre-Columbian art history must substitute Spanish for French.

With the exception of Asian and Islamic art history majors, all students must demonstrate reading fluency in both foreign languages 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 5, Italian 5, 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 sixth.

Students majoring in Asian or Islamic art history must satisfy their European language requirement by the end of the sixth 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 (normally 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.

A minimum of 40 quarter units of art history in undergraduate and/or graduate study is required. Art history courses completed at the undergraduate level may be applied toward the art area's 40-unit art history requirement but may not be applied toward the 72 units required for the degree. Students with few or no art history courses in undergraduate study may take art history upper division or graduate courses at UCLA as electives to be applied toward the 40-unit art history requirement and toward the total units required for the degree. 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 four units must be from Design 290 and of which at least 12 units must be devoted to a comprehensive project in your area of study.

Within those 72 units, a minimum of 52 quarter units in the 200 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. Art history courses completed at the undergraduate level may be applied toward the design area's 40-unit art history requirement but may not be applied toward the 72 units required for the degree. Students with few or no art history courses in undergraduate study may take art history upper division or graduate courses at UCLA as electives to be applied toward the 40-unit art history requirement and toward the total units required for the degree. You may substitute a maximum of 12 units in other courses that are germane to your graduate pursuit, with the faculty adviser's consent.

A total of 12 units of course 596 may be applied toward the graduate and elective course requirements for the degree.

Comprehensive Examination Plan

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 usually required for admission to the Ph.D. degree program. However, students with an M.A. degree in other disciplines may apply for admission. The graduate review committee determines the equivalency of the M.A. on an individual basis. An M.A. in Art History from another institution may be accepted as equivalent to that from UCLA or the holder may be accepted into the program at a stage determined by the graduate review committee. All incoming Ph.D. students must have taken and passed with a grade of B or better at least two courses (upper division and/or graduate) in areas not related to the proposed major (as outlined in the M.A. 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 major (or intended major) field.
3. Three or more letters of recommendation from individuals familiar with your scholarly work, one of which must be a detailed letter of assessment and endorsement from your major adviser for the M.A.
4. A written statement from the intended Ph.D. major adviser of willingness to supervise your Ph.D. work.
5. Evidence, prior to admission, of reading fluency in two appropriate foreign languages.

Students applying directly to the Ph.D. program from the M.A. in Art History program at UCLA follow a slightly modified procedure. For details, see the 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, pre-Columbian, or Italian art history. 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, French 5, and/or Italian 5 with a grade of B or better.

Students intending to major in Asian or Islamic art history must demonstrate, by the 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 must either take and pass the relevant UCLA departmental foreign language examination or submit an official recent (within two years) ETS score of 600 or better in that language.

Prospective students may contact the Graduate Assistant, Department of Art, Design, and Art History, 1300 Dickson, UCLA, Los Angeles, CA 90024-1615, 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, 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.) Studio, 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, 15A. Continuation of courses 5A, 5B, 5C, 15A, with increased emphasis on individual creative development.

### Upper Division Courses

**130. Drawing.** Studio, eight hours; five hours arranged. Prerequisites: courses 5A, 5B, 5C, 15A, and 15B, 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, 15A, and 15B, or consent of instructor. Varied media, purposes, subjects, structures, presentation, meaning. May be repeated for a maximum of 16 units.

**137. New Forms and Concepts.** Studio, eight hours; five hours arranged. Prerequisites: courses 5A, 5B, 5C, 15A, and 15B, or consent of instructor. Varied purposes, forms, processes, post-concept, other approaches to artistic and non-artistic issues, installations, and non-studio pieces, film, and video. May be repeated for a maximum of 16 units.

Mr. Burden and the Staff (F,W,Sp)

**140. Printmaking.** Studio, eight hours; five hours arranged. Prerequisites: courses 5A, 5B, 5C, 15A, and 15B, 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.

Mr. R.B. Brown and the Staff (F,W,Sp)

**145. Sculpture.** Studio, eight hours; five hours arranged. Prerequisites: courses 5A, 5B, 5C, 15A, and 15B, or consent of instructor. Selected studies in sculpture, historical and contemporary: modeling, carving, casting, welding, and other media; forms in space, including installations and non-studio pieces. May be repeated for a maximum of 16 units.

**147. Photography.** Studio, eight hours; five hours arranged. Prerequisites: courses 5A, 5B, 5C, 15A, and 15B, 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.

Mr. Ray and the Staff (F,W,Sp)

**148. Advanced Analysis and Criticism.** Discussion, four hours; studio, nine hours arranged. Prerequisites: courses 5A, 5B, 5C, 15A, and 15B, or consent of instructor. Analysis and criticism of individual creative work and ideas. May be repeated for a maximum of 16 units.

Mr. Heinecken and the Staff (F,W,Sp)

**149. Advanced Art and Artists/History and Theory.** Lecture/discussion, three hours. Prerequisite: consent of instructor. Discussion and analysis of artist 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.

**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 undergraduate students.

**271. Graduate Painting (2 to 8 units).** Hours to be arranged. Tutorial studies in traditional and new forms and concepts media, as well as in our new specializations. Independent development and original research.

**272. Graduate Printmaking (2 to 8 units).** Tutorial studies in traditional and experimental printmaking. Selected studies in intaglio, lithograph, woodcut, silk screen, photo printmaking, and mixed media.

**273. Graduate Sculpture (2 to 8 units).** Tutorial studies with specific attention to the ongoing nature, specificity, and approach to the student's particular discipline. Individual studio visits and consultation.

Mr. Atwood and the Staff (F,W,Sp)

**274. Graduate Photography (2 to 8 units).** A tutorial or seminar course concerned with the particular artistic development of each student's personal photographic artwork. Emphasis on the expressive, original, humanistic values of individual art. Adjacent projects in the history and theory of the photographic medium.

Mr. Heinecken


**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.

**501. Cooperative Program (2 to 8 units).** Prerequisite: consent of UCLA graduate adviser and graduate dean, and host campus instructor, department chair, and graduate dean. Used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions.

S/U grading.

**596. Directed Individual Study or Research (2 to 8 units).** Prerequisite: consent of instructor.
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.

Ms. Prezosi

101B. Egyptian Art and Archaeology of the Middle and New Kingdoms. (Formerly numbered 101B.) Lecture, three hours. Prerequisite: course 50. A study of the development of art and architecture of Egypt from ca. 3000 to 1000 B.C.

Mr. Prezosi

102A. Minoan Art and Architecture. (Formerly numbered 102A.) Lecture, three hours. Prerequisite: course 50. A study of the development of art and architecture in Minoan Crete from ca. 3000 to 1500 B.C.

Mr. Prezosi

102B. Mycenaean Art and Architecture. Lecture, three hours. Prerequisite: course 50. A study of the development of art and architecture in Mycenaean Greece from ca. 1500 to 1000 B.C.

Ms. Downey

103A. Greek Art. (Formerly numbered Art 103A.) Lecture, three hours. Prerequisite: courses 52, 103A. The art and architecture of Greece from the 8th through the 5th century B.C.

Mr. Prezosi

103B. Hellenistic Art. (Formerly numbered Art 103B.) Lecture, three hours. Prerequisites: courses 52, 103A. The art and architecture of Greece from the 4th through the 1st century B.C., including the transmittal of Greek art forms to the Roman world.

Ms. Downey

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.

Ms. Downey

103D. Etruscan Art. (Formerly numbered Art 103D.) Lecture, three hours. Prerequisite: course 50. The arts of the Italic peninsula from ca. 1000 B.C. to the end of the Roman Republic.

Ms. Downey

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.).

Ms. Downey

104A. Western Islamic Art. (Formerly numbered Art 104A.) Lecture, three hours. Not open for credit to students with credit for former course 104B. From the Umayyad period to the fall of Baghdad.

Ms. Berman

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 Seljuks to the Mongol period.

Ms. Berman

104C. 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. Berman

105A. Early Christian Art. (Formerly numbered Art 105A.) Lecture, three hours. Prerequisite: course 51 or consent of instructor. The origins and development of the architecture, sculpture, and painting of 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. Art and architecture of Western Europe from the Migration period until A.D. 1000.

Mr. McCallum

105C. Romanesque Art. (Formerly numbered Art 105C.) Prerequisite: course 51. Art and architecture of Western Europe in the 11th and 12th centuries.

Mr. McCallum

105D. Gothic Art. (Formerly numbered Art 105D.) Lecture, three hours. Prerequisite: course 51. Art and architecture of Europe in the 13th century.

Mr. McCallum

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

106D. Late Renaissance Art: Counter-Reformation. Lecture, three hours. Prerequisite: course 57 or consent of instructor. Painting, sculpture, and architecture of the late 16th and early 17th centuries considered in the context of the Counter-Reformation.

Ms. Weisz

108A. Northern Renaissance Art. (Formerly numbered Art 108A.) Lecture, three hours. Prerequisite: course 57. Painting and sculpture in the Northern Renaissance.

Ms. Weisz

108B. Northern Renaissance Art. (Formerly numbered Art 108B.) Lecture, three hours. Prerequisite: course 57. Art and architecture of Northern Europe from the late 15th century to the early 17th century.

Ms. Kunzle

109A. Baroque Art. (Formerly numbered Art 109A.) Lecture, three hours. Prerequisite: course 57. Art and architecture of Italy, Spain, and the southern Netherlands.

Ms. Bennett

109B. Baroque Art. (Formerly numbered Art 109B.) Lecture, three hours. Prerequisite: course 109A. Art and architecture of Northern Europe from the late 17th to the early 18th century.

Ms. Kunzle

109C. European Art of the 18th Century. (Formerly numbered Art 109C.) Lecture, three hours. Prerequisite: course 57. Painting, architecture, and sculpture of the 18th century examined in the light of political and intellectual developments. Special emphasis on the role of the middle class as a driving force in the history of art.

Mr. Kunzle


Mr. Kunzle

110A. European Art of the 19th Century. (Formerly numbered Art 110A.) Lecture, three hours. Prerequisite: course 54. Knowledge of Neoclassicism and Romanticism, with emphasis on French art, the influence of French artists on American art, and the development of modern art.

Mr. Kunzle

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 Germany.

Mr. Boime, Mr. 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 1930, including Seurat, Cezanne, 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. Contemporary Art and Politics in the Americas: Responses to Imperialism. (Formerly numbered Art 110E.) Lecture, three hours. Prerequisites: courses 54, 105C. Synthesis of the art of the Latin American nations and its political and social context. Major emphasis on revolutionary art of Cuba, Chile, and Nicaragua. Impressionism of the Disney coordinators.

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.

112A. American Art. (Formerly numbered Art 112A.) Lecture, three hours. Architecture in the United States from the Colonial period to the 19th century.

Ms. Bierman

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. Fier

114A. Early Art of India. (Formerly numbered Art 114A.) Lecture, three hours. Open for credit to students with credit for former course 104F. Survey of Indian art from the Indus Valley cultures to the 10th century. Emphasis on the Buddha and Hindu backgrounds of the arts.

Mr. R.L. Brown


Mr. McCallum

114D. 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

114E. Arts of Korea. Lecture, three hours. The art and architecture of Korea from the Neolithic Period through the Yi dynasty. Particular emphasis on early archaeology and state formation, Buddhist art, Koran ceramics, and Ylliter art painting.

Mr. McCallum

114F. Arts of Southeast Asia. Lecture, three hours. Not open to freshmen. Southeast Asian art from its beginning in prehistory through the 19th century. A study of the art of selected cultures from Burma, Malaysia, Thailand, Cambodia, Vietnam, and Indonesia.

Mr. R.L. Brown

115A. Advanced Indian Art. (Formerly numbered Art C115A.) Lecture, three hours. Prerequisite: course 114A or consent of instructor. Survey of Indian sculpture and architecture. Concurrently scheduled with course C251.

Mr. R.L. Brown

115B. Advanced Chinese Art. (Formerly numbered Art C115B.) Lecture, three hours. Prerequisite: course 114B. Study in Indian sculpture and architecture. Concurrently scheduled with course C256.

Mr. R.L. Brown

115C. 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
C115D. Art of Early China, Neolithic to A.D. 906. 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. 

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 some of the sculpture from the Sung (906-1127) and Yuan dynasties (1279-1368). Concurrently scheduled with course C261B. 

C115F. Chinese Art from the Ming Dynasty to the People's Republic, 1368 to the Present. Lecture, three hours. Prerequisite: course 114B or consent of instructor. The evolution of Chinese painting and some of the sculpture from the Ming dynasty (1368-1644) to the People's Republic. Concurrently scheduled with course C261C. 

C117A. Pre-Columbian Art of Mexico. (Formerly numbered Art C117A.) Lecture, three hours. Prerequisite: course 55B 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. Pre-Columbian Art of the Maya. (Formerly numbered Art C117B.) Lecture, three hours. Prerequisite: course 55B or consent of instructor. A study of the art of the selected Maya-speaking cultures of southern Mesoamerica from ca. 2000 B.C. to the Conquest, with particular emphasis on history and iconography. Concurrently scheduled with course C218B. Ms. Klein. 

C117C. Pre-Columbian Art of the Andes. (Formerly numbered Art C117C.) Lecture, three hours. Prerequisite: course 55B 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 the art of Peru. Concurrently scheduled with course C216C. Ms. Klein. 

118A. 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. 

118C. Arts of Sub-Saharan Africa. (Formerly numbered Art 118C.) Lecture, three hours. Survey, with emphasis on sculpture, of selected traditions within a style-region framework. Mr. Rubin. 

119A. Art of Native North America. (Formerly numbered Art 119A.) Lecture, three hours. Survey, with emphasis on sculpture, of selected traditions within a style-region framework. Mr. Rubin. 

119B. Advanced Studies in African Art: Western Africa. (Formerly numbered Art C119B.) 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 C216A. Mr. Rubin. 

119B. Advanced Studies in African Art: Central Africa. (Formerly numbered Art C119B.) Lecture, three hours. Selected topics in the arts of peoples of equatorial, southern, and eastern Africa, with emphasis on special problems of theory and method. Concurrently scheduled with course C216B. Mr. Rubin. 

120A. History of Prints. (Formerly numbered Art 120A.) Lecture, three hours. Development of style and techniques of expression in the graphic arts from the 15th to the early 16th century. Mr. Cuno. 

120B. History of Prints. (Formerly numbered Art 120B.) Lecture, three hours. Development of style and techniques of expression in the graphic arts from the 16th to the early 19th century. Mr. Cuno. 

120C. History of Prints. (Formerly numbered Art 120C.) Lecture, three hours. Development of style and techniques of expression in the graphic arts of the late 19th and 20th centuries. Mr. Cuno. 

121A. Critical and Historical Studies in Drawing. (Formerly numbered Art 121A.) Lecture, three hours. Discussion, two hours. Prerequisites: courses 50, 51, 54. Limited to undergraduate art history majors. Discussion of selected art topics, with emphasis on related readings in music, literature, history, and philosophy. Oral reports. P N.P. grading. 

121B. Critical and Historical Studies in Drawing. (Formerly numbered Art 121B.) Lecture, three hours. Prerequisite: consent of instructor. Studies in 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 C261A. Ms. Klein. 

121C. History of Prints. (Formerly numbered Art 121C.) Lecture, three hours. Development of style and means of expression in drawing from the late Middle Ages to the early Renaissance. Mr. Cuno. 

125. Tutorial Conferences. (Formerly numbered Art 125.) Discussion, two hours. Prerequisites: courses 50, 51, 54. Limited to undergraduate art history majors. Discussion of selected art topics, with emphasis on related readings in music, literature, history, and philosophy. Oral reports. P N.P. grading. 

127. Undergraduate Seminar. Lecture, three hours. Prerequisite: junior standing or consent of instructor. Selected aspects of art history explored through readings, discussion, research papers, and oral presentations. May be repeated twice. 

199. Special Studies in Art (2 to 8 units). Hours to be arranged. Prerequisite: course 118 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 undergraduate students. 

201. Historiography of Art History. (Formerly numbered Art 201.) Lecture, three hours. Development of the various approaches to art history through the centuries, concentrating on one time period, on the work of one or more authors, or on a particular methodology. 

202. Methodology of Art History (2 to 8 units). (Formerly numbered Art 202.) Sections oriented to the development and refinement of specialized research skills appropriate to particular periods and areas in the history of art. 

203. Museum Studies. (Formerly numbered Art 203.) Seminar, two hours. Various aspects of museum activities: concepts and historical evolution of art museums and collecting; methodology of exhibitions; problems involved in acquisition and evaluation of works of art. 

204. Restoration, Preservation, and Conservation. (Formerly numbered Art 204.) Seminar, two hours. May not be repeated. 

205. Studies in Prints. (Formerly numbered Art 205.) Seminar, two hours. Critical studies in the history and connoisseurship of the 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. Mr. Cuno. 

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. Mr. Cuno. 

210. Egyptian Art. (Formerly numbered Art 210.) Seminar, two hours. Prerequisites: courses 101A, 101B, 101C, 102. Art in Egypt during the Late period and the Greco-Roman period. Students should be ready to prepare for every meeting a briefing of a topic from archaeological memorials, not to exceed 10 minutes. Some lectures. 

211. Topics in Aegean Art. Seminar, two hours. Prerequisite: courses 102A and 102B, or consent of instructor. The art and architecture of the Aegean Bronze Age (3000-1000 B.C.). The monuments and theoretical problems related to the art and culture of Crete, Greece, the Cyclades, or Western Anatolia. Mr. Preziosi. 

213. Advanced Studies 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 culture and artistic production. Ms. Bierman. 

214. Problems in Islamic Art. (Formerly numbered Art C214.) Lecture, three hours. Prerequisite: consent of instructor. Monuments or theoretical problems related to Islamic culture and artistic production. Concurrently scheduled with course C104C. Ms. Bierman. 

216A. Advanced Studies in African Art: Western Africa. (Formerly numbered Art C216A.) Lecture, three hours. Selective 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 C216B.) Lecture, three hours. Selective topics in the arts of peoples of equatorial, southern, and eastern Africa, with emphasis on special problems of theory and method. Concurrently scheduled with course C119B. Mr. Rubin. 

218A. Pre-Columbian Art of Mexico. (Formerly numbered Art C218A.) Lecture, three hours. Prerequisite: course 55B 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 C117A. Ms. Klein. 

218B. Pre-Columbian Art of the Maya. (Formerly numbered Art C218B.) Lecture, three hours. Prerequisite: course 55B or consent of instructor. A study of the art of selected cultures of southern Mesoamerica from ca. 2000 B.C. to the Conquest, with particular emphasis on the history and iconography of the art of Peru. Concurrently scheduled with course C117B. Ms. Klein. 

218C. Pre-Columbian Art of the Andes. (Formerly numbered Art C218C.) Lecture, three hours. Prerequisite: course 55B or consent of instructor. A study of the art of the 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 the art of the Pacific islands. Ms. Klein, Mr. Rubin. 

219A. Oceanic Art. Discussion, two hours. Prerequisite: consent of instructor. Studies in selected topics in the art of the Pacific islands. Ms. Klein, Mr. Rubin. 

219B. Pre-Columbian Art. Discussion, two hours. Prerequisite: consent of instructor. Studies in selected topics in the art of sub-Saharan Africa. The term may be repeated. 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. 

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220. Oceanic, Pre-Columbian, African, and Native North American Art. (Formerly numbered Art 220.) Discussion, two hours. Prerequisite: consent of instructor. Study in selected topics comparing the arts of Oceania, Africa, and pre-Columbian and Native North America. Ms. Klein, Mr. Rubin

221. Topics in Classical Art. (Formerly numbered Art 221.) Lecture, two to three hours. Studies in Parthian art. A study of art and iconography of the Near East (Afghanistan, Iran, Iraq, Syria) during the period of the Parthian Empire and Persian cultural influence. Ms. Downey

223. Classical Art. (Formerly numbered Art 223.) Seminar, two hours. Studies in Greco-Roman art and archaeology. Studies of specific periods, sites, or artistic media. Ms. Downey

225. Medieval Art. (Formerly numbered Art 225.) Seminar, two hours. Studies in selected topics in Byzantine and European medieval art. Ms. Kalavrezou-Maxeiner


229. Renaissance and Baroque Paleography. (Formerly numbered Art 229.) Seminar, two hours. Emphasis on a selected topic (e.g., a particular artist, trend, or problem). Research papers and oral reports required. Language requirements depend on area of focus. Mr. Pedretti

230. Italian Renaissance Art. (Formerly numbered Art 230.) 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, Ms. Weiss, Ms. Woods-Marsden

231. Leonardo and Renaissance Theory of Art. (Formerly numbered Art 231.) Seminar, two hours. Prerequisite: knowledge of Italian. An examination of Leonardo's thinking, with emphasis on the development of his ideas on aesthetics and the arts. Mr. Pedretti

235. Northern Renaissance Art. (Formerly numbered Art 235.) Seminar, two hours. Prerequisite: knowledge of German. Examination of a selected topic (e.g., a particular artist, trend, or problem). Research papers and oral reports required. Language requirements depend on area of focus. Mr. Pedretti

240. Baroque Art. (Formerly numbered Art 240.) Seminar, two hours. Emphasis on a selected topic (e.g., a particular artist, trend, or problem). Research papers and oral reports required. Language requirements depend on area of focus. Mr. Pedretti

244. Topics in European Art from 1700 to 1900. (Formerly numbered Art 244.) Lecture, two to three hours. Mr. Pedretti

245. European Art from 1700 to 1900. (Formerly numbered Art 245.) Seminar, two hours. Mr. Pedretti

246. Art and Architecture of Georgian England. (Formerly numbered Art 246.) Seminar, two hours. Ms. Bennett

253. Modern Art. (Formerly numbered Art 253.) Seminar, two hours. Examination of a selected topic (e.g., a particular artist, trend, or problem). Research papers and oral reports required. Language requirements depend on area of focus. Ms. Bennett

255. American Art. (Formerly numbered Art 255.) Seminar, two hours. Advanced studies in the evolution of American art and its relationship to the arts of Europe and America, with emphasis on recent trends and developments. Mr. Kunzle, Ms. Tonelli

257. Advanced Indian Art. (Formerly numbered Art 257.) Lecture, three hours. Prerequisite: course 114A. Study in Indian sculpture and architecture. Concurrently scheduled with course C115A.

C258. Advanced Chinese Art. (Formerly numbered Art C258.) Lecture, three hours. Prerequisite: course 114B. Study in Chinese painting and sculpture. Concurrently scheduled with course C115B.

C259. Advanced Japanese Art. (Formerly numbered Art C259.) Lecture, three hours. Prerequisite: course 114C. Study in Japanese painting and sculpture. Concurrently scheduled with course C115C.

260. Asian Art. (Formerly numbered Art 260.) Seminar, two hours. Advanced studies in the secular and religious artistic traditions of India, China, Japan, and adjacent regions. Topics and geographical areas vary each term.

261. Art of Early China, Neolithic to Sung. (formerly numbered Art 261.) 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 C115E.

261C. Chinese Art from the Ming Dynasty to the People's Republic, 1368 to the Present. 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 C115F.

265. Fieldwork in Archaeology (2 to 8 units). (Formerly numbered Art 265.) Participation in archaeological excavations or other archaeological research under supervision of the staff.

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 Individual Study or Research (2 to 8 units). Prerequisite: consent of instructor.

597. Preparation for Master's Comprehensive Examinations or Ph.D. Qualifying Examinations (2 to 12 units). (Formerly numbered Art 597.) Prerequisite: consent of instructor. S/U grading.

598. Research for and Preparation of Master's Thesis (2 to 12 units). (Formerly numbered Art 598.) Prerequisite: consent of instructor. S/U grading.

599. Research for and Preparation of Doctoral Dissertation (2 to 12 units). (Formerly numbered Art 599.) Prerequisite: consent of instructor. S/U grading.

Design

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.

31A. Fundamentals of Design: Color. (Formerly numbered Art 31A.) Lecture, two hours; laboratory, four hours. Course 32A may be taken concurrently. Exploration of color in theory and practice. Development and articulation of sensory concepts. Mr. Vasa in charge

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. Mr. Vasa in charge

32A. Perceptual Drawing. (Formerly numbered Art 32A.) Demonstration/discussion/laboratory, eight hours. Course 31A may be taken concurrently. Translation of perceptions through delineation, drawing, and other descriptive media. Mr. Vasa in charge

32B. Visual Presentation. (Formerly numbered Art 32B.) Studio, six hours. Prerequisite: course 32A. Course 31A or 31B may be taken concurrently. Translation of idea through delineation, drawing, and other descriptive media. Mr. Vasa in charge

34A. History of Design I. (Formerly numbered Art 34A.) Lecture, three hours; discussion, one hour. Prerequisite: one course from Art History 50 through 57. Not open to seniors. Analysis of significant concepts of form in relation to social and technological developments from prehistory to 1800. Mr. Lee

34B. History of Design II. (Formerly numbered Art 34B.) Lecture, three hours; discussion, one hour. Prerequisite: course 34A. Not open to seniors. Analysis of significant concepts of form in relation to social and technological developments from 1800 to the present. Mr. Lee

35A. Introduction to Photography and the Computer. Lecture, two hours; studio, four hours. Introduction to computer graphics, computer-aided design, photography, and other technological influences. Mr. Saxe

35B. Introduction to Media, Tools, and Processes. Lecture, two hours; studio, four hours. Introduction to use of tools for natural and industrial materials, including plastic, metal, wood, cardboard, use of drafting instruments and related tools. Orthographic and isometric projection as methods of design presentation. Mr. Shapira

Upper Division Courses

(I) Comparative Studies in Design

161A. Ceramics. (Formerly numbered Art 161A.) Lecture, three hours. Prerequisite: upper division standing. Open to nonmajors. The evolution of ceramic form through geographic, social, and technological influences. Mr. Saxe

161C. Comparative Studies in Communication Design. Lecture, four hours. Prerequisite: one course from Art History 50 through 57. Open to nonmajors. Communication design, with emphasis on graphic design and media of visual communication. Mr. Saxe

161E. Industrialization. (Formerly numbered Art 161E.) Lecture, three hours. Prerequisite: upper division standing. Open to nonmajors. A historical survey of the development of Western industrial culture. Studies of the major factors influencing the transition from industrial societies to postindustrial information societies. Mr. Shapira

161G. Shelter. (Formerly numbered Art 161G.) Lecture, three hours; laboratory, to be arranged. The development of interior spaces in relation to structure, furniture, and other factors. Mr. Kataoka

162A. Ceramics. (Formerly numbered Art 162A.) Studio, six hours. Prerequisite: courses 31A through 35B. Introduction to ceramic materials and processes as a medium of cultural and individual expression. Investigation of handforming methods. Mr. Saxe

(II) Concept and Form in Design

162A. Ceramics. (Formerly numbered Art 162A.) Studio, six hours. Prerequisite: courses 31A through 35B. Introduction to ceramic materials and processes as a medium of cultural and individual expression. Investigation of handforming methods. Mr. Saxe
162B. Ceramics. (Formerly numbered Art 162B.) Studio, six hours. Prerequisites: courses 162A, 165A, 167A, 171A. Introduction to the use of the potter's wheel. May be repeated after completion of courses 162B through 162F.
Mr. Saxe

162C. Ceramics. Studio, six hours. Prerequisites: completion of 162A through 162C. Creation and execution of ceramic materials and processes, with emphasis on indirect methods of forming such as the use of molds and mechanically produced ceramic elements. May be repeated after completion of courses 162C through 162F.
Mr. Saxe

162D. Ceramics. Studio, six hours. Prerequisites: courses 162A, 165A, 167A, 171A. Investigation of ceramic surface treatments and their relation to ceramic form; the study of traditional and experimental materials and processes. Students should be well-versed in all of the techniques available in the Ceramics Studio. May be repeated once.
Mr. W. Brown, Mr. Kataoka

167A. Form in Industrialized Materials. (Formerly numbered Art 167A.) Studio, six hours. Prerequisites: courses 31A through 35B. Exploration of form in relation to industrialized materials and manufacturing processes. Application of wood, metal, plastic, paper, cardboard, and ceramic materials. Use of industrial processes and fabricating methods. Development and design of products. Mr. Shapira

Mr. W. Brown, Mr. Kataoka

167C. Human Factors in Product and Space Planning. Studio, six hours. Prerequisites: courses 167A, 167B. Studies in the psychological and physical requirements for designing products and spaces. Interpretation of anthropometric ergonomic information. Development of design concepts relating to the needs and use of objects and spaces. Computer applications included. May be repeated after completion of courses 167B through 167F.
Mr. Carter, Mr. Shapira

167D. Industrial Design Product and Development I. Studio, six hours. Prerequisites: courses 167A, 167B. Intermediate-level product planning, research, and development as a design tool. Studies in the relation of design methodology to social and economic constraints. The development of design concepts and their realization at the model and prototype stage. May be repeated after completion of courses 167B through 167F.
Mr. Shapira

167E. Industrial Design Product and Development II. Studio, six hours. Prerequisites: courses 167A, 167B. Product planning, research, and development of design problems and information systems of higher complexity. Application of computer-aided design concepts to the development of products. A focus on social, economic, and environmental impacts. May be repeated after completion of courses 167B through 167F.

167F. Advanced Industrial Design: Product Design, Research, and Innovation. Studio, six hours. Prerequisites: courses 167A, 167B. Further studies in computer applications in industrial design, from ideation, conceptualization, and programming to model building and manufacturing. Mr. Carter, Mr. Shapira

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. Course 170A is prerequisite to 170B. The definition of structure and space in relation to human needs. Each course may be repeated once.
Mr. Shapira

171A. Textiles: Fundamentals of Fiber, Form, and Structure. (Formerly numbered Art 171A.) Studio, six hours. Prerequisites: courses 31A, 31B. This will be an introduction to the terminology and scope of the field; orientation to materials and equipment; expansion of design concepts and theories toward the mixing of materials; fundamental experiments in fabric making, dyeing, and pattern making.
Mr. Bassler, Mr. Kester

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.
Mr. W. Brown, Mr. Kataoka

284. Ceramics (2 to 8 units). (Formerly numbered Art 284.) Tutorial or tutorial/seminar, to be arranged. Prerequisite: consent of instructor. Advanced creative research utilizing ceramic media. Emphasis on development of original, expressive, individually produced ceramic art.  
Mr. Saxe

287. Form and Structure Tutorial (2 to 8 units). (Formerly numbered Art 287.) Hours to be arranged. Exploration of form, with emphasis on expressive experimentation in materials and processes.  
Mr. Vasa

288. Fiber Structures (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.  
Mr. Bassler, Mr. Kester

290. Design Seminar: A Collaborative View. (Formerly numbered 290A-290B-290C.) Seminar, three hours. Critical and theoretical examination of concepts underlying the creative process, including the initiation of an idea, its development, and its social and historical context.  
Mr. Kester, Ms. Swinoff

292. Shelter (2 to 8 units). (Formerly numbered Art 292.) Development of individual projects to investigate concepts of shelter. Exploration of traditional and contemporary forms, methods, and materials.  
Mr. Shapira

293. Interior Space Design (2 to 8 units). (Formerly numbered Art 293.) The concept and practice of designing interior spaces. Evaluation of visual and functional needs for interior spaces (ranging from personal to social spaces) in two- and three-dimensional projects involving color, light, surface, materials, equipment, furniture, etc.  
Mr. Kester, Mr. Shapira

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, ergonomics, urban components, area studies, materials, and processes.  
Mr. Shapira

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 producing studies, renderings, or schematics or by fabricating models.  
Mr. Carter

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 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.

Dance

124 Dance Building, (213) 825-3951

Professors
Elise Dunin, M.A.
Carol Socolthorn, M.A., Chair
Debra Siegel
Allena Snyder, M.A.
Emma Lewis Thomas, Ph.D.
Pia Gilbert, Emeritus
Alma M. Hawkins, Ed. D., Emeritus
Marion Scott, Emeritus

Associate Professors
Ermal Dosamantes-Apperson, Ph.D.
Judy Mitoma, M.A.

Assistant Professors
Judith Alter, Ed. D.
Angelia Leung, M.A.
Kathryn Posin, B.A.

Lecturers
Peter Abolugb, M.A.
Ronald Brown
Kai Ganado, M.A.
Judith Gantz, M.A.
Margaret Hills
Martha Kalman, M.A.
Jean Rene, M.A.
Heidi Roick, M.A.
Stephanie Schoelzel, M.F.A.
Sunobu Togi
Medha Yodh, M.S.

Scope and Objectives

Bodily skill, artistry, and deep understanding are necessary for an intelligent and creative artist. Dancers at UCLA receive extensive movement experience in contemporary dance, ballet, improvisation, and ethnic forms through practical work in studios, workshops, and performances. The art of dance is explored in costume design, lighting and scenic design, music and sound, and video. The development and relevance of dance are studied through courses in dance history, ethnology, notation, therapy, kinesiology, and education. Modern choreography is the basis of the UCLA program in dance.

UCLA offers the Bachelor of Arts degree in Dance combining preprofessional training with the liberal study essential to the development of each dancer's own creative potential.

The graduate program awards the Master of Arts degree in Dance, designed for students preparing to continue professionally as choreographers, performers, designers, teachers, researchers, and therapists, with specific areas of focus in choreography/performance, dance ethnology, and dance education, and the Master of Arts degree in Dance/Movement Therapy. The therapy program is approved by the American Dance Therapy Association.

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 Wende Uffrig 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 diversi-ty 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 90024-1608, 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 committee will be 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 specialization, and faculty outside the department, consists of three written questions and an oral test and takes approximately three days to complete. Each committee member grades each question pass, pass with honors, or fail. In order to pass, each question must be graded pass or better by two of the three committee members. If any questions are failed, you may retake the failed portion(s) only once.

Lower Division Courses
1A-1F, Fundamentals of Modern Dance (2 units each). (Formerly numbered 10A-10B-10C and 11A-11B-11C) Studio, three hours. Designated for non-dance majors. Courses must be taken in sequence.

2F-7W-7S, Fundamentals of Ballet (0 units, 2 units). (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.

10, Introduction to Dance (2 units). (Formerly numbered 50.) Introduction to the many and varied theoretical aspects of dance as a discipline.

11A-11F, Modern Dance Technique and Choreography (2 units each). (Formerly numbered 36A-36B-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.

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.

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.

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 presenting dance theater.

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.

Master of Arts in Dance/ Movement Therapy
An M.A. in Dance/Movement Therapy is required for registry as a therapist with the American Dance Therapy Association (ADTA).

Admission
In addition to the requirements listed above under the M.A. in Dance, an undergraduate course in abnormal psychology is required, and other courses in psychology (developmental, personality, and group dynamics) are highly recommended.

Course Requirements

The program in dance therapy requires field experience or internship to provide an orientation to the hospital setting and experience as a movement therapist. The second year is designed as an intensive experience: two full days each week, with an opportunity to work with different populations and to assume a broad range of responsibilities in a therapeutic setting.

Thesis Plan
You must prepare a written research thesis on a topic related to your internship. Your thesis is supervised by senior faculty members in your major field and one faculty member from another department.

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 specialization, and faculty outside the department, consists of three written questions and
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. Mrs. Dunn (F,Sp)

71B. Dance of Indonesia (2 units). (Formerly numbered 71A and 71H.) Studio, three hours. Dance experience not required. Introduction to the technique and repertory of dance traditions (e.g., Java, Bali, Sundan). Ms. Mitoma (F,Sp)

71C. Dance of Japan (2 units). (Formerly numbered 71G.) Studio, three hours. Dance experience not required. Technique and repertory from the court dance tradition (e.g., Gagaku). Mr. Togi (F,Sp)

71D. Dance of India (2 units). (Formerly numbered 71E.) Studio, three hours. Dance experience not required. Introduction to dance in India, with emphasis on a particular tradition (e.g., Bharata Natyam). Ms. Yodh (F)

71E. Dance of Korea (2 units). (Formerly numbered 71Q.) Studio, three hours. Dance experience not required. Technique and repertory of a selected dance tradition (e.g., Korean classical and folk).

71F. Dance of Ghana (2 units). (Formerly numbered 71I.) Studio, three hours. Dance experience not required. Introduction to the technique and repertory of a selected region.

72B. Dance of Mexico (2 units). (Formerly numbered 71L.) Studio, three hours. Dance experience not required. Introduction to forms and styles in dances of several ethnographic regions. Emphasis on identifying dance characteristics through actual dancing. Mr. Rios (F)

72D. Dance of Yugoslavia (2 units). (Formerly numbered 71P.) Studio, three hours. Dance experience not required. Introduction to the repertory of dance styles in several ethnographic regions. Emphasis on identifying dance characteristics through cultural performance. Mrs. Dunn (F,Sp)

74C. Dance of Spain (2 units). (Formerly numbered 71M.) Studio, three hours. Dance experience not required. Technique and repertory of dances from selected ethnographic regions.

75B. Dance of Israel (2 units). (Formerly numbered 71F.) Studio, three hours. Dance experience not required. Technique and repertory from selected ethnographic regions.

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.

80A-80B. Movement as Cultural Behavior (2 units each). (Formerly numbered 80A and 80B.) Lecture, one hour; laboratory, three hours. Prerequisite: world arts and cultures major or consent of instructor. Laboratory/examination in the analysis of movement as cultural behavior.

102A-102B-102C. Advanced Modern Dance Technique (2 units each). (Formerly numbered 114A-114B-114C.) Lecture, one hour; studio, five units. Emphasis on performing skills. Each course may be repeated once. Mr. Brown, Mr. Ganado, Ms. Kaiman (F,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 projection. May be repeated twice. Ms. Kelman (W)

105A-105B-106C. Intermediate Ballet (2 units each). (Formerly numbered 131A-131B-131C.) Lecture, one hour; laboratory, three hours. Prerequisites: courses 7F-7W-7S or consent of instructor. Courses must be taken in sequence. Study of techniques and principles of classical ballet, including phrasing, combinations, and repertory. Ms. Hils (F,Sp)

110A-110B-110C. 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 performing skills. Each course may be repeated once. Ms. Hils (F,Sp)

111B-111B-113C. Advanced Modern Dance Technique, Choreography, and Performance (2 units each). (Formerly numbered 153A-153B-153C.) Lecture, four hours; laboratory, four hours. Prerequisite: course 100C. Advanced technique studies, with emphasis on developing performance qualities in various dance vocabularies, focus, projection, expressive range. Independent work in solo and group choreography culminating in a final performance project. Ms. Posin (F,Sp)

114. Form and Structure in Choreography. (Formerly numbered 154.) Lecture, one hour; laboratory, three hours. Prerequisite: dance major or consent of instructor. A study of the craft of choreography. Emphasis on breath movement, phrasing, ABA, theme and variations, rondo. Learning to discipline and shape the creative impulse into specific forms, with emphasis on staging. Ms. Scott (Sp)

C120. Music as Dance Accompaniment. (Formerly numbered 154.) Prerequisite: course 20 or consent of instructor. A study of the musical and physical principles of human movement as related to dance. Prerequisite: must be taken in sequence. Mrs. Stein (W,Sp)

123A. Anatomy for the Dancer. (Formerly numbered 155.) Lecture, one hour; laboratory, three hours. Prerequisite: dance major or consent of instructor. A study of the human muscular-skeletal system as related to dance. Ms. Gantz (F)


123C. Projects in Dance Kinesiology. (Formerly numbered 111C.) Prerequisite: course 123B. Independent study of selected topics introduced in courses 123A and 123B. Ms. Gantz (Sp)

125. Principles of Movement Analysis: Laban Analysis. (Formerly numbered 136.) Lecture, two hours; laboratory, two hours. Prerequisite: dance major or consent of instructor. Basic principles of Laban analysis. Emphasis on experiential understanding of movement through the study of motion factors and elementary concepts of spatial dynamics. Focus on the qualitative area of movement to further comprehension of dance as a creative art form. Ms. Gantz

126. Advanced Labanotation. (Formerly numbered 159.) Lecture, two hours; laboratory, two hours. Prerequisite: course 25B. Skills in reading and writing complex movement; reconstruction and score preparation in modern dance, ballet, and ethnic dance. Mrs. Dunin, Ms. Scothorn (Sp)

132A-132B. Philosophical Bases and Trends in Dance (4 units, 2 units). (Formerly numbered 158A-158B.) Course 132A is prerequisite to 132B. Critical analysis of dance as a creative experience and the role of professional and educational dance in our society. Study of selected approaches to current development in dance. Ms. Alter (F,Sp)

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. Ms. Alter, Mrs. Thomas (F)

134B. History of Dance in Western Culture, 1600 to the Present. (Formerly numbered 151B.) Prerequisites: course 134A or consent of instructor. Survey of dance styles in European and American cultures from early baroque to the present. Ms. Alter, Mrs. Thomas (W)

141. Lighting Design for Dance Theater. (Formerly numbered 152A.) Lecture, four hours; laboratory, two hours. Prerequisite: course 11F or consent of instructor. Lighting for dance: examination of aesthetics, principles, and technical elements. Application to selected choreographies to be publicly performed. Ms. Siegel (F,Sp)

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 lighting problems at an advanced level and individual development of creative design solutions. May be taken for a maximum of four units. Ms. Siegel (W,Sp)

144. Costume and Scenic Design Concepts for Dance Theater (2 units). (Formerly numbered 152B.) Lecture, two hours; laboratory, two hours. Prerequisite: course 11F or consent of instructor. General study of costume history, selected historical styles, and introductory drawing as a conceptual basis for visual awareness in theatrical dance design. Designer-choreographer relationships.

Ms. Schoelzel (F,Sp)

148. Advanced Laboratory in Dance Production (1 unit). (Formerly numbered 192.) Laboratory, two hours. Prerequisites or corequisites: courses 141 and 144. Advanced study in choreographic design, with emphasis on application of concepts of lighting, sound, costume, scene design, and stage practices in departmental dance productions. May be repeated once. P/NP grading. (Sp)

149. Dance Performance Practicum (1 unit). (Formerly numbered 153.) Laboratory, four hours. Dancing in selected choreography in public performance. P/NP grading. (F,Sp)

151. Foundations of Dance Education. (Formerly numbered 127.) Lecture, two hours; laboratory, three hours. Prerequisite: dance major or consent of instructor. Introduction to movement concepts, skills, and teaching principles for modern dance instruction. Supervised teaching practicum included. Ms. Gantz, Ms. Leung (F,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. Dunin (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 principles for teaching children's dance; emphasis on dance as a creative medium of expression. Ms. Leung (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 process 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.

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. Dance in relation to music, aesthetic principles, and cultural context. May be repeated once.

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.

171D. Dance of India (2 units). (Formerly numbered 171E.) 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.

171E. Dance of Korea (2 units). (Formerly numbered 171H.) 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.

172B. Dance of Ghana (2 units). (Formerly numbered 172D.) Studio, three hours. Prerequisite: course 72B. Technique and repertoire. Dance in relation to music, aesthetic principles, and cultural context. May be repeated once.

173B. Dance of Mexico (2 units). (Formerly numbered 173H.) Studio, three hours. Prerequisite: course 73B. Dance techniques of selected ethnographic regions. May be repeated once.

173B. Dance of Yugoslavia (2 units). (Formerly numbered 173P.) Studio, three hours. Prerequisite: course 73B. Technique and repertoire. Dance in relation to music, aesthetic principles, and cultural context. May be repeated once.

174C. Dance of Spain (2 units). (Formerly numbered 174M.) Studio, three hours. Prerequisite: course 74C. Technique and repertoire of a selected dance tradition. Dance in relation to music, aesthetic principles, and cultural context. May be repeated once.

176B. Dance of Israel (2 units). (Formerly numbered 176F.) Studio, three hours. Prerequisite: course 76B. Technique and repertoire from selected ethnographic regions. May be repeated once.

179A-179Z. Dance of a Selected Culture (2 units each). (Formerly numbered 179A-179Z. Series of courses in the dance traditions of selected cultures. Each course may be repeated once. Ms. Mitoma, Ms. Yodh)

181B. Dance in Southeast Asia. (Formerly numbered 144B.) Prerequisite: course 181A or consent of instructor. A survey of selected ritual, social, and court dances of Southeast Asia. Emphasis placed on the Philippines, Social, historical, and aesthetic factors. Lectures illustrated with demonstrations, films, and slides.

181C. Dance in East Asia. (Formerly numbered 145C.) Prerequisite: course 181A or consent of instructor. A survey of the dances of Japan, China, 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.

181D. Dance in South Asia. (Formerly numbered 143C.) 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, films, and slides.

182A. Dance Cultures of Africa. (Formerly numbered 140A.) An illustrated survey of dance in sub-Saharan cultures, the role of dance in society, historical and cultural context. May be repeated once.

183A. Dance in Latin America. (Formerly numbered 146A.) Prerequisite: course 73B or 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.

184B. Dance in the Balkans. (Formerly numbered 142A.) Prerequisite: course 74B. An illustrated survey of dance, with attention to cultural and social contexts: Albania, Bulgaria, Greece, Romania, Yugoslavia. Ms. 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. Ms. Snyder

190. Advanced Dance Performance (2 units). Lecture, two hours; laboratory, four hours. The study and performance of major choreography. May be repeated twice.

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. Negri. Mrs. Thomas

197A-197B. Proseminar: Dance Perspectives (2 units each). Prerequisite: upper division standing or consent of instructor. Consideration of the aesthetics evolving from the work of the great artists of our time. Ms. Salad

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, 204D-204E, 204F) Lecture, two hours; laboratory, two hours. Prerequisite: course 113C or equivalent. Theoretical aspects of advanced choreography for students who have reached the level of self-initiation of social and cultural arts. Emphasis on the relationship of choreography to composition, and related folklore. May be repeated twice with course 212A. Credit may be applied toward the Master of Arts degree requirements (W).

211B. Music as Dance Accompaniment. (Formerly numbered 254A) Prerequisite: course 210 or consent of instructor. The role of the orchestra in dance. Development of dance technique and choreography for the classroom and professional setting. Ms. Posin, Mrs. Scothorn (F, W, Sp)

220. Music as Dance Accompaniment. (Formerly numbered 254A) Prerequisite: course 210 or consent of instructor. The role of the orchestra in dance. Development of dance technique and choreography for the classroom and professional setting. Ms. Posin, Mrs. Scothorn (F, W, Sp)

221. Music for Dance. (Formerly numbered 206.) Prerequisite: course 120. Theory of the aesthetic and functional relationship of music to dance.

223. Principles of Dance Kinesiology. (Formerly numbered 211A.) Prerequisite: consent of instructor. The scientific basis for movement in dance. A study of the anatomical, kinesiological, and physical principles and demands of dance. Ms. Gantz (F)

225A-225B. Theories of Movement: Laban Analytical Techniques. (Formerly numbered 238A-238B) 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 observation 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 (W, 225A; Sp, 225B)

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. Ms. Alter (W, Sp)

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. Alter, Mrs. 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 of graduate students based on extended reading list and term papers. May be applied toward the M.A. degree requirements. Ms. Alter (W, Sp)

232. Aesthetics of Dance. (Formerly numbered 210.) Analysis of aesthetic concepts and critical methods used in writing about dance. Ms. 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 recreation 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. Ms. Thomas

236. Dance in the 20th Century. (Formerly numbered 220.) Prerequisites: courses 134A and 134B, or consent of instructor. Survey of historical development of 20th-century dance. Ms. Thomas

240. Principles of Dance Theater. (Formerly numbered 208.) Relationship of architecture, technology, and history of the theater to choreography. Application of choreographic form in drama. Opera, and other forms of theater. Mrs. Scothorn (W)

251A-251B. Advanced Studies in Dance Education. (Formerly numbered 227A-227B.) Prerequisites: courses 134A and 134B, or consent of instructor. Seminar in historical development of dance education. Ms. Alter (F, 251B; Sp, 251A)
260A-260B-260C. Group Dynamics and Process (2 units each). Discussion, two hours; laboratory, two hours. Prerequisite: candidate in dance-movement therapy program. An experiential-didactic exploration of unfolding group dynamics and process within an ongoing movement therapy group.

Mrs. Dosamantes-Alperson (F,W,Sp)

260D-260E-260F. Group Dynamics and Process (2 units each). Discussion, two hours; laboratory, two hours. Prerequisites: courses 260A-260B-260C. Advanced-level exploration of unfolding individual and group dynamics, as well as process within context of an ongoing movement therapy group.

Mrs. Dosamantes-Alperson

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 translation into practice. 261B. Kinetic imagery; contribution of creative process and receptive 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. Dosamantes-Alperson

262A-262B-262C. Seminar in Dance/Movement Therapy. (Formerly numbered 252A-252B-252C.) Lecture, two hours; laboratory, two hours. Prerequisites: courses 261A-261B-261C. 262A. Developmental Perspective. Information of life-span approach to human development and object relationships established from infancy through senescence; concepts applied to individual clients demonstrated by clinical specialists. 262B. Individual Psycho-dynamics and Therapeutic Intervention. Relationships between individual psychodynamics and therapeutic objectives. 262C. Systems Perspective. System theory concepts applied to dyads, groups, families, and cultures.

Mrs. Dosamantes-Alperson (F,W,Sp)


Mrs. Dunin, Mrs. Snyder (F,W,Sp)

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. (F,W,Sp)

451. Teaching Assistant Seminar (2 units). (Formerly numbered 460.) Lecture, one hour; laboratory, three hours. Required of all Dance Department teaching assistants. Lectures, discussions, readings, and practice teaching. May be repeated once for credit. S/U grading. (F,W)

452. Directed Field Study in Dance Education (1 to 8 units). (Formerly numbered 496.) Seminar, one hour; field study, two hours minimum. Prerequisite: consent of instructor. Directed field study to provide teaching experience in the community school or other approved site. No more than four units may be applied toward the M.A. degree requirements. S/U grading. (F,W)


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
55A. Africa, Oceania, and Native America
55B. Arts of Pre-Columbian America
56A. Art of India and Southeast Asia
56B. Introduction to Chinese 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
100A. Introduction to Poetry
100B. Introduction to Drama
112. Children's Literature
133A-133B-133C. Creative Writing: Poetry
134A-134B-134C. Creative Writing: Short Story
135A-135B-135C. Creative Writing: Drama
167. The Drama, 1942-1945
Humanities 1A, 1B, 1C. World Literature
Music 2A-2B. Introduction to the Literature of Music
123A-132B. Development of Jazz
135A-135B-135C. History of the Opera
140A-140B-140C. Musical Cultures of the World
Theater (Theater, Film, and Television) 5A, 5B, 5C. History and Drama of the Theater
20. Acting Fundamentals
102A, 102B. Selected Topics on the History of the European Theater
105. Main Currents in Theater
118A, 118B. Creative Dramatics
122. Makeup for the Stage

History/Art History (Interdepartmental)

An intercollege, interdepartmental major in history/art history 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 5 on the College of Letters and Science.

Motion Picture/Television

See Theater, Film, and Television

Music

2539 Schoenberg 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'Aconne, Ph.D.
Paul E. Des Marais, M.A.
Mane Louise Gölner, Ph.D.
Frederick F. Hammond, Ph.D.
Thomas F. Harman, Ph.D.
Richard A. Hudson, Ph.D.
William R. Hutchinson, Ph.D.
Nazir A. Jairazbhoy, Ph.D.
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.
Roy E. Travis, 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.
Mantle L. Hood, Ph.D.
Boris A. Kremeniew, Ph.D.
Henni Lazarof, M.F.A.
W. Thomas Marrocco, Ph.D.
David Morton, Ph.D.
Robert U. Nelson, Ph.D.
J.H.K. Nikita, B.A.
H. Jan Popper, Ph.D.
Robert M. Stevenson, Ph.D.
Robert L. Tusler, Ph.D.

Ethnic Arts

See World Arts and Cultures
At the graduate level, specialized studies leading to the degrees of Master of Arts and Doctor of Philosophy are offered in composition, ethnomusicology, historical musicology, music education, and systematic musicology: 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. 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. The test must be passed by the end of course 20C or the first year as a music major, whichever comes first.

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, you are encouraged to take six quarters (or the equivalent) of German.

The Major

Required: A minimum of 13 courses in upper division, including Music 120A, 120B, 126A-126B-126C, one course from 102, 105, 120C (individual specializations may specify a given course), one course from 140A, 140B, 140C, five courses selected from one of the specializations listed below, and one free elective course for all areas except music education, theory, and composition.

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. The test must be passed by the end of course 20C or the first year as a music major, whichever comes first.

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, you are encouraged to take six quarters (or the equivalent) of German.

The Major

Required: A minimum of 13 courses in upper division, including Music 120A, 120B, 126A-126B-126C, one course from 102, 105, 120C (individual specializations may specify a given course), one course from 140A, 140B, 140C, five courses selected from one of the specializations listed below, and one free elective course for all areas except music education, theory, and composition.

Scope and Objectives

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.
Performance practices) in all classical solo instru-
ment, systematic musicology, composition, and other subjects in California elementary schools, voice, opera, and conducting.

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 90024-1616.

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 number of 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.

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.

*Does not apply to students whose emphasis is composition.*

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 — choral, 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: **choral:** Music 118A (four units), 270E, and elective courses selected from 112B, 135A, 135B, 135C, 137B, 174A through 174D (four units only), 187, C227A through C227F, 596A, 596B, 596C, 596D, 598; **instrumental:** Music 118B (four units), 270F, and elective courses selected from 106A, 106B, 106C, 108, 112A, 137B, 175 (four units only), 187, C227A through C227F, 261A through 261F, 596A, 596B, 596C, 596D, 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, 596D, 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 composition and theory division. The thesis topic and master's committee are approved by your division or area.

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., choral 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 specialty must also be fluent in speaking one of these languages. The language requirement should be satisfied by the end of your first year in residence.

**Course Requirements**

You are required to complete a minimum of 18 courses, including at least six at the 200 level and six or more in the 400 series. Only four units of Music 596A, 596B, 596C, or 596D and eight units of course 598 may be applied toward the total course requirement. No more than four units of all types of 500-series courses may be applied toward the minimum graduate course requirement. The minimum residence requirement for the M.F.A. is two years.

Course requirements are as follows: 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 area. (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, 596D, 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.

With the exception of your first quarter in residence, you must participate in a public performance of a soloistic nature each quarter for the first two years. One of the required performances each year must be a complete solo recital on campus (preferably a noon concert) with a faculty committee in attendance to evaluate the performance. Conducting students present a program, or a substantial portion thereof, approved by the conducting faculty, either on or off campus. The other performances (either on or off campus) must simply feature the student in a soloistic capacity (joint recital, soloing with a performance organization, accompanying, etc.) and may be only a portion of the program. Conducting students present a minimum of one work, or a substantial movement of a longer work, in a public concert.

The final project is to be completed during your last year in residence. A solo recital and appropriate scholarly paper are required in all areas. In addition, a major operatic performance is required in the area of opera. Conducting students present an on-campus program, or a substantial portion thereof, with one of the department’s performance organizations. The scholarly paper should be equivalent to a graduate seminar paper (15 to 25 pages in length) and should be concerned with performance problems which can be elucidated through research and analysis. The final version of the scholarly paper, with the accompanying recital program, must be submitted to the department in the format of a thesis.

The language requirement and a majority of the coursework must be completed before you submit the final project proposal and request for an M.F.A. committee. The proposal, which is to include the complete recital program and an abstract of the scholarly paper, should be submitted by the Fall Quarter of your last year 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 division or area, 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-201C, 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, 152A, 153A, 153B, 153C, 281A through 288. Electives are to be selected from courses 140A, 140B, 140C, M180, M181, 187, 254A, 254B, 255, 280.

**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 examinations are 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; discussion, two hours. Designed for nonmusic majors. 1A. Introduction to the elements of music: pitch and rhythm symbols, meter and time signatures, notation, scales, intervals, and chord structure. 1B. Prerequisite: course 1A. Diatonic harmony; four-part writing, including inversions, sevenths, secondary dominant, and modulations; organization of melody and accompaniment; simple analysis; sight-singing and ear training. Mr. Henderson, Ms. Karp

2A-2B. Introduction to the Literature of Music. Lecture, four hours; laboratory, one hour. Course 2A is not prerequisite to 2B. Designed for nonmusic majors. 2A. The technical and formal principles of music literature through the mid-18th century. 2B. Music literature from the mid-18th century to the present. Mr. Dean

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 musicality, theory, and terminology. Mr. Anderson

4A-4B-4C. Basic Musicianship (2 units each). Laboratory, three hours; Class instruction in elementary ear training and keyboard skills. Miss Sheffield

5A-5B-5C. Fundamentals of Sound and Music of the World (2 units each). Prerequisite: consent of instructor. The acoustical makeup of sound (pitch, tone, quality); tunings and scales; harmony and polyphony; rhythm and meter; notational systems; relationships of music to culture. Laboratory includes ear training and instrumental techniques. Mr. Hutchenson, Mr. Racy

6A-6B. Graduate Review of Music History and Analysis (2 units each). Prerequisite: graduate standing. Designed to help entering graduate students remedy entry 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 entry deficiencies, to be cleared by examination. May be repeated. S/U grading.

10. Computer-Assisted Sight-Singing Laboratory (2 units). Lecture, two hours; laboratory, one hour. Prerequisites: course 1A or equivalent, consent of instructor. An individualized, self-instructional approach for the development of sight-singing skills through the use of a music computer, keyboard instrument, and linear program learning.

11A-11F. Musician ship (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 element- ary 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 diatonic dictation, element- ary four-part bass playing, keyboard score reading up to four parts, and rhythmic exercises. 11D. Sight-singing, two-part dictation, figured bass playing, score reading of chamber scores, and rhythmic exercises. 11E. Sight-singing, two-part dictation, figured bass notation, score reading of passages with transposing instruments, and rhythmic exercises. 11F. Sight-singing of chromatic melodies, two-part dictation, chromatic figured bass playing, keyboard reading of or- chestral scores, and rhythmic exercises.

12A-12B. Counterpoint (2 units each). Lecture, four hours. Corequisites: courses in the 11A-11F series. 12A. Prerequisites: aptitude, achievement, and piano skills tests. 18th-century modal counterpoint in two parts, including the writing of melo- dies. 12B. Prerequisites: courses 12A, 14B. 18th-century modal counterpoint in two parts, including the writing of in- ventions.

14A-14B-14C. Common Practice Harmony (2 units each). Lecture, four hours. Series (14A through 14D) must be taken in sequence. Corequisites: courses in the 11A-11F series. 14A. Prerequisites: aptitude, achievement, and piano skills tests. Common practice harmony using diatonic, dominant and secondary dominant, and simple modulations. 14B. Prerequisite: course 14A with a grade of C (2.0) or better. Common practice harmony through extended dominants and diminished sev- enths in all inversions, along with modulations to all diatonic keys. 14C. Prerequisite: course 14B with a grade of C (2.0) or better. Chromatic harmony, includ- ing augmented sixth chords, Neapolitan sixths, and altered chords, along with complex modulations.

14D. Modern Harmony (2 units). Lecture, four hours. Prerequisite: course 14C with a grade of C (2.0) or better. Corequisite: course in the 11A-11F series. 20th-century practices, including nonfunction- al harmony, pan-diatonicism, polypolyphony, and serialism.

20A. Music Theory I. Lecture, two hours; discussion, six hours. Prerequisite: passing score on departmental examination. Not open for credit to students with credit for both courses 11A and 12A (with grades of C or better). Theory: theory of species counterpoint through the fifth species; description of diatonic and inversions. Mie- sician ship: interval recognition; fixed do so lege of diatonic melodies; one-part dictation of diatonic melodies; two-part dictation of simple compact, note- against-note melodies; simple rhythmic dictation; use of treble, alto, and bass clefs. Mr. Ashforth and the Staff

20B. Music Theory II. Lecture, four hours; discussion, four hours. Prerequisite: course 20A with a grade of C (2.0) or better, consent of instructor. Not open for credit to students with credit for both courses 11B and 14A (with grades of C or better). Theory: diatonic harmony through secondary dominants and diminished sevenths; modulations to the dominant and relative keys; by-class chords; style composition in baroque dance forms; introduction to figured bass notation. Mie- sician ship: harmonic dicta- tion, including secondary dominants and diminished sevenths; not modulations; relative advanced two- part dictation; chromatic one-part dictation; more advanced sight-singing; keyboard (three-part open score in homophonic textures, introduction to tenor clef). Mr. Ashforth and the Staff

20C. Music Theory III. Lecture, four hours; discussion, four hours. Prerequisites: course 20B with a grade of C (2.0) or better, consent of instructor. Not open for credit to students with credit for both courses 11C and 14B (with grades of C or better). Theory: chromatic harmony including development of tonality, 1800 to 1850; appropriate analysis and style compo- sition. Mie- sician ship: advanced sight-singing; two- part contrapuntal dictation; keyboard harmony (har- monic 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 14A, respectively, with grade of C (2.0) or better. Chromatic harmony, including development of tonality, 1800 to 1850; appropriate analysis and style composition. 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 perfor- mance 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 and a half unit for Spring. May be 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. Ms. Kamei, Mr. Oliver

60D. String Bass. Mr. Zibits, Ms. Neill

60E. Harp. Mr. Gray

60F. Classical Guitar. Mr. Norman, Mr. Yates

60G. Viola da gamba. Ms. Marcus

60L. Lute. Mr. Stokes

61A. Oboe. Ms. Northcutt, Mr. Gray

61B. Oboe. Ms. Northcutt

61C. Clarinet. Mr. Steinmetz, Mr. Gray

61D. Bassoon. Mr. Tzerko

61E. Saxophone. Mr. Tzerko

62A. Trumpet. Mr. Guarneri

62B. French Horn. Mr. Todd

62C. Trombone. Mr. Booth

62D. Tuba. Mr. Johnson

63. Percussion. Mr. Peters

64A. Piano. Mrs. Harris-Heggie, Mr. Tzerko, and the Staff

64B. Organ. Mr. Harmón

64C. Harpsichord. Ms. Karp

65. Voice. Mr. Mussard and the Staff

80A-80N. Performance Organizations (1 unit each). Prerequisite: audition. Limited to nonmusic majors (courses 90A-90N are for music majors). May be repeated for credit. P/NP grading.
80A. Concert Choir. Laboratory, four hours. A select mixed ensemble of 50 to 60 voices performing choral music appropriate for a concert choral ensemble, with emphasis on music after 1700. Mr. Hatcher

80B. Collegiate Chorus. Laboratory, two hours. A nonaudition mixed chorus of 50 to 150 voices performing medium- and concert-length choral works from the baroque to the present. Collegiate Chorus performs only as part of the “Choral Union,” a large chorus made up of all of the choral ensembles. Mr. Hatcher, Mr. Weiss

80C. Chamber Singers. Laboratory, three hours. A select mixed ensemble of 16 to 20 voices performing chamber choral music of all periods, with emphasis on music of the Renaissance and baroque. Mr. Hatcher, Mr. Weiss

80D. Opera Workshop. Laboratory, three hours.

80E. Symphonic Orchestra. Laboratory, three hours.

80F. Symphonic Band. Laboratory, three hours.

80G. Wind Ensemble. Laboratory, three hours.

80H. Collegium Musicum. Laboratory, three hours.

80J. Men’s Glee Club. Laboratory, three hours. A select male chorus of 40 to 45 voices performing male choral music of all periods, with emphasis on popular and folk arrangements. Mr. Hatcher, Mr. Weiss

90A. Concert Choir. Laboratory, three hours. A select female chorus of 45 to 55 voices performing treble choral music of all periods, with emphasis on music after 1750. Mr. Hatcher

90L. Musical Comedy Workshop. Laboratory, three hours.

90M. Marching and Varsity Bands. Laboratory, three hours.

90N. Jazz Ensemble. Laboratory, three hours.

91A-91Z. Ethnomusicology Performance Organizations (No credit). Performance, three hours. Prerequisite: consent of instructor. Limited to nonmusic majors. Courses 91A-91Z are for nonmusic majors. Music majors may enroll in only one performance organization per quarter. May be repeated. 91A. Music and Dance of the American Indian; 91B. Music and Dance of Bali; 91C. Music and Dance of Bulgaria; 91D. Music and Dance of China; 91E. Music and Dance of India; 91F. Music and Dance of Japan; 91G. Music and Dance of Korea; 91H. Music of Java; 91J. Music of Korea; 91K. Music of Mexico; 91L. Music of Persia; 91M. Music of Thailand; 91N. Music of the Near East; 91P. Music of Afro-Africans; 91Q. Open Ensemble.

Upper Division Courses

100A-100B. Music in American Education (2 units each). Lecture, three hours; laboratory, one hour. Prerequisites: courses 11A-11F, 12A-12B, 14A-14C, 14D, 25A-25B-25C, 193, 195. Course 100A is prerequisite to 100B; course 11A is prerequisite to 100C. A critical study of principles and practices in music education, historical and current, at elementary and secondary levels. Each course may be taken independently for credit. 100A. General Music; 100B. Choral Music; 100C. Instrumental Music.

Mr. Anderson, Mr. Hatcher, Miss Hooper

101. Advanced Keyboard Harmony and Score Reading. Prerequisite: course 11F or consent of instructor. Intensive individual work in keyboard harmony and the reading of chamber and orchestral scores. May be repeated once for credit.

102. Orchestration. Lecture, three hours. 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

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. Techniques of tonal coherence studied through analysis and compositional exercises in the styles of given periods. Ms. Girton

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 the given periods. Ms. Girton

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. Des Marais

106A. instrumentation. Lecture, three hours. Prerequisites: courses 11A-11F, 12A-12B, 14A-14C, 14D. Not open to students with credit for course 106A prior to Fall Quarter 1984. Changes and characterisitics of instruments, exercises in scoring.

Mr. Travis

106B-106C. Advanced Orchestration. (Formerly numbered 106B-106C) Discussion, three hours. Prerequisites: course 106B is prerequisite to 106C and is not open for credit to students with credit for course 106A prior to Fall Quarter 1984. Scoring and analysis for ensembles and full orchestra.

Mr. Travis

107A-107B-107C. Composition. Lecture, three hours. Prerequisites: courses 11A-11F, 12A-12B, 14A-14C, 14D. Course 107A is prerequisite to 107B, which is prerequisite to 107C. Designed for students specializing in choral and instrumental composition. Vocal and instrumental materials; the study of instrumental composition in the smaller forms, including style composition and 20th-century techniques.

Mr. Reale and the Staff

108. Acoustics. Lecture, three hours. Prerequisite: consent of instructor. The interrelationship of acoustical and musical performance, acoustic analysis, acoustical research, and dissonance and consonance techniques. Course 108 is prerequisite to 109A. Designed for the nonmusic major, particularly the elementary education student. A study of music literature applicable to elementary school programs. 113A. Emphasis on listening analysis, movement, and improvisation. 113B. Emphasis on class performance — music reading, sight-singing, and ear training.

Mr. Kendall

110A-110B. Composition for Motion Pictures and Television (2 units each). Prerequisites: courses 11A-11F, 12A-12B, 14A-14C, 14D, or consent of instructor. Course 108A is prerequisite to 108B, which is prerequisite to 109C. Composition of music for the dramatic and documentary film in cinema and television. Techniques used in recording and editing.

Mr. Raksin

112A-112B. Practical Scoring. Lecture, two hours; laboratory, two hours. Prerequisites: courses 11A-11F, 12A-12B, 14A-14C, 14D, and 22A-22B-22C, or consent of instructor. Emphasis on practical problems in scoring for small and large ensembles at various educational levels. 112A. Band Scoring; 112B. Choral Scoring; 112C. The Staff.

113A-113B. Music Literature for Children. Lecture, three hours; laboratory, one hour. Prerequisites: courses 1A and 2A, or consent of instructor. Course 113A is not prerequisite to 113B. Designed for the nonmusic major, particularly the elementary education student. The study and practice of conducting as related to the study of choral and instrumental music.

Mr. Kendal

117A-117B. Study and Conducting of Choral and Instrumental Literature (2 units each). Lecture, three hours. Emphasis on analysis of choral and instrumental literature through conducting. Prerequisites: courses 11A-11F, 12A-12B, 14A-14B. Fundamental techniques, including basic skills, techniques, analysis and repertoire.

Mr. Henderson

118A-118B. Advanced Study and Conducting of Choral and Instrumental Literature (2 units each). (Formerly numbered 118.) Lecture, one hour; laboratory, two hours. Prerequisites: courses 11A-11F and 117A-117B, or consent of instructor. Detailed investigation of choral and instrumental practices, and rehersal techniques. Each course may be repeated once for credit. 118A. Choral; 118B. Instrumental.

Mr. Hatcher, Mr. Krachmalnick, Mr. Lee

120A. Music Theory IV. Lecture, four hours; discussion, four hours. Prerequisites: course 20C with a grade of C (2.0) or better, passing score on departmental first-year examination. Not open for credit to students with credit for both courses 11D and 12B (with grades: S, A, B, C) prior to 1967. Choral and instrumental repertoire including choral prelude; part-writing; exposition and first modulation of a three-part invention; canonic principles; analysis of inventions, canons, and fugues. Musicianship: sight-singing of extended harmonic melodies; advanced harmonic dictation (diatonic and chromatic); keyboard harmonization of modulating melodies; elementary score reading.

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 both courses 11E and 14C (with grades of C or better). Theory: advanced chromatic harmony including development of harmony from 1850; analytical projects; style composition. Musicology: advanced scoring; 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 (2.5) or better; consent of instructor. Not open for credit to students with credit for both courses 11F and 14D (with grades of C or better). Theory: advanced chromatic harmony including development of harmony from 1850; analytical projects; style composition. Musicology: advanced scoring; advanced harmonic dictation; preparation for the departmental examination. Mr. Ashforth and the Staff

126A-126B-126C. History and Analysis of Music II. Lecture, four hours; laboratory, one hour. Prerequisites: courses 11A-11F, 12A-12B, 14A-14D, 14C, 26A-26B-26C. Course 11F may be taken concurrently with course 126A. Course 126A is prerequisite to 126B, which is prerequisite to 126C. The history and literature of music from 1750 to the present, with emphasis on analysis of representative works of each style period. Material of analysis is taken from works of local style of changing techniques of composition. C127A-C127F. Selected Topics in the History of Music. Lecture, three hours. Prerequisites to all courses: courses 11A-11F, 12A-12B, 14A-14D, 14C, 26A-26B-26C; in addition, 16A is prerequisite to C127A, 16B to C127B, 16C to C127C, and 126C is prerequisite to C127F. Designed as a prosemia 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 2A or consent of instructor. Survey of art music from Colonial times to the present. Mr. Loza

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. C131A. Medieval and Renaissance music of the Caribbean Isles; C131B. Hispanic South America. Mr. Loza

132A-132B. Development of Jazz. Lecture, three hours; laboratory, one hour. Prerequisite: course 2A or consent of instructor. Course 132A is prerequisite to 132B. An introduction to jazz; its historical background and its development in the United States. Mr. Pinckney

133. Bach. Lecture, two hours; laboratory, two hours. The life and works of Johann Sebastian Bach. Mr. Harmon

134. Beethoven. Lecture, two hours; laboratory; two hours. The life and works of Ludwig van Beethoven. Mr. Dean

135A-135B-135C. History of the Opera. Lecture, four hours; laboratory, one hour. Prerequisites: course 135A or consent of instructor. Course 135A is prerequisite to 135B. C135A. Opera of the Baroque and Classical Periods; C135B. Opera of the Romantic Period; C135C. Opera of the 20th Century.

137A-137B. Psychology of Music. 137A. Designed for nonmajors. An introduction to the psychology of music; historical background and the broad field of study, including music perception; instrument structures and testing; the relationship of music to society and its relationship to other arts; consideration also to scale structure, instruments, musical forms, and performance standards. 137B. Musical Cultures of Europe and the Americas; 140B. Those of the Near East and Africa; 140C. Those of South Asia, Southeast Asia, and the Far East.

141. Survey of Music in Japan. Lecture, three hours. 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.

142A-142B. Folk Music of Eastern Europe and the Mediterranean. Prerequisite: consent of instructor. Course 142A is prerequisite to 142B. 142A. The forms and styles of traditional music in Eastern Europe (including the Balkans). Historical and ethno-cultural aspects of the music illustrated by numerous recorded examples from the major cultural subdivisions of the area. 142B. The forms and styles of traditional music in the Mediterranean basin, particularly those in which interaction between Europe and the Middle East has had a direct and significant influence. 143A-143B. Music of Africa. Lecture, three hours; laboratory, two hours. 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. Ms. DjeDje

144. American Popular Music. Lecture, three hours; laboratory, two hours. Recommended prerequisite: course 1A or equivalent. A survey of the history and characteristics of American popular music; 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.

145. History of Chinese Opera. Prerequisite: consent of instructor. A survey of dramatic elements in Chinese operas, incorporating singing, dance, and acrobatics. Emphasis on traditional and modern Peking opera and its relation to Cantonese and other genres. Mr. Lui

146A-146B-146C. Studies in Chinese Instrumental Music. Lecture, three hours; laboratory, one hour. Prerequisite: consent of instructor. Course 146A is prerequisite to 146B. 146A. A study of the literature, major sources, paleography, theory, and philosophy of the Ch'in and Pi P'a, including transcription and analysis. 146B. A comprehensive study of Chinese musical instruments, classification of specific musical notation, and use in the context of Chinese society. 146C. A study of the rules of improvisation, particularly as related to the Shanghai style, as realized on the Pi P'a, Ti, Er Hu, San Shien, Sheo, and related instruments. Mr. Lui

147A-147B. Music of China. Lecture, three hours; laboratory, two hours. Prerequisites: courses 140A-140B-140C or consent of instructor. 147A. History and theory of the music of China, including a survey of various provinces. Instrumental techniques. 147B. Prerequisite: course 147A. Introduction to various national systems. Analysis of representative styles. Mr. Lui

148. Folk Music of South Asia. Prerequisite: consent of instructor. An illustrated survey of some of the regional genres, styles, and musical instruments found in India and Pakistan, with special reference to the religious, social, economic, and cultural context of their development. Mr. Lui

149. The Anthropology of Music. A cross-cultural examination 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. Mr. Rice

151A-151B. History of Musical Performance Practices. Prerequisites: courses 11A-11F, 12A-12B, 14D, 26A-26B-26C. A general survey of musical instrumentation from the earliest stages through the point of stylistic authenticity. 151A. Medieval through Baroque; 151B. Classic through 20th Century. Mr. Harmon

152. Survey of Classical Music in India. An examination of the melodic, metric, and formal structure of Indian classical music in the context of the religious, sociocultural, and historical background of the country. Mr. Jarzabek

153A-153B-153C. Music of the American Indians. American Indian music studied within the broader context of styles, cultural values, and sources. Films, recordings, lectures, and limited group singing and dancing, relating the music to the culture producing it. 153A. Musics of the Eastern, California-Yuman, Great Basin, and Northwest Coast Areas; 153B. Musics of the Athabaskan, 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. Mr. Siva

154A-154B. The Afro-American Musical Heritage. (Same as Folklore 154A-154B.) Prerequisites: course 1A or consent of instructor. Course 154A is prerequisite to 154B. A study of Afro-American rhythm, dance, music, field hollers, work songs, spirituals, blues, and jazz; the contrast between West African, African-American, and Afro-Brazilian musical traditions.

155. Audio Technology for Musicians. Lecture, two hours; laboratory, three hours. Prerequisites: courses 11C, 14B, consent of instructor. The theory and practice of sound engineering in relation to concert and studio recording; fundamental aspects of recording equipment, recording techniques, analog and digital synthesizers and ancillary equipment, invention and realization of materials. Mr. Bourland

157. Music of Brazil. Prerequisites: consent of instructor, some knowledge of Portuguese. History of ethnomusicology of Brazil, with some reference to Portuguese antecedents.

158. New Orleans Jazz. Lecture, three hours; discussion, two hours. 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 political factors, local musical traditions, and stylistic analysis.

159. The Development of Rock. Prerequisite: consent of instructor. The history of rock from the 1950s to the 1970s. An in-depth survey of stylistic trends illustrated by pertinent examples and accompanied by extensive musical analysis.

160A-165. Undergraduate Instruction in Performance for the Performance Specialist. Limited to upper division music majors who have been accepted by and attending the performance specializations. 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. Units are distributed on the basis of one unit for each Fall and Winter Quarter and for each quarter of the Spring Quarter. Grades are assigned by the applied instructor in Fall and Winter and by jury examination in Spring. May be repeated for credit.

160A. Violin. Ms. Kamei, Mr. Treger

160B. Viola. Ms. Kamei

160C. Cello. Mr. Oliver

160D. String Bass. Mr. Zibits

160E. Harp. Ms. Neil

160F. Classical Guitar. Mr. Norman, Mr. Yates
180. Viola da gamba. Mr. Marcus
160. Lute. Mr. Stokes
161A. Flute. Mr. Northcutt
161B. Oboe. Mr. Gray
161C. Clarinet. Mr. Steinmetz
161D. Bassoon. Mr. Gray
161E. Saxophone. Mr. Guarnieri
162A. Trumpet. Mr. Todd
162B. French Horn. Mr. Booth
162C. Trombone. Mr. Johnson
162D. Tuba. Mr. Peters
163. Percussion. Mr. Peters
164A. Piano. Mrs. Harris-Heggie, Mr. Tzerko, and the Staff
164B. Organ. Mr. Harmon
164C. Harpsichord. Ms. Karp
165. Voice. Mr. Mussard and the Staff
C175. Electronic Music Composition. (Formerly numbered C165B.) Lecture, three hours: studio, three hours. Prerequisites: courses 156, advanced experience and accomplishment in serious composition (art music), consent of instructor. Not open for credit to students with credit for former course C156B. May be repeated for credit. 156B, 156C, 156D, 156E, 156F. Recommended for music majors in all specializations. The development of music education in the United States according to established schools of thought. May be concurrently scheduled with course C156. Additional assignments, as well as evidence of a greater depth of study, required of graduate students. Mr. Schwadron
187. Problems in Musical Aesthetics. Lecture, three hours. Prerequisites: courses 11A-11F, 12A-12B, 14A-14C, 14D, 26A-26B-26C. Recommended for students in all music specializations. Critical approach to musical problems of aesthetic analysis, description, values, theories, including both Western and non-Western considerations. Mr. Schwadron
188A-188F. The Master Composer. Lecture, three hours: laboratory, one hour. A survey of the works of an outstanding composer in Western art music, considered within the context of his age. Each course may be repeated for a maximum of 16 units. 188A. Medieval Ages; 188B. Renaissance; 188C. Baroque; 188D. Classic; 188E. Romantic; 188F. 20th Century. Mr. Schwadron
189. The Symphony. Lecture, three hours; laboratory, one hour. A survey of symphonic literature from Haydn through the 20th century. Mr. Kendall
C190A-C190B. Proseminar in Ethnomusicology. Lecture, three hours. Prerequisites: courses 140A-140B-140C. May be concurrently scheduled with courses C290A-C290B, or consent of instructor. Ms. Loza, Mr. Racy
C191. Proseminar in Systematic Musicology. Lecture, three hours. Prerequisite: consent of instructor. An introduction to the broad field of systematic musicology, including basic readings in aesthetics philos- ophy, anthropology, sociology, and ethnomusicology, psychology, and acoustics. May be concurrently scheduled with course C291. P or NP or letter grading. Mr. Kendall
193. Proseminar in Music Education (2 units). Prerequisites: corequisites: course 11A, sophomore standing. A historical and philosophical introduction to the field. Mr. Schwadron
195. Field Studies in Music Education (2 units). Discussion, two hours; laboratory, two hours. Prerequisite: course 193. Discussion and observation of current research, practices and problems. Mrs. Hast
199. Special Studies in Music (2 or 4 units). Hours to be arranged. Prerequisites: senior standing, consent of instructor and department chair, 3.0 GPA. Individual studies in music resulting in a research project. May be repeated for a maximum of eight units. Mr. Hutchinson and the Staff
Graduate Courses
250A. Research Methods and Bibliography (6 units). Lecture, three hours. Prerequisite: graduate standing. A survey of general bibliographic material in music.
260B. Research Methods and Bibliography (6 units). Lecture, three hours. Prerequisite: course 200. Guided writing, utilizing specific bibliography, in systematic musicology, ethnomusicology, and music education.
251A. General Topics. (Formerly numbered Zarlino; 251B. Music Theory from Rameau to the Present. Mr. Reaney, Mr. Stevenson
215A. Orchestration; 251C. Specific Styles; 215D. Compositional Analysis. Mr. Bourland, Ms. Giron
252A-252B-252C. 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.
253. Seminar in Notation and Transcription in Ethnomusicology (6 units). Lecture, three hours. Prerequisites: courses 140A-140B-140C and 190A-C190B, or consent of instructor. Ms. De Vile
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, data- 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 190A-C190B, or consent of instructor. Ms. De Vile
256. Seminar in Musical Form (6 units). Lecture, three hours. Prerequisites: courses 126A-126B-126C. The analysis of structural organizations in music.
257. Seminar in Music of the United States and Canada. Seminar, three hours. Prerequisite: course 130.
258. Seminar in Folk Music. (Same as Folklore M258.) Seminar, three hours. Prerequisite: consent of instructor. Mr. Porter
260A. Historical and Philosophical Foundations of Music Education. Lecture, three hours. Prerequisites: partial 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 C225. Mr. Schwadron
C225. 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 of major proportions at least seven minutes in duration. May be concurrently scheduled with course C176. Mr. Bourland
261A-261F. Problems in Performance Practices. Seminar, three hours. Prerequisites: courses 151A-151B or consent of instructor. An investigation of primary source readings in performance practices 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. Contemporary.

265A-266B. Seminar in Music of the 20th Century. Seminar, three hours. Prerequisites: courses 126A-126B or consent of instructor. Discussion and analysis of the major works of the 20th century before World War II. Emphasis on the study of groups of works written at the same time in history. 266B. Discussion and analysis of the major works of the 20th century after World War II. Emphasis on the study of groups of works written at the same time in history.

269. Seminar in the History of European Instruments. Seminar, three hours. Mr. Hammond

270A-270G. Seminar in Music Education (6 units each). 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. Prerequisite: consent of instructor. May be repeated for credit.

273. Seminar in Acoustics of Music (6 units). Lecture, three hours. Prerequisite: 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 107 or consent of instructor. May be repeated once for credit. Mr. Hutchinson

276. Seminar in Music Perception, Learning, Cognition, Memory, Therapy, Affect, Meaning, and Measurement. Seminar, three hours. Prerequisite: consent of instructor. May be repeated for credit. Mr. Kendall

279. Seminar in the Psychology of Music (6 units). Lecture, three hours. Prerequisite: course 164 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. Schwadron

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. May be repeated for credit. 281A. 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 is 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 Turkey, with particular reference to their historical and cultural background, sources on music theory and aesthetics, instruments, style, technique of improvisation, and contemporary practice. Concurrent participation in the Near East performance group is 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 of the music of the Near East, the main stylistic 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 is required. Mr. Racy

285. Music of Tibet. Seminar, three hours. Prerequisite: consent of instructor. A study of the traditional music of ethnic Tibet as ritual, art, and folklore in its cultural matrix and its relationship with other arts. Topics include traditional instruments and ensembles and studies in formal and stylistic analysis.

286A-286B. Classical Music of India. Seminar, three hours. Prerequisite: consent of instructor. An intensive 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 form, styles, techniques, and musical instruments. Concurrent participation in the Indian performance group is required. Mr. Jairazbhoy


290. Seminar in Ethnomusicology (6 units). Lecture, three hours. Prerequisites: courses 140A-140B-140C, C190A-C190B, 200A, 200B. May be repeated for credit.

C290A-C290B. Seminar in Ethnomusicology. Lecture, three hours. Prerequisites: graduate standing, consent of instructor. Basic literature and schools of thought in the field of ethnomusicology, including problems related to the study of Afro-American music. Emphasis on the relationship of problems to representative styles of Afro-American music. S/U or letter grading. Ms. Loza, Mr. Racy

C291. Seminar in Systematic Musicology. Lecture, three hours. Prerequisite: consent of instructor. An introduction to the broad field of systematic musicology, including basic readings in aesthetics/philosophy, anthropology, sociology, and ethnomusicology; psychology; and acoustics. May be concurrently scheduled with courses C190A-C190B. Additional assignments, as well as evidence of a greater depth of study, required of graduate students. Mr. Anderson, Miss Hooper

370. Music in General Education (2 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.

379. Preparation for Master's Comprehensive Examination or Ph.D. Qualifying Examinations (2 or 4 units). S/U grading.

596A. Directed Individual Studies in Orchestration 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. course requirements.

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.

Related Courses in Other Departments

Dance C120. Music as Dance Accompaniment. 211. Music for Dance

Folklore and Mythology C101. Anglo-American Folk Song

M123B. Finnish Folk Song and Ballad

M243A. The Ballad

M243B. Problems in Ballad Scholarship
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, film, and television 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, Theater 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.

**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) providing 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 68 upper division units taken in the junior and senior years. These include Motion Picture/Television 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, 106F, 106G, 110A; one of the following writing courses: 131, 133, 135 (eight units), 181B; two of the following film courses: 107, 110B, 112, 113, 114, 116; one additional history or criticism course from the above lists; six motion picture/television elective courses. 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 on each other’s projects. In addition, the department reserves the right to hold for its own purposes examples of any work done in classes and to retain for distribution such examples as may be selected.

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 Theater 130A, 140A, 141A, 142A, 160 or 161A*, 170, C172 (eight units); 28 units of approved upper division theater electives. Through certain of these required courses, you may be responsible for completing specific production assignments related to production activity of the theater curriculum during each quarter in residence.

**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 specialties: (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 (Motion Picture/Television Division, 2412 Melnitz Hall, Theater, Film, and Television, UCLA, Los Angeles, CA 90024-1622). 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.

*If course 161A is used to complete the requirement, 30 units of electives are required.
Master of Arts Degree

Motion Picture/Television Specialty

Admission
You must submit a sample of scholarly or critical writing, a statement of purpose, and other information (resume, Graduate Record Examination scores, etc.) that may be required to establish the quality of your work in the specialization.

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.

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. 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. You must present the adviser and the committee with a prospectus of the thesis and a petition to advance to candidacy. Both are used as the basis for approval.

If your thesis fails to pass the committee, you may present a rewritten version for approval. The number of times a thesis may be presented depends on assessments made by the committee.

Comprehensive Examination Plan
If you elect this plan, you must complete an examination consisting of a 50-page research paper which may be associated with four units of Theater 596A, a one-hour oral defense of the paper, and a two-part, six-hour written examination covering theater history and production practice. The examination normally occurs during your final quarter in residence, at which time you should have advanced to candidacy.

Master of Fine Arts Degree

Motion Picture/Television Specialty

NOTE: The department has under review the minimum course requirements for the M.A. theater program. Students admitted for the 1987-88 academic year and thereafter are advised to check with the department for descriptions of such changes.

Admission
Your must submit a sample of scholarly or critical writing, a statement of purpose, and other information (resume, portfolio, script interview, etc.) that may be required to establish the quality of your 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 250% 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 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, 245, and C272 (a two-unit course to be taken three times). After consultation with your adviser, you select seven other courses, including one graduate course in theater history (205A, 205B, or 205C), one graduate course in theater production theory (240, 241, 290A, or 290B), and five 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 obtain approval of a subject dealing with the history, aesthetics, criticism, or techniques of the theater and a general plan of investigation from the M.A. committee. 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. You must present the adviser and the committee with a prospectus of the thesis and a petition to advance to candidacy. Both are used as the basis for approval.

If your thesis fails to pass the committee, you may present a rewritten version for approval. The number of times a thesis may be presented depends on assessments made by the committee.
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 (72 units) is required, five of which must be at the graduate level. At least three courses must be in the 200 series in film history, aesthetics, or structure. Course requirements for each specialization are available in the Student Affairs Office, 2412 Melnitz Hall. Only 16 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 598A and four units of course 598B 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, 2412 Melnitz 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

NOTE: The department has under review the minimum course requirements for the M.F.A. theater program. Students admitted for the 1987-88 academic year and thereafter are advised to check with the department for descriptions of such changes.

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 résumé 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 at the graduate level. Only 16 units of Motion Picture/Television 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 comprehensive plan is satisfied by fulfilling a series of creative projects appropriate to your specialization. On completion of the final creative project or last quarter in residence, 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 are 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, and (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, 2412 Melnitz Hall, UCLA, Los Angeles, CA 90024-1622.

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 completion of the dissertation, may be required at the option of the dissertation committee.

**Theater Specialty**

NOTE: The department has under review the minimum course requirements for the Ph.D. theater program. Students admitted for the 1987-88 academic year and thereafter are advised to check with the department for descriptions of such changes.

**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 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 and critical survey, with examples, of the American motion picture both as a developing art form and as a medium of mass communication. May be repeated once for credit with 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 critical, historical, 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 context and the social dimensions of film structure, aesthetics, and language.

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. Course 106D is not prerequisite to 106E. An interdisciplinary and comparative approach to 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 context and the social dimensions of film structure, aesthetics, and language.

107. Experimental Film. (Formerly numbered Theater Arts 107.) Lecture/screenings, eight hours; discussion, one hour. A study and analysis of unconventional developments in the motion picture.

108. History of Documentary Film. (Formerly numbered Theater Arts 108.) Lecture/screenings, eight hours; discussion, one hour. The philosophy of the documentary approach in the motion picture. The development of critical standards and an examination of the techniques of teaching and persuasion used in selected documentary, educational, and propaganda films.
110A. History of Broadcasting. (Formerly numbered Theater Arts 110A.) Lecture, viewing, six hours; discussion, seven hours. A critical and survey of broadcasting here and abroad. Consideration of the social responsibilities and educational implications of broadcasting.

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 an analysis of contemporary criticism of the broadcast media.

110C. World Media Systems. Lecture viewing, four hours; discussion, one hour. Prerequisites: course 110A or equivalent, upper division standing, consent of instructor. Global analysis of internal and external broadcasting services, with emphasis on their motives, origins, technologies, and programming. Special attention to political, economic, and regulatory constraints and common world media issues.

111. Film Distribution and Exhibition. (Formerly numbered Theater Arts 111.) Lecture, three hours; laboratory, to be arranged. History and theory of organization of theatrical and nontheatrical distribution and exhibition of motion pictures and analysis of their interpersonal effects and their social impact. Further exploration of the role of the medium in modern American society. Students may repeat the course for credit with departmental consent.

112. Film and Social Change. (Formerly numbered Theater Arts 112.) Lecture screenings, eight hours; discussion, one hour. The development of documentaries and dramatic films in relation to and as a force in social change.

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 era) with emphasis on major filmmakers and themes. May be repeated once for credit.

115. Undergraduate Production 1 (8 units). (Formerly numbered Theater Arts 118.) Lecture, four hours; laboratory, to be arranged. Prerequisite: consent of instructor. Projects in acting for television writing. Original motion picture/television majors. Limited to motion picture/television majors. Not open for credit.

126A. Advanced Acting for Television and Motion Pictures. (Formerly numbered Theater Arts 126A.) Laboratory, six hours. Prerequisite: Theater Arts 20 or consent of instructor. Projects in 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 training; videotaping and playback of straight sportscasts, play by play, color, interviews, commentary, and editorials. Students are required to write original material for all exercises. Extensive training in the technical aspects of sportscasting; use of the remote truck. Field exercises. 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, to be arranged. Prerequisite: course 166, consent of instructor. Proseminar in the craft of film aesthetics. The visual revolution. Biophysical nature of perception. Lens, perspective, graphic styles. Principles of composition; screening, editing. Problems of time 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 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 (4 or 8 units). (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 for a maximum of 12 units.

133. Script Analysis. (Formerly numbered Theater Arts 133.) Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. Limited to motion picture television majors. The considerations and principles involved in the evaluation of screenplays written for motion picture or television production.

134A. Motion Picture/Television Writing. (Formerly numbered Theater Arts 134A.) Discussion, three hours. Prerequisite: consent of instructor. Limited to motion picture television majors. Not open for credit to students with credit for former course 134. Problems in motion picture television writing.

134B. Fundamentals for Motion Picture/Television Writing (2 units). (Formerly numbered Theater Arts 134B.) Lecture, three hours; laboratory, four hours. Prerequisite: consent of instructor. Limited to motion picture television majors. Not open for credit to students with credit for former course 134. Problems in motion picture television writing. Previously numbered Theater Arts 134C. May be repeated for a maximum of 12 units.

135. Advanced Motion Picture/Television Writing (8 units). (Formerly numbered Theater Arts 135.) Discussion, three hours. Prerequisites: courses 134A and consent of instructor. A course in motion picture television writing. Open only for students enrolled in course 134A. An examination of screenwriting fundamentals: structure, character and scene development, conflict, locale, theme, history of drama. Review of authors such as Aristotle, Egi, Bentley.

153C. Color Cinematography. (Formerly numbered Theater Arts 153C.) Lecture, three hours. Prerequisite: consent of instructor. History and theories of color photography, with emphasis on present-day methods in 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. Introduction to the artistic and technical problems of film editing, with practical experience in the editing of film. May be repeated twice for credit.

164. Direction for Motion Pictures. (Formerly numbered Theater Arts 164.) Laboratory, to be arranged. Prerequisites: course 166, consent of instructor. A study of the problems faced by a motion picture director and various approaches to their solution. May be repeated twice for credit.

165. Direction for Television. (Formerly numbered Theater Arts 165.) Laboratory, six hours. Prerequisites: courses 134A, 166, 185, consent of instructor. Instruction and supervised exercises in television direction, with emphasis on the creative use of cameras, sound, composition, and communication with those in front of and behind the camera. May be repeated twice for credit.

166. Undergraduate Production 1 (8 units). (Formerly numbered Theater Arts 166.) Lecture, four hours; laboratory, eight hours; other, four hours. Prerequisite: consent of instructor. Limited to and required of motion picture television majors. The completion of one or more short films, including their writing, production, and required of motion picture television majors. The completion of one or more short films, including their writing, production, and required of motion picture television majors. The completion of one or more short films, including their writing, production, and required of motion picture television majors. The completion of one or more short films, including their writing, production, and required of motion picture television majors.

176A-176B. Undergraduate Production II (8 units each). (Formerly numbered Theater Arts 176A-176B.) Discussion, three hours; laboratory, to be arranged. Prerequisites: course 166, consent of production faculty. Limited to motion picture television majors. The completion of one or more short films, including their writing, production, and required of motion picture television majors. The completion of one or more short films, including their writing, production, and required of motion picture television majors. The completion of one or more short films, including their writing, production, and required of motion picture television majors. The completion of one or more short films, including their writing, production, and required of motion picture television majors. The completion of one or more short films, including their writing, production, and required of motion picture television majors.

177. Motion Picture/Television Acting Workshop (2 or 4 units). (Formerly numbered Theater Arts 177.) Laboratory, to be arranged. Prerequisite: consent of instructor. A workshop providing opportunities for students to rehearse, perform, and evaluate their scenes under the supervision and criticism of the instructor. May be repeated for a maximum of 12 units.

178. Technical Motion Picture/Television Laboratory (2 or 4 units). (Formerly numbered Theater Arts 178.) Laboratory, to be arranged. Prerequisite: consent of instructor. Instruction and supervised exercises in writing, reporting, editing, and producing radio and television news, public affairs, and documentary programs.

181A. Animation Design in Theater Arts. (Formerly numbered Theater Arts 181A.) Lecture, three hours; laboratory, three hours. Prerequisite: consent of instructor. Undergraduate Animation and Graphic Design to form effective communication on film.

181B. Writing for Animation (4 or 8 units). (Formerly numbered Theater Arts 181B.) Lecture, six hours; laboratory, to be arranged. Prerequisites: course 181A, consent of instructor. A storyboard artist in animation and required of motion picture television majors. The completion of one or more short films, including their writing, production, and required of motion picture television majors. The completion of one or more short films, including their writing, production, and required of motion picture television majors. The completion of one or more short films, including their writing, production, and required of motion picture television majors. The completion of one or more short films, including their writing, production, and required of motion picture television majors. The completion of one or more short films, including their writing, production, and required of motion picture television majors.

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 artist in animation and required of motion picture television majors. The completion of one or more short films, including their writing, production, and required of motion picture television majors. The completion of one or more short films, including their writing, production, and required of motion picture television majors. The completion of one or more short films, including their writing, production, and required of motion picture television majors. The completion of one or more short films, including their writing, production, and required of motion picture television majors. The completion of one or more short films, including their writing, production, and required of motion picture television majors.
182. Introduction to Video Production (8 units). (Formerly numbered Theater Arts 182.) Lecture, four hours; discussion, four hours; laboratory, to be arranged. Prerequisites: Consent of instructor. An introduction to the techniques, processes, and equipment used in video production, culminating in a short project each student originates.

183A, 183B, 183C. Television and Video Production (8 units). (Formerly numbered Theater Arts 183A, 183B, 183C.) Laboratory, 16 hours. Prerequisite: consent of instructor. Limit to and required of motion picture/television majors. Instruction and exercises in the basic techniques of television and video production, including class participation in campus broadcasts.


190. Overview of the Motion Picture Industry. (Formerly numbered Theater Arts 190.) Discussion; three hours. Prerequisites: Consent of instructor. A historical and critical examination of economic and business structure of motion pictures from early beginnings to present, stressing methods of operation and the influence of social and economic factors on the industry, with attention to the changing financial, distribution, and exhibition practices.

192. Motion Picture, Television, and Theater Internship (2, 4, or 8 units). (Formerly numbered Theater Arts 192.) Field experience, eight, 16, or 24 hours; laboratory, four hours. Prerequisite consent of instructor. Limited to Senior Department of Theater, Film, and Television majors. An internship at various studios or theaters accentuating the creative contribution, organization, and work of professionals in their various specialties. May be taken for a maximum of eight units.

193A. Film Curatorship. (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 curatorship 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.

193B. Television Curatorship. (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 archival-library design for research and teaching, 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. Supervision and guidance for research and teaching of the individual student project, with 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 the specialized research aspects involved in the preparation of future television and film professionals (i.e., style, 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 adviser. 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. Studies 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.

206A. Seminar in European Motion Picture History. (Formerly numbered Theater Arts 206A.) Discussion, three hours (additional hours as required). Prerequisites: course 106B, graduate standing, consent of instructor. Study of central topics in American film history. May be repeated twice for credit.

206C. Seminar in American Motion Picture History. (Formerly numbered Theater Arts 206C.) Discussion, three hours (additional hours as required). Prerequisites: course 106A, graduate standing, consent of instructor. Study of central topics in American film history. May be repeated twice for credit.

207. Film and Video Style. Seminar, three hours; screenings, to be arranged. Prerequisite: consent of instructor. Designed for students in film and video production. Examination of the concepts and constituent elements underlying film and video style, with emphasis on work of major directors, schools, periods, and countries. Students examine individual works on their own through tapes and video disks.

208A. Seminar in Film Structure. (Formerly numbered Theater Arts 208A.) 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 Armand I. Bernstein, Mihaly, etc.

208B. Seminar in Classical Film Theory. (Formerly numbered Theater Arts 208B.) 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.

209A. Seminar in Documentary Film. (Formerly numbered Theater Arts 209A.) Discussion, three hours (additional hours as required). Prerequisites: Graduate standing, consent of instructor. A study of the definition of the aims and methods of film theory through contemporary writings.

209B. Seminar in Fictional Film. (Formerly numbered Theater Arts 209B.) Discussion, three hours (additional hours as required). Prerequisites: graduate standing, consent of instructor. Film as fiction and its relation to contemporary culture. May be repeated once for credit.

M209C. Ethnographic Film. (Formerly numbered Theater Arts M209C.) (Same as Anthropology M247A.) Lecture/discussion, four hours, laboratory, to be arranged. Prerequisites: graduate standing, consent of instructor. Discussion of the historical methods, and criteria for the use of film as a medium for the preservation and communication of human cultures. Filming assignments are given to increase the analysis, scope, and theoretical and practical aspects of ethnographic film making. 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. Consideration of issues raised by recent developments in television and radio, commercial and public, associated with innovations in satellite, cable, and cartridge systems.

211A. Seminar in Historiography. (Formerly numbered Theater Arts 211A.) Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Studies in selected historical movements of American Motion Picture History. May be repeated every other semester.

211B. Seminar in Broadcast Media. (Formerly numbered Theater Arts 211B.) Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Limited to motion picture and television Ph.D. candidates. Examination of the function and methods of writing film and television history as exemplified by key works in this tradition, with attention to central issues of historical thought on the media.

215. Seminar in Theory and Method. (Formerly numbered Theater Arts 215.) Discussion, three hours. Limited to motion picture and television Ph.D. candidates. An examination of the major modes of theoretical reflection that bear on film and television through study of central texts of such traditions as phenomenology, aut erism, semiotics, psychoanalysis, 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 films function and affect society such as belief, value systems, and structures of meaning, and their effect on society.

220. Seminar in Television and Society. (Formerly numbered Theater Arts 220.) 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.

221. Seminar in Film Authors. (Formerly numbered Theater Arts 221.) Discussion, three hours (additional hours as required). Prerequisites: Graduate standing, consent of instructor. Critical study of the work of significant contributors of films. May be repeated once 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. Studies of patterns, styles, and themes 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. The aesthetic, psychological, and physiological principles of vision as they relate to the ways in which man "sees" film and television. Examination of the ways in which these are different from other visual experiences.

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 script for film or television production, with emphasis on role of production manager in breaking down scripts, setting up shooting schedule, planning post-production, and preparing budgets.

285A-285B. Ethnographic Film Direction (4 or 8 units each). (Formerly numbered Theater Arts M265A-M265B.) (Same as Anthropology M267B-M267C.) Lecture, four hours; laboratory, to be arranged. Prerequisites: course M209C, 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.

292A. Seminar in Television Criticism. (Formerly numbered Theater Arts 292A.) Discussion, three 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 classical and student examples.

297. Seminar in Film Criticism. (Formerly numbered Theater Arts 297A-297B.) Lecture, four hours; laboratory, to be arranged. Prerequisite: consent of instructor. A study of the problems presented by the conceptualization of the form and structure of the short film, with classical and student examples.

298A-298B. Special Studies in Theater Arts (2 to 4 units each). (Formerly numbered Theater Arts 298A-298B.) Lecture/discussion. Prerequisites: graduate standing, consent of instructor. Seminar study of problems in theater arts, organized on a topic basis. May be repeated once for credit.

375. Teaching Apprentice Practicum (1 to 4 units). (Formerly numbered Theater Arts 375.) Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprentice- ship 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.

401A-401B. Production Workshop I (12 units, 8 units each). (Formerly numbered Theater Arts 401A-401B.) Lecture/discussion/laboratory, 18 hours; fieldwork, to be arranged. Prerequisites: consent of instructor. Limited to 10 students per section. (A beginning project in 16mm sync sound with extensive training in video assist leading to the completion of a 10-minute film. In first quarter students write (or storyboard) and shoot their projects; in second quarter the films are edited, scored, mixed, and completed with video assist. Students work as crew for each other in rotating assignments.)

401C. Studio Television Production. (Formerly numbered Theater Arts 401C.) Laboratory, eight hours. Prerequisite: consent of instructor. Limited to 10 students per section. A course in television technique with the use of one to three cameras in controlled situations, as well as in presentations in which the results of the situations are uncertain. A series of exercises acquaint students with news, guest-with-studio programs, and short dramatic scenes and involve the use of the switcher and associated studio equipment.

402A-402B. Advanced Workshop in Fiction (8 units each). Lecture/discussion/laboratory, 12 hours; fieldwork, to be arranged. Prerequisites: courses 401A-401B, 433, consent of instructor. Limited to 10 students per section. The production of a 20-minute fictional film or television project. Students plan, shoot, and edit their projects on location and/or in the studio by end of first quarter and work as crew for each other in rotating assignments. In second quarter students complete postproduction of their projects.

403A-403B. Advanced Workshop in Documentary (8 units each). Lecture/discussion/laboratory, 12 hours; fieldwork, to be arranged. Prerequisites: courses 401A-401B, 433, consent of instructor. Limited to 10 students per section. The production of a 20-minute documentary film or television project. Students plan, design, and shoot their projects in first quarter and work as crew for each other in rotating assignments. In second quarter students complete postproduction of their projects.
Television (Formerly numbered Theater Arts 457.)

437. Nontheatrical Writing for Motion Pictures and Television (Formerly numbered Theater Arts 457.) Lecture, three hours; laboratory, to be arranged; prerequisite: consent of instructor. Advanced problems in the field of documentary and special feature programs, with emphasis on research and preproduction. May be repeated for a maximum of 12 units.

450A. Cinematography (Formerly numbered Theater Arts 450A) Lecture, two hours; discussion, one hour. Prerequisites: graduate standing, consent of instructor. Not open for credit to students with credit for course 450A prior to Fall Quarter 1983. Advanced study of the principles of cinematography, with emphasis on exposure, lighting, and selection of film, camera, and lens.

450B. Lighting for Motion Pictures and Television (Formerly numbered Theater Arts 450B). Lecture, three hours; discussion, one hour; laboratory, four hours. Prerequisites: graduate standing, consent of instructor. Not open for credit to students with credit for course 450A prior to Fall Quarter 1983. Supervised exercises in studio and location film photography to develop skill in lighting and management of the photographic process as applied to motion pictures and films for television. May be repeated twice for credit.

450C. Advanced Motion Picture/Television Directing and Photography (8 units). (Formerly numbered Theater Arts 450C.) Lecture, three hours; discussion, two hours; laboratory, eight hours. Prerequisites: graduate standing, consent of instructor. Not open for credit to students with credit for course 450B prior to Fall Quarter 1983. Supervised filming of a short dramatic project on locations that explore the complexity of the process, emphasizing the balance essential to both directing and photography in its varied technical and production aspects.

451. Advanced Design for Motion Pictures(2 or 4 units). (Formerly numbered Theater Arts 451.) Laboratory, to be arranged. Prerequisite: consent of instructor. Advanced study and practice of techniques in design for motion picture and television art direction for advanced workshop productions. May be repeated for a maximum of 12 units.

452A. Motion Picture/Television Sound Recording (4 or 8 units). (Formerly numbered Theater Arts 452A.) Lecture, three hours; discussion, one hour; laboratory, four hours. Prerequisites: course 452A or consent of instructor. Supervised exercises in studio motion recording techniques, with emphasis on special requirements for motion pictures and television.

452B. Music Recording Workshop. (Formerly numbered Theater Arts 452B.) Lecture, four hours; laboratory, eight hours. Prerequisites: course 452A and/or consent of instructor. Supervised exercises in studio music recording techniques, with emphasis on special requirements for motion pictures and television.

452C. Motion Picture/Television Sound Rerecording. (Formerly numbered Theater Arts 452C.) Laboratory, eight hours. Prerequisites: course 152 or 452A, graduate standing, consent of instructor. Techniques of preparation and execution of rerecording using multitrack recording technology, including supervised operational experience.

454A. Motion Picture Editing. (Formerly numbered Theater Arts 454A.) Lecture, three hours; laboratory, to be arranged. Prerequisites: graduate 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 techniques and procedures used in manipulation of the sound track in sync dialogue cutting, post-sync, and music and sound effects cutting, including offscreen narration, dialogue substitution, and playback tracks.

454B. Motion Picture Editing. (Formerly numbered Theater Arts 454B.) Lecture, three hours; laboratory, to be arranged. Prerequisites: 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 techniques and procedures used in manipulation of the sound track in sync dialogue cutting, post-sync, and music and sound effects cutting, including offscreen narration, dialogue substitution, and playback tracks.

456B. Directing for Theater, Film, and Television. Lecture, eight hours. Prerequisite: consent of instructor. Limited to graduate students in the Department of Theater, Film, and Television. Analysis and exploration, with specific scenes, of the differences and many similarities in the directorial approach to film and television. An in-depth study of the director's role as it relates to the director of photography, post-production, and special effects.

464A-464B. 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 fictional and documentary motion pictures.

464A-466B. Television Direction (4 or 8 units each). (Formerly numbered Theater Arts 466A-466B.) Lecture, two hours; laboratory, six hours. Prerequisites: graduate standing, consent of instructor. Special problems in the direction of dramatic and documentary television programs.

475. Film I (8 units). (Formerly numbered Theater Arts 475.) Discussion, three hours; laboratory, to be arranged. Prerequisites: graduate standing, consent of instructor. Study of the basic techniques of film production, including the preproduction planning and production of a short film.

476. Video I (8 units). (Formerly numbered Theater Arts 476.) Discussion, three hours; laboratory, to be arranged. Prerequisites: graduate standing, consent of instructor. Study of the basic techniques of television and video production, including the completion of one or more projects.

477. Film II (8 units). (Formerly numbered Theater Arts 477.) Discussion, three hours; laboratory, to be arranged. Prerequisites: course 166 or 475, 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.

479A-479B-479C. Film III (4 or 8 units each). (Formerly numbered Theater Arts 479C.) Laboratory, to be arranged. Prerequisites: course 475 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 (4 or 8 units each). (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 documentary programs for broadcast.

482A-482B. Advanced Animation Workshop (4 or 8 units each). (Formerly numbered Theater Arts 482B.) Lecture, three hours; laboratory, to be arranged. Prerequisites: courses 181A, 181B, 181C, consent of instructor. An introduction to the creation and implementation 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, eight hours. Prerequisite: consent of instructor. Creation, preparation, and production each quarter of one advanced television program (no longer than 10 minutes). May be repeated for a maximum of eight units.

488A-488B-488C. Educational Television Workshop. (Formerly numbered Theater Arts 488A-488B-488C.) Laboratory, eight hours. Prerequisite: consent of instructor. Instruction and supervised exercises in directing and producing television programs for educational purposes.

489. Production in Computer Animation (4 or 8 units). Lecture, three hours; laboratory, eight hours. Prerequisite: course 489A. Instruction in the creation, preparation, and production of a complete and original computer animated film or tape. May be repeated for a maximum of 16 units.

495A. Problems in the Teaching of Theater Arts. (Formerly numbered Theater Arts 495A.) Lecture/laboratory, to be arranged. Prerequisite: 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. 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 associate instructors 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 toward the M.A., M.F.A., or Ph.D. May be repeated. S/U grading.

498. Professional Internship in Film and Television (4, 6, 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. program, consent of instructor. An internship at a variety of film, television, or theater facilities acquainting the creative contributor, 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, and host campus instructor, department chair, and graduate dean. Used to record the enrollment 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.

596F. Directed Individual Studies: Production (2 to 12 units). (Formerly numbered Theater Arts 596F). 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.

Upper Division Courses

100. The Teaching of Theater. (Formerly numbered Theater Arts 100.) Lecture, three hours. Prerequisites: courses 160A, 160B, or 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: course 5A or equivalent, consent of instructor. An investigation in depth of a selected area of study in theater history from the baroque to the present. 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 and/or consent of instructor. An investigation in depth of a selected area of study in theater history from the baroque to the present. May be repeated twice for credit.

102D. History of the European Theater. (Formerly numbered Theater Arts 102D.) Lecture, three hours. Prerequisites: courses 5A and 5B, or equivalent. An investigation in depth of a selected area of study in theater history from the baroque to the present. May be repeated twice for credit.

102E. Theater of the Non-European World. (Formerly numbered Theater Arts 102E.) Lecture, three hours; discussion, one hour. A survey of the methods and principles introduced in course 1102. May be repeated twice for credit.

102N. Creative Dramatics. (Formerly numbered Theater Arts 102N.) Lecture/laboratory, four hours. Prerequisite: consent of instructor. Not open for credit to students with credit for more than one course from the 102N, 102P, 102Q series. A survey of the development of the theater from its beginnings in the legends and rituals of ancient civilizations to the present. Study of current methods and procedures of the improvisational approach to drama as done with children from nursery school to junior high.

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.

1117. The Puppet Theater (2 units). (Formerly numbered Theater Arts 1117.) Lecture/laboratory, four hours. Prerequisite: consent of instructor. Not open for credit to students with credit for more than one course from the 1117, 1118 series. Practice of the art of acting through the perfecting of techniques and application of those techniques to acting problems. Concurrently scheduled with course 2117A.

1118A. Creative Dramatics. (Formerly numbered Theater Arts 1118A.) Lecture/laboratory. Studies of the principles and procedures of the improvisational approach to drama as done with children from nursery school to junior high.

118B. Advanced Creative Dramatics (2 units). (Formerly numbered Theater Arts 118B.) Discussion, one hour; 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.


119B. Theater for the Child Audience: Performance. (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 as an ensemble, creating through improvisation a theater presentation for a young audience. Emphasis on testing theoretical concepts through the ensemble workshop, rehearsal, pre-testing, and eventual full production for possible presentation outside the classroom.

121. Acting Workshop (2 units). (Formerly numbered Theater Arts 121.) Laboratory, to be arranged. Prerequisites: course 20, consent of instructor. Courses 160, 161A, 161B, and 161C may be taken concurrently. A workshop which provides students with an opportunity to rehearse, perform, and criticize scenes. May be repeated once for credit.

122. Makeup for the Stage (2 units). (Formerly numbered Theater Arts 122.) Prerequisite: consent of instructor. Study of make-up and its relation to the production as a whole. History, aesthetics, materials, and procedures of makeup.

123. Intermediate Acting for the Stage. (Formerly numbered Theater Arts 123.) Lecture/laboratory. Prerequisites: course 20, consent of instructor. Study and practice of the art of acting through the perfecting of techniques and application of those techniques to acting problems.

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. Includes work in relaxation, limbering, breathing, articulators, and resonators.
124A. Speech for the Stage. (Formerly numbered Theater Arts 124A.) Lecture, University hours. Prerequisites: courses 123, 124A, 124 (with demonstration of high skill levels), 125A, consent of instructor. Open for credit to students with credit for former course 124. Designed to acquaint students with the techniques of oral presentation, with emphasis on development of voice, diction, and physical awareness for the actor, concentrating on warming up the body, relaxation, control, and rhythm. May be repeated twice for credit.

125A. Movement for the Actor. (Formerly numbered Theater Arts 125A.) Lecture/laboratory. Prerequisites: courses 125A, consent of instructor. Required of theater majors. Designed to stimulate students' critical and creative faculties through the preparation of original material for the theater. Students work in groups of six to eight, developing a performance within the context of a devised play, with particular emphasis on the movement and its relation to the realization of stage action. May be repeated twice for credit.

130. Fundamentals of Playwriting. (Formerly numbered Theater Arts 130.) Lecture, three hours. Prerequisite: consent of instructor. Required of theater majors. An intensive study of stage lighting, with emphasis on the relationship of lighting instruments and control equipment to lighting design. Courses 141A, 140A, and 142A may be taken in any sequence, but not concurrently.

145. Lighting Techniques for the Stage. (Formerly numbered Theater Arts 145.) Lecture/laboratory. Prerequisite: course 144A. Lecture, three hours; laboratory, six hours. Prerequisites: course 10, consent of instructor. Required of theater majors. An advanced course in the technical sketching and drafting of working drawings essential in the development of sets and properties for theater, television, and motion picture productions. May be repeated once for credit.

150. Fundamentals of Production. (Formerly numbered Theater Arts 150.) Lecture/laboratory. Prerequisite: consent of instructor. Required of theater majors. Course 151A may be substituted for this requirement. May be applied toward the major requirement in directing.

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 further development of craft elements of directorial method, with additional emphasis on the psychological aspects of director-actor communication. Students work in prosenium configuration 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. Prerequisites: course 160 or 161A, consent of instructor. Course 121 may be taken concurrently. The translation of ideas into visual forms. May be repeated once for credit.

164. Advanced Movement for the Actor. (Formerly numbered Theater Arts 164.) Lecture, three hours; laboratory, four hours. Prerequisites: course 144A, consent of instructor. Special problems in the interpretation and presentation of characterizations. May be repeated once for credit.

165. Advanced Scenery for the Stage. (Formerly numbered Theater Arts 149A.) Lecture, four hours. Prerequisite: course 144A. Consent of instructor. Studies of the basic skills and techniques of drafting for the stage through the execution of floor plans and elevation drawings.

169. Advanced Lighting for the Stage. (Formerly numbered Theater Arts 149B.) Lecture, six hours. Prerequisites: courses 140A, 141A, 142A, consent of instructor. Required of theater majors. Course 151A may be substituted for this requirement. May be applied toward the major requirement in directing.
171B. Advanced Theater Laboratory (2 or 4 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.

C172. Technical Theater Laboratory (2 units). (Formerly numbered Theater Arts C172.) Hours to be arranged. Prerequisite: consent of instructor. Requirement of theater majors. A laboratory in various aspects of theater production. Must be repeated for a maximum of eight units, but no assignment may be repeated more than once. Concurrently scheduled with courses C272 and C273.

174. Techniques of Stage Managing (2 units). (Formerly numbered Theater Arts 174.) The professional duties of the stage manager. The problems of unions, professional auditions, organization, scheduling, off-the-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.

192. Motion Picture, Television, and Theater Internship (2, 4, or 8 units). (Formerly numbered Theater Arts 192.) Field experience, eight, 16, or 24 hours; individual conferences, to be arranged. Prerequisite: consent of instructor. Limited to senior Department of Theater, Film, and Television majors. An internship at various studios or theaters accentuating the creative contribution, organization, and work of professionals in their various specialties. May be taken for a maximum of eight units.

199. Special Studies in Theater Arts (2 to 8 units). (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. An examination of the theatrical production and dramatic form in the Greek and Roman periods. 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 studies of theatrical production and dramatic form in the Middle Ages. 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 arts of the Renaissance and Baroque periods. 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 arts of the Victorian and Romantic periods. May be repeated twice for credit.

202E. Seminar on the Modern Concept of Theater. (Formerly numbered Theater Arts 202E.) Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Study of the prototypes of modern experience as encountered in the work of Ibsen and Strindberg. 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. Selected studies of the theater’s response to science, technology, and politics, and revolution. 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 symbolism and the avant-garde theater. Exploration of the dream experience and the private psyche, the religious experience, and the revitalization of myth and ritual. May be repeated twice for credit.

202M. Seminar in American Theater. (Formerly numbered Theater Arts 202M.) Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Selected studies in the development of the theatrical production and dramatic writing in the American theater. May be repeated twice for credit.

202N. Seminar in Theater Architecture and Scenic Design. (Formerly numbered Theater Arts 202N.) Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Selected studies of the writing of a thesis play.

202P. Seminar in Traditions of African Theater. (Formerly numbered Theater Arts 202P.) Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Selected studies of traditional theater forms of East Africa, 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.

202Q. Seminar in East Asian Theater. (Formerly numbered Theater Arts 202Q.) 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.

202R. Seminar in South Asian Theater. (Formerly numbered Theater Arts 202R.) 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. An analysis of major plays, commentaries, and historical materials from the Romantic, naturalistic, and symbolist periods.

205B. The Background of Theatrical Art. (Formerly numbered Theater Arts 205B.) Discussion, three hours. Prerequisites: graduate standing, consent of instructor. An analysis of major plays, commentaries, and historical materials from the Renaissance, baroque, and rococo periods.

205C. The Background of Theatrical Art. (Formerly numbered Theater Arts 205C.) Discussion, three hours. Prerequisites: graduate standing, consent of instructor. Studies in the puppet theaters of the world: techniques, literature, aesthetics.

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 study and analysis of plays for dramatic purposes as employed by playwrights and screenwriters in selected examples 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. Research in technical processes and equipment in theater.

242A-243B-243C. Advanced Problems in Design for the Theater. (Formerly numbered Theater Arts 242A-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 production and development of theatrical productions. May be taken for a maximum of four units.

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 and the public presentation of departmental productions. May be taken for a maximum of four units.

245A. Production Planning in Theater.
(Formerly numbered 245A-245B.) Lecture, three hours. Prerequisites: graduate standing, consent of instructor. Development of planning procedures through the analysis of 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. Credit for creative production assignments required of all M.A. students during the first three quarters in residence. May be repeated twice for credit. Concurrently scheduled with courses C172 and C472.

290A. The Role of Management in Artistic Decision Making in the Theater.
(Formerly numbered Theater Arts 290A) Prerequisite: consent of instructor. A descriptive study of the criteria for decision making in artistic institutions, including the role of the institution in society, the economic environment of the arts, and the artistic value systems of arts organizations.

290B. Programming and Planning Policies in the Theater.
(Formerly numbered Theater Arts 290B) 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 C294A.) Prerequisites: graduate standing, consent of instructor. Not open for credit to students who have taken course C190A. A study of the structure governing the economic and artistic decision-making processes in the professional theater of America and the historical development of the involvement of the producer in the artistic process. Concurrently scheduled with course C190A. Additional research and writing required of graduate students.

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 190B. 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 operations, administration, and organization. Concurrently scheduled with course C190B.

298A-298B. Special Studies in Theater Arts (2 to 4 units each).
(Formerly numbered Theater Arts 298A-298B.) Lecture/discussion. Prerequisites: graduate standing, consent of instructor. Seminar study of problems in theater arts, organized on a topic basis. May be repeated once for credit.

375. Teaching Apprentice Practicum (1 to 4 units).
(Formerly numbered Theater Arts 475.) Prerequisites: 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.

417. Production Project for the Puppet Theater (6 units).
(Formerly numbered Theater Arts 417.) Laboratory, 30 hours; consultation, five hours. Prerequisite: consent of instructor. Limited to M.F.A. candidates. The design, construction, and performance of a puppet theater production with puppets as the culminating exercise for candidates toward M.F.A. degree in puppet theater. Students expected to present the full argument for the design style and techniques used in the construction of the puppets, the rationale for the use of puppets for the particular piece, and a final justification and analysis of the completed work.

420A. Advanced Techniques in Acting.
(Formerly numbered Theater Arts 420A) Lecture/laboratory, six hours. 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 stimuli by developing concentration, awareness, imagination, and spontaneity.

420B. Advanced Techniques in Acting.
(Formerly numbered Theater Arts 420B) Lecture/laboratory, six hours. Prerequisite: consent of instructor. Limited to M.F.A. acting candidates in theater. Extended work in improvisations and exercises to expand techniques to a role. Beginning with monologues, the work progresses to two-person scenes. Through these efforts students begin to personalize the character's emotional needs and drives.

420C. Advanced Techniques in Acting.
(Formerly numbered Theater Arts 420C) Laboratory, six hours. Prerequisite: consent of instructor. Limited to M.F.A. acting candidates in theater. Preparation and presentation of two-person scenes utilizing sensory work 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.

421A-421B. Advanced Projects in Acting (4 or 8 units each).
(Formerly numbered Theater Arts 421A, 421B.) 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.

421C. 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. Critical exercises in preparation and presentation of roles under performance conditions.

424A-424B-424C. Advanced Techniques in Voice for the Stage (2 or 4 units each).
(Formerly numbered Theater Arts 424A-424B-424C.) Lecture/laboratory, four hours. Prerequisite: consent of instructor. Limited to M.F.A. acting candidates in theater. Development of voice techniques for the stage, including work on relaxation, limbering, breathing, articulators, and resonators. Special vocal problems for the actor. Development of voice techniques for the stage, including work on relaxation, limbering, breathing, articulators, and resonators. Special vocal problems for the actor. Advanced voice problems.

425A-425B-425C-425D. Special Problems in Movement for the Actor (2 or 4 units each).
(Formerly numbered Theater Arts 425A-425B-425C-425D.) Lecture/laboratory, four hours. Prerequisite: consent of instructor. Limited to M.F.A. acting candidates in theater. Physical awareness for the actor. Special emphasis on warming up the body, relaxation, gymnastics (balance, falls, stunts), movement techniques, and stage combat.

425E-425E-425F. Special Problems in Movement for the Actor (2 or 4 units each).
(Formerly numbered Theater Arts 425D-425E-425F.) Lecture/laboratory, four hours. Prerequisite: consent of instructor. Limited to M.F.A. acting candidates in theater. Physical awareness for the actor, concentrating on individual needs for control in the acting process. Special emphasis on natural rhythms, relaxation, and balance.

430A-430B-430C. Advanced Studies in Playwriting (4 units, 6 units, 4 units).
(Formerly numbered Theater Arts 430A-430B-430C.) Seminar to be arranged. Prerequisites: courses 230A-230B-230C, consent of instructor. Guidance in the completion of thesis plays.

432. Manuscript Evaluation.
(Formerly numbered Theater Arts 432.) Lecture, four hours. Prerequisite: consent of instructor. Limited to M.F.A. candidates. Evaluation of manuscripts of beginning writers, including but not limited to those produced in Motion Picture Television 134A. May be taken twice for credit (once each year of M.F.A. residence).

(Formerly numbered Theater Arts 440A-440B-440C.) Lecture/laboratory, two hours. Prerequisite: 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.

442A-442B-442C. Advanced Problems in Costume Design.
(Formerly numbered Theater Arts 442A-442B-442C.) Lecture/discussion. Prerequisite: 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.

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. Note open for credit to students with credit for former course 146. The study of scenic painting techniques and materials and their relation to the realization of color design and elevations. Concurrently scheduled with course C146. Each graduate student (1) researches a new painting method or technique (2) solves a specific scenic problem or examines a particular period. The result is a theatrical scene painting project relating to that research.

459A-459B. Directing for Theater, Film, and Television.
Lecture, three hours; laboratory, four hours. Prerequisite: consent of instructor. Limited to graduate students in the Department of Theater, Film, and Television. Analysis and exploration, with specific scenes, of the differences and many similarities in the directional approach to the same literary material in three media.

460A. Problems in Advanced Direction for the Stage.
(Formerly numbered Theater Arts 460A.) Lecture, to be arranged. Prerequisite: consent of instructor. Limited to M.F.A. candidates. Preparation and presentation of a published one-act play or student play under rehearsal conditions. Discussion and critique of work in progress.

460B. Problems in Advanced Direction for the Stage.
(Formerly numbered Theater Arts 460B.) 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.
460C. Problems in Advanced Direction for the Stage. (Formerly numbered Theater Arts 460C.) Lecture, to be arranged. Prerequisite: consent of instructor. Limited to M.F.A. candidates. Preparation and presentation of an 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 an original play under minimal production conditions. Discussion and critique of work in progress.

463. Production Project in Direction for the Stage (8 or 12 units). (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.F.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. Concurrently scheduled with courses C172 and C272.

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. 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 toward the M.A., M.F.A., or Ph.D. May be repeated for a maximum of 12 units.

498. Professional Internship in Theater, Film, and Television (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, 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 adviser and graduate dean, and host campus instructor, department chair, and graduate dean. Used to record the enrollment 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.) 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)
Allegria Snyder, M.A. (Dance)
Melvyn B. Heilsen, 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. Jhadi 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. Harter, Ph.D. (Theater, Film, and Television)
Steven J. Loza, Ph.D. (Music)
Beverly J. Robinson, Ph.D. (Theater, Film, and Television)
Carol J. Sorgenfrei, Ph.D. (Theater, Film, and Television)

Stephan Stern, Ph.D. (Folklore and Mythology, Library and Information Science), Folklore Concentration Adviser

Lecturer
Edit Villarreal, 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. The program is unique in that it places an emphasis on cross-cultural study rather than the conventional focus on Western “high art” traditions. 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 dance, music, and theater performance classes.

Students are encouraged to consider the Education Abroad Program during their junior year. Individuals interested in careers in elementary and secondary education should consult the program counselor.

Bachelor of Arts Degree

Admission

New students are admitted to the major only in the Fall Quarter. University of California intercampus transfers may apply for Winter or Spring Quarter. Procedures and guidelines for the selection of freshmen and transfer students are approximately the same.
Outside applicants are reviewed individually, based on a questionnaire, grade-point average, two letters of recommendation, and a personal essay. For freshman applicants, college placement test scores are also considered.

Current UCLA students are required to meet with the program counselor. You are advised to take world arts and cultures courses during a "probationary" quarter in which you are interviewed by the program chair and to submit grade cards for courses completed at the end of that quarter. You must have a minimum 3.0 overall grade-point average and no more than 120 quarter units.

Students interested in the College of Fine Arts must apply at the Student Services Office, A239 Murphy Hall, during the first four weeks of Winter or Spring Quarter. Students applying to the College of Letters and Science must initiate a petition with the program counselor.

Concentrations
The anthropological concentration stresses both the empirical and theoretical foundations of cultural anthropology.

The art history concentration has particularly strong offerings for students interested in Asia, Africa, and the Americas.

The dance concentration includes studio opportunities, theory and research techniques, and history courses on both Western and non-Western dance.

The folklore and mythology concentration exposes students to a wide range of folklore forms derived from a diversity of cultures. (UCLA offers no undergraduate degree in folklore.)

The music concentration focuses on basic theory and skill in both Western and non-Western music. The theory option requires skill levels equivalent to lower division music majors, while the general music option emphasizes history and literature.

The theater concentration explores three fundamental aspects of Western and non-Western theater: (1) history and literature, (2) visual design, and (3) production and performance techniques.

Foreign Language Requirement
One year of a college-level foreign language or its equivalent 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). You may select either college regardless of the department in which your concentration is located.

If you wish to confer with the program counselor regarding planning and major requirements, contact Wendy Urfrig at 825-8537 or 825-3951.

The Major
The major includes a core of 28 units (26 for the music concentration) from anthropology, art history, dance, folklore and mythology, music, and theater; a concentration consisting of 36 units (38 for the music concentration) in one of these six disciplines; an eight-unit senior colloquium; and 12 units of upper division elective coursework.

The following courses are required:
(1) A core of seven interdepartmental courses (28 units): Anthropology 5, Art History 55 or 56, 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.
(2) A concentration of nine courses (36 units) 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.
   Art History: Group A: one course from 50, 51, 54, 55, 56, 57; Group B: eight courses from 102, 103A through 103E, 114A, 114C, 114D, 115A through 115D, 117A, 117B, 117C, 118A, 118C, 118D, 119A, 119B.
   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 171B through 176B).
   Folklore and Mythology: Course 172; Group A: one course from M111, 118, 180B; 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.
   Music: Courses 20A, 20B, 20C (theory option) or 1B, 2A-2B (general music option); two courses from 140A, 140B, 140C; six one-unit performance courses selected from 80A-80N, 81A-81N (each must be repeated for a minimum of two quarters and a maximum of three quarters; totaling six courses); three courses from 26A, 26B, 26C, 126A, 126B, 126C, 130, 131A, 131B, 135A, 135B, 135C, 138, 139, 140A, 140B, 140C (only one course from the 140 series may be applied), 141, 142A, 142B, 143A, 143B, 144, 145, 146A, 146B, 146C, 147A, 147B, 149, 151A, 151B, 152, 153A, 153B, 153C, M154A, M154B, 157, 158, M180, M181, C190A, C190B.

Students considering graduate study in ethnomusicology are strongly advised to select the theory option.

Theater: Theater 5A, 5B, 5C; Group A: one course from 140A, 140B, 141A, 141B, 142A, 142B; Group B: eight units from 20, 1117, 118A, 119A, 119B, 130A, 160, C190A, C190B; Group C: three courses from 102A, 102B, 103A through M103D, 104D, 104E, 104F, Motion Picture/Television 106C, 128.

(3) World Arts and Cultures 190A-190B. These courses are the culmination of the six disciplines and utilize the ethnic communities of Los Angeles as subjects for field research. You conduct field research on individual artists, community arts groups, or a genre of the arts. The inherent opportunities for research in Los Angeles are especially exciting, given the immigrant population as well as the second- to fifth-generation "native" Californians.

(4) Three elective courses which may be considered 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.

Honors Program
Majors enrolled in the College of Letters and Science who have a cumulative GPA of 3.0 overall and a cumulative GPA in major coursework of 3.5 or better are eligible to participate in the College Honors program. Interested students should consult the program counselor and the Division of Honors.

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.

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
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 social 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.

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

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. You must select a specific major within the school when applying for admission. In the selection process, many elements are considered, including grades, test scores, and academic preparation.

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: 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, 11CL; (chemistry is not a requirement for the computer science and engineering degree; the chemical engineering curriculum also requires Chemistry 11C/11CL, 21, 23, 25), but these courses are not the minimum requirements for admission; (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.

Degrees Offered

<table>
<thead>
<tr>
<th>Degree Offered</th>
<th>Type of Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace Engineering</td>
<td>B.S., M.S., Ph.D.</td>
</tr>
<tr>
<td>Chemical Engineering</td>
<td>B.S., M.S., Ph.D.</td>
</tr>
<tr>
<td>Civil Engineering</td>
<td>B.S., M.S., Ph.D.</td>
</tr>
<tr>
<td>Computer Science</td>
<td>B.S., M.S., Ph.D.</td>
</tr>
<tr>
<td>Computer Science and Engineering</td>
<td>B.S.</td>
</tr>
<tr>
<td>Electrical Engineering</td>
<td>B.S., M.S., Ph.D.</td>
</tr>
<tr>
<td>Manufacturing Engineering</td>
<td>M.S.</td>
</tr>
<tr>
<td>Materials Engineering</td>
<td>B.S.</td>
</tr>
<tr>
<td>Materials Science and Engineering</td>
<td>M.S., Ph.D.</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>B.S., M.S., Ph.D.</td>
</tr>
<tr>
<td>Nuclear Engineering</td>
<td>B.S., M.S., Ph.D.</td>
</tr>
</tbody>
</table>

*This is an interdepartmental program described under "Schoolwide Programs, Courses and Faculty" at the end of the departmental listings.*
Students who have been admitted to senior standing in the school on the basis of credit from another institution, from University Extension, or from another college or school of the University must complete, after admission, eight upper division courses which satisfy part of their approved major field sequence.

### Degree Requirements

The requirements for the Bachelor of Science degrees in Aerospace Engineering, Chemical Engineering, Civil Engineering, Computer Science 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 and Minimum Progress 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.

Full-time undergraduate students in the School of Engineering and Applied Science must complete a minimum of 36 units in three consecutive terms in which they are registered.

#### Senior Residence Requirement

Of the last 48 units completed for the bachelor’s degree, 36 must be earned in residence in the School of Engineering and Applied Science on this campus. No more than 16 of the 36 units may be completed in Summer Sessions at UCLA.

#### Study Lists and Credit Limitations

Study Lists require approval of the dean of the school or a designated representative. It is your responsibility to present Study Lists which reflect satisfactory progress toward the Bachelor of Science degree, according to standards set by the faculty; 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 academic action. You are expected to enroll in at least 12 units each quarter. If you enroll in less than 12 units, you must obtain approval by petition to the dean prior to enrollment in courses. The normal program is 16 units per quarter. 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 attain a minimum grade of C to satisfy the English 3 requirement, which must be met before you have completed 90 quarter units (a grade of C - does not satisfy this requirement). The electrical engineering curriculum requires you to complete English 3 within your first 45 units.

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.

### Lower Division Preparation for the Majors

<table>
<thead>
<tr>
<th>Mathematics</th>
<th>UCLA Equivalent Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analytic geometry and calculus, 8 units; calculus of several variables, 8 units; matrices and differential equations, 4 units; infinite series, 4 units (total of 24 quarter units minimum)</td>
<td>Mathematics 31A, 31B</td>
</tr>
<tr>
<td>Physics</td>
<td>Physics 8A/8AL*, 8B/8BL*, 8C/8CL*, 8D/8DL*</td>
</tr>
<tr>
<td>Chemistry**</td>
<td>Chemistry 11A, 11B/11BL***</td>
</tr>
<tr>
<td>Two quarters or two semesters of general chemistry with laboratory (total of 9 quarter units minimum)</td>
<td>Chemical engineering curriculum also requires Chemistry 11C/11CL, 21, 23, 25.</td>
</tr>
<tr>
<td>Engineering</td>
<td>Computer Science 10 or 11† or Civil Engineering 15A and 15B‡‡, ‡‡‡ engineering core††† courses; free electives†††</td>
</tr>
<tr>
<td>Digital computer programming, using a higher-level language such as FORTRAN IV, PASCAL, or PL/1 (4 units); other courses: statics, dynamics, graphics and descriptive geometry, surveying, circuit analysis, properties of materials, strength of materials, additional chemistry, additional computer science (total of 24 quarter units minimum)</td>
<td>Chemical engineering curriculum also requires Chemistry 11C/11CL, 21, 23, 25.</td>
</tr>
<tr>
<td>Additional Courses</td>
<td>Life science course; English 3; humanities-social sciences-fine arts, three or four courses‡‡‡</td>
</tr>
<tr>
<td>Life science (4 units), English composition (4 units), humanities-social sciences-fine arts (total of 20 quarter units minimum)</td>
<td>Life science course; English 3; humanities-social sciences-fine arts, three or four courses‡‡‡</td>
</tr>
</tbody>
</table>

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*Laboratory, depending on curriculum selected.
†Chemistry is not a requirement for the computer science and engineering degree.
‡‡‡Chemical engineering curriculum also requires Chemistry 11C/11CL, 21, 23, 25. 
†††Computer Science 11 is a requirement only for the computer science and engineering degree.
‡‡‡‡Civil Engineering 15A, 15B are requirements only for the civil engineering degree.
†††See specific undergraduate curriculum for core courses, humanities-social sciences-fine arts electives, and free electives, depending on curriculum followed.

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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 programs (see curriculum requirements in individual departments). The free electives may be selected from any courses yielding credit acceptable to the University of California except CLEP, 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. (See the electrical engineering curriculum for the history and literature requirement which must be completed within the first 90 units.)

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 (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 curriculum requirements, as well as specifying design and engineering science credit in engineering courses, are available in the Office of Student Affairs.

The aerospace engineering, chemical engineering, civil engineering, computer science and engineering, electrical engineering, engineering, materials engineering, and mechanical engineering curricula are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET), the nationally recognized accrediting body for engineering programs.

Advising and Program Planning
As a new undergraduate, you must have your course of study approved by an 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 Conference on Planning Electives 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."
Special Programs and Activities

Extracurricular Activities
The faculty strongly encourages students to participate in the many extracurricular activities available on campus, especially those of most relevance to engineering. Among these are the student engineering society (the Engineering Society, University of California), student publications, and programs of the many technical and professional engineering societies in the Los Angeles area.

The student body takes an active part in shaping policies of the school through elected student representatives on the school's Executive Committee.

Women in Engineering
Women make up 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 introduce 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 executive committee. 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 to 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. Normally the M.S. degree is required for admission to the Ph.D. program. Exceptional students, however, can be admitted to the Ph.D. program without having an M.S. degree.

Graduate students without adequate preparation may be admitted provisionally and may be required to take 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 90024-1600.

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 query after review of the written examination. In case of failure, you may be reexamined once with the consent of your departmental graduate adviser.

Cooperative Degree Programs
The School of Engineering and Applied Science has established two joint degree programs with other schools and departments on campus which allow you to earn two master's degrees simultaneously: the M.B.A./M.S.-Computer Science and the M.A.-Latin American Studies/M.S.-Engineering. Contact the Office of Student Affairs for details.

Master of Engineering 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 General and Subject 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
Office of Student Affairs, School of Engineering and Applied Science, 6426 Boelter Hall, UCLA, Los Angeles, CA 90024-1600.

Major Field or Subdiscipline
Engineering management.

Course Requirements
A total of 12 graduate courses are required: Engineering 470A-470D, 471A-471B-471C (half course), 472A-472D (half course), 473A-473B.

Comprehensive Examination Plan
The comprehensive examination, which is offered once a year and is general in scope, is given in written and oral form. Students who fail this examination may be reexamined once.

Engineer Degree
The School of Engineering and Applied Science offers an Engineer (Engr.) degree at a level equivalent to completion of preliminaries in the Ph.D. program. The Engineer degree represents considerable advanced training and competence in the engineering field but does not require the research effort involved in a Ph.D. dissertation.

Requirements for the Engineer degree are identical to those of the Ph.D. degree up to and including the oral preliminary examination, except that the Engineer degree is based on coursework. The minimum requirement is 15 (at least nine graduate) courses beyond the bachelor's degree, with at least six courses in the major field (minimum of four graduate courses) and at least three in each minor field (minimum of two graduate courses in each).

The Ph.D. and Engineer degree programs are administered interchangeably in the sense that a student in the Ph.D. program may exit with an Engineer degree or even pick up the Engineer degree 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: Artificial intelligence, computer network modeling and analysis, computer science theory, computer system architecture, programming languages and systems (software systems), scientific computing (dynamic systems modeling and optimization, physical systems).

Electrical Engineering Department: Applied plasma physics and fusion engineering, circuits, communications and telecommunication engineering, control systems, electromagnetics, integrated circuits and systems, 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, nuclear science and engineering, and structural and solid mechanics.

Schoolwide Programs: Applied mathematics, biocybernetics, man-machine-environment systems.


Course Requirements
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.

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.

Each graduate certificate program consists of five 100- or 200-series courses, at least two of which must be at the graduate level. No work completed for any previously awarded degree or credential may be applied toward the certificate. Successful completion of a certificate program requires an overall minimum B average in all courses applicable to the certificate. In addition, graduate certificate candidates are required to maintain a minimum B average in 200-series courses used in the certificate program. A minimum of three quarters of academic residence is required. The time limitation for completing the requirements of a certificate program is two calendar years. Details regarding the certificate programs may be obtained from each department office.

Courses completed for a Certificate of Specialization in Engineering and Applied Science may subsequently be applied toward master's and/or doctoral degrees.

Chemical Engineering

5531 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
Edon L. Knuth, Ph.D.
Ken Nobe, Ph.D.
Lawrence B. Robinson, Ph.D., Associate Dean
Vincent L. Vilker, Ph.D.
A.R. Frank Wazzan, Ph.D., Acting Dean
F. Eugene Yates, M.D. (Crump Professor of Medical Engineering)
William D. Van Vorst, Ph.D., Emeritus

Associate Professors
Yoram Cohen, Ph.D.
Owen I. Smith, Ph.D.

Assistant Professors
David T. Allen, Ph.D.
Robert F. Hicks, Ph.D.
Vasilios Mariousiouthakis, Ph.D.

Lecturer
Dwight A. Landis, M.S.

Adjunct Professor
Manuel M. Baizer, Ph.D.

Scope and Objectives
The Department of Chemical Engineering conducts active undergraduate and graduate programs in 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, particle technology, pollution control, and polymer engineering. Students are trained in the fundamental principles of these fields while learning a sensitivity to society's needs - a crucial combination in addressing the question...
of how industry can grow and innovate in an era of economic, environmental, and energy constraints. Faculty members in the department are active in the Crump Institute for Medical Engineering, the National Center for Intermedia Transport Research sponsored at UCLA by the Environmental Protection Agency, and the Engineering Research Center for the Control of Hazardous Substances established at UCLA by the National Science Foundation.

The undergraduate curriculum leads to a B.S. in Chemical Engineering and is accredited by ABET and AICHE. The department also offers master's and Ph.D. degrees. Both graduate and undergraduate programs closely relate teaching and research to important industrial problems.

**Bachelor of Science in Chemical Engineering**

The goal of the ABET-accredited chemical engineering curriculum is to provide a high quality, professionally oriented education in modern chemical engineering. A bioengineering option exists within the curriculum. Balance is sought between design and science.

**The Major**

Course requirements are as follows (186 minimum units required):


2. Chemical Engineering 137, 137A, 137B, 137C, 137D, 137E (satisfying the engineering economics requirement), 137F, 13B; 139A, 139B (satisfies the laboratory requirement); M192A (satisfies the mathematics requirement); Chemistry 113A, 114.

3. Two elective courses from Chemical Engineering 130A, 130A, 130B, 138C, 136A, 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. If you specialize in the bioengineering option, substitutions are made, in consultation with your adviser, for some of the electives.

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, 33A. Transport phenomena; heat conduction, mass species diffusion, convective heat and mass transfer, and radiation. Thermodynamic properties. Concepts of equilibrium, temperature, and reversibility. First law and concept of energy; second law and concept of entropy. Equations of state and thermodynamic properties. Engineering applications of these principles in the analysis and design of closed and open systems. Mr. Knuth, Mr. Robinson (F,Sp)

M105D. Transport Phenomena. (Formerly numbered Engineering 105D.) 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. Thermodynamic properties. 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 in thermal and environmental control. Mr. Vilker (F,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, ideal 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. Mr. Cohen (Sp)

137A. Chemical Engineering Thermodynamics. (Formerly numbered Engineering 137A.) Prerequisites: course 137. Thermodynamic properties of pure substances and solutions. Phase equilibrium. Chemical reaction equilibrium. Mr. Cohen (Sp)

137B. Chemical Engineering Diffusional Processes. (Formerly numbered Engineering 137B.) Prerequisites: courses M105D, 137A. Brownian motion, fluxes according to irreversible thermodynamics; one-dimensional theory; 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. Cohen, Mr. Friedlander (Sp)

137C. Chemical Engineering Separation Operations. (Formerly numbered Engineering 137C.) Prerequisites: courses M105D, 137A. Application of the principles of heat, mass, and momentum transport to the design and operation of separation processes such as distillation, gas absorption, filtration, and reverse osmosis. Mr. Cohen (Sp)

137D. Chemical Engineering Kinetics. (Formerly numbered Engineering 137D.) Prerequisites: courses M105D, 137A, 137B. 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, 137F. Integration of chemical engineering fundamentals such as transport phenomena, thermodynamics, separation operations, and reaction engineering and fundamental economic principles for the purpose of designing chemical processes and evaluating alternatives. Mr. Cohen, Mr. Manousosuthakis (Sp)

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 computational 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. Manousosuthakis (Sp)

138. Chemical Engineering Process Dynamics and Control. (Formerly numbered Engineering 138.) Prerequisites: courses 137B, 137C, 137D. Principles of dynamics modeling and start-up behavior of chemical engineering processes. Chemical process control elements. Design and applications of chemical process computer control. Mr. Cohen (Sp)

138A. Introduction to Cryogenics and Low-Temperature Processing. (Formerly numbered Engineering 138A.) Prerequisites: course 130A. liquefaction of gases, cooling to cryotemperatures, LNG processes, liquid hydrogen, and liquid He cryosystems for superfluids and applied superconductivity. Mr. Frederking (Sp)

138B. Chemical Engineering Polymer Processes. (Formerly numbered Engineering 138B.) Prerequisites: Mechanical, Aerospace, and Nuclear Engineering 103 and Chemistry 21, or senior standing in engineering or physical science. Formation of polymers, criteria for selecting a reaction scheme, polymerization techniques. Mr. Cohen (Sp)

138C. Chemical Engineering Pollution Technology. Prerequisites: courses 137C, 137D, 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 of analyzing the fate of pollutants in the environment. Mr. Cohen, Mr. Friedlander, Mr. Vilker (Sp)

138E. Fundamentals of Corrosion. (Formerly numbered Engineering 138E.) Prerequisites: courses M105A, 137A or Materials Science and Engineering 141. The fundamentals of electrochemistry pertinent to metallic corrosion. Primary emphasis on the fundamental approach in the consideration of complex corrosion processes. Specific topics include pitting, crevice corrosion, stress corrosion, hydrogen embrittlement, and corrosion control. Mr. Cohen (Sp)

139A. Introductory Chemical Engineering Laboratory. (Formerly numbered 139AC.) Laboratory, eight hours. Prerequisites: courses M105A, M105D, 137A, 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. Experiments include examples of heat transfer, fluid flow, chemical thermodynamics, and homogeneous chemical kinetics. Mr. Cohen (Sp)

139B. Chemical Engineering Laboratory. (Formerly numbered 139BC.) Laboratory, eight hours. Prerequisites: courses 137B, 137C, and 139A, or consent of instructor. Course consists of four experiments, each of two weeks duration. After each experiment, students prepare a detailed report that includes sections on background material, theory, experimental procedures, experimental results, scale-up and design considerations, and error analysis. Mr. Cohen (Sp)
Aerospace, and Nuclear Engineering M192A. Pre-
parative equations. Special functions and introduc-
tion to second-order ordinary differential equa-
tions. Special functions and introduction to value boundary problems. Mr. Robinson (W)

199. Special Studies (2 to 8 units). Prerequisites: senior standing, consent of instructor. Individual in-
vestigation 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 and statistical thermodynamics of chemical and physical systems with engineering applications. Presentation of the role of atomic and molecular spectra and intermolecular forces in the interpretation of thermodynamic properties of gases, liquids, solids, and plasmas. Mr. Rothenberg (F)

230B. Nonequilibrium Thermodynamics. Prereq-
quisite: course 230A. Interpretation of nonequilibrium phenomena in terms of the fourth law of thermodynamics, namely (1) linear independence of fluxes and driving forces and (2) Onsager reciprocal rela-
tions. Boltzmann transport equation; diffusion; electrical and heat currents; numerical calculation of parameters. Mr. Robinson (Sp)

230C. Cryogenics. Prerequisite: course 137A. The study of basic phenomena in low-temperature systems, including the third law, various cooling meth-
ods, and superfluid systems; Meissner state, type I and type II systems; applied superconductivity cryo-
genics. Mr. Frederking

230D. Thermodynamics of Phase Transitions. Prerequisite: course 230A or equivalent. Phase sta-
bility criteria and separation of phases. Molecular thermodynamic treatment of multicomponent sys-
tems with chemical engineering applications. Solubility of gases and solids in liquids. Phase diagrams of pure mixtures. Mr. Robinson (W)

237A. Reaction Kinetics. Prerequisites: courses 130A, 137C, or equivalent. Macroscopic descriptions: reaction rates, relaxation times, thermodynamic correlation of reaction rate constants. Molecular description: kinetic theory of gases, models of ele-
mentary processes. Applications: absorption and dispersion measurements, unimolecular reactions, photo-
chemical reactions, hydrocarbon pyrolysis and oxida-
tion, explosions, polymerization.

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. Molec-
ular-beam studies of gas-surface interactions, includ-
ing energy accommodations and heterogeneous re-
actions. Applications to air pollution control and to catalysis.

Mr. Knuth (W)

237E. Combustion Processes. Prerequisite: course 137C or Mechanical, Aerospace, and Nuclear Engi-
neering 132A. Fundamentals: change equations for multicomponent reactive mixtures, rate laws. Appli-
cations: combustion, including burning of (1) pre-
mixed gases or (2) condensed fuels. Detonation. 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 indus-
trial separation processes, gas cleaning, pulmonary bioengineering, controlled release systems, and re-
actor design; molecular and constitutive theories of diffusion, interface transport, membrane transport, convective mass transfer, concentration boundary layers, turbulent transport.

Mr. Cohen, Mr. Friedlander (F)

238A. Chemical Reaction Engineering. Prerequi-
sites: courses 137E, 137D, or consent of instructor. Computer analysis of chemical reactor design and analysis. Particular emphasis on simultaneous effects of chemical reac-
tion and mass transfer on noncatalytic and catalytic re reactions in fixed and fluidized beds.

Mr. Allen (W)

238C. Electrochemical Engineering. Prerequisite:
one year of physical chemistry or equivalent. Trans-
port phenomena in electrochemical systems; rela-
tionships between molecular transport, convection, and electrode kinetics, along with applications to in-
dustrial electrochemistry, fuel cell design, and mod-
ern 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 thermodynamics and transport behav-
ior of solutions of biological macromolecules. Non-
ideal solution behavior. Applications to mass transfer problems in natural and man-made systems. Ele-
mentary theory of biochemical reactions.

Mr. Wilner (W)

239A-239AZ. Special Topics In Chemical Engi-
neering (2 to 4 units each). Prerequisites: consent of instructor, additional prerequisites for each offering as announced in advance by department. Advanced and current study of one or more aspects of chemical engineering, such as chemical process dynamics and control, fuel cells and batteries, membrane transport, advanced chemical engineering analysis, polymers, optimization in chemical process design. May be re-
peated for credit with topic change.

F.W.Sp

239A-293CZ. Seminar: Current Topics in Energy Utilization. Prerequisite: consent of instructor. Re-
view of current literature in an area of energy utiliza-
tion in which the instructor has developed special proficiency as a consequence of research interests. Students report on selected topics.

F.W.Sp

239E-293EZ. Seminars in Chemical Engineering (2 to 4 units each). Prerequisites: consent of instruc-
tor, additional prerequisites for each offering as an-
ounced in advance by department. Lectures, dis-
cussions, student presentations, and projects in areas of current interest. May be repeated for credit. S/U grading.

F.W.Sp

240. Fundamentals of Aerosol Technology. Prere-
quisite: course 137B or equivalent. Technology of particle/gas systems with applications to gas clean-
ing, commercial production of fine particles, and ca-
talysis. 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. The application of optimization methods in chemical process design; computer aids in process engineer-
ing; process modeling; systematic flowsheet invention; process synthesis; optimal design and operation of large-scale chemical processing systems.

Mr. Manousoukhakis (F)

260. Non-Newtonian Fluid Mechanics. Prerequi-
site: prior course in fluid mechanics such as Mechani-
cal, Aerospace, and Nuclear Engineering 150A or consent of instructor. Principles of Non-Newtonian flu-
id mechanics. Stress constitutive equations. Rheo-
ology of polymeric liquids and dispersed systems. Applications in viscometry, polymer processing, bio-
rheology, 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 apprenticeship under the active guidance and super-
vision of a regular faculty member responsible for curricula and instruction at the University. May be repeated for credit. 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 Assis-
tant Dean, Graduate Studies. Supervised investiga-
tion of advanced technical problems. S/U grading.

597B. Preparation for Ph.D. Preliminary Examina-
tions (2 to 15 units). Prerequisites: graduate stand-
ing in chemical engineering, consent of instructor. S/U grading.

597C. Preparation for Ph.D. Oral Qualifying Ex-
amination (2 to 16 units). Prerequisites: graduate standing in chemical engineering, consent of instruc-
tor. Preparation for oral qualifying examination, in-

598. Research and Preparation of M.S. Thesis (2 to 12 units). Prerequisites: graduate standing in chemical engineering, consent of instructor. Super-
vised independent research for M.S. candidates, in-

599. Research for and Preparation of Ph.D. Dis-
sertation (2 to 16 units). Prerequisites: graduate standing in chemical engineering, consent of instruc-
tor. Usually taken after student has been advanced to candidacy. S/U grading.

Chemistry/Materials Science

(Interdepartmental)

For details on this undergraduate program, see Chapter 5 on the College of Letters and Sci-
ence.

Civil Engineering

4531 Boelter Hall, (213) 825-1346

Professors

Stanley B. Dong, Ph.D.

John A. Dracup, Ph.D.

Michael E. Fourney, Ph.D.

Gary C. Hart, Ph.D.

Paul V. Lade, Ph.D.

Chung Yen Liu, Ph.D.

Gary C. Hart, Ph.D.

William W-G. Yeh, Ph.D.

Moshe F. Rubinstein, Ph.D.

Sanford B. Roberts, Ph.D.

John A. Dracup, Ph.D.

Gary C. Hart, Ph.D.

William W-G. Yeh, Ph.D.

Moshe F. Rubinstein, Ph.D.

Sanford B. Roberts, Ph.D.

Assistant Professors

Guy Y. Fellaio, Ph.D.

Johannes B. Neethling, Ph.D.

Mladen Vucetic, 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 resources 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 M105B; Electrical Engineering 100, 103; Materials Science and Engineering 14, Mechanical, Aerospace, and Nuclear Engineering 102, 103.

(2) Civil Engineering 106A, 120, 130 or 135B, 135A, 151, 155, 180; 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:

- **Engineering Mechanics:** Civil Engineering 130, 130F, 130L, 139; Mechanical, Aerospace, and Nuclear Engineering 168.
- **Geotechnical Engineering:** Civil Engineering 121, 128L, Earth and Space Sciences 100, M139.
- **Structures:** Civil Engineering 135B, 135C, 135L, M137, 137L, 141, 142, 142L, 142X, 143.
- **Systems Analysis:** Civil Engineering M140, 175.
- **Water Resources and Environmental Engineering:** Civil Engineering 150, 156, 157, M161, 163, 164.
- **Civil Engineering 135B, 135C, 135L, M137, 141, 142, 142L, 142X, 143.**
- **Civil Engineering 150, 156, 157, M161, 163, 164.**
- **English 3; Chemistry 11A, 11B/11BL; Civil Engineering 15A, 15B, Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 8A/8AL, 8B/8BL, 8C, 8D; one life science elective course.**
- **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).**
- **One humanities, social sciences, and/or fine arts course to 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

15A. Introduction to Computing in Civil Engineering (2 units). Lecture, two hours; laboratory, two hours. Overview of operating systems for microcomputers, file editors, spreadsheets, data base programs, SEASNET facilities. Introduction to programming. Civil engineering applications.

15B. Introduction to FORTRAN Programming (2 units). (Formerly numbered 15.) Lecture, two hours; laboratory, two hours. Prerequisite: course 15A. Introduction to FORTRAN. Selected topics in programming, with emphasis on numerical techniques as applied to engineering problems.

128L. Soil Mechanics Laboratory. Lecture, one hour; laboratory, eight hours. Prerequisite: course 120 or consent of instructor. Laboratory experiments to be performed by the students to obtain soil parameters required for assigned design problems. Soil classification, grain size distribution, Atterberg limits, specific gravity, compaction, expansion index, consolidation, shear strength determination. Design problems, report writing.

130. Elementary Structural Mechanics. (Formerly numbered 166.) 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.

130F. Experimental Fracture Mechanics. (Formerly numbered 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 lip stress fields, strain energy release rate, fracture characterization, compliance calibration, surface flaws, fatigue crack growth and fatigue life, structural components, mixed mode fracture, and individual projects.

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.


M115. Engineering and Policy: Resources and Risk. (Formerly numbered M109A.) (Same as Mechanical, Aerospace, and Nuclear Engineering M109A.) 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.

M120. Principles of Soil Mechanics. (Formerly numbered 185A.) Prerequisite: course 108. Recommended: Earth and Space Sciences 1. Soil as a foundation for structures and as a material of construction. Soil formation; classification; physical and mechanical properties, compaction, bearing capacity, earth pressures, consolidation and shear strength.

M128L. Soil Mechanics Laboratory. (Formerly numbered 185L.) Lecture, one hour; laboratory, eight hours. Prerequisite: course 120 or consent of instructor. Laboratory experiments to be performed by the students to obtain soil parameters required for assigned design problems. Soil classification, grain size distribution, Atterberg limits, specific gravity, compaction, expansion index, consolidation, shear strength determination. Design problems, report writing.

M130. Elementary Structural Mechanics. (Formerly numbered 166.) 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.

M130F. Experimental Fracture Mechanics. (Formerly numbered 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 lip stress fields, strain energy release rate, fracture characterization, compliance calibration, surface flaws, fatigue crack growth and fatigue life, structural components, mixed mode fracture, and individual projects.

M130L. Experimental Structural Mechanics. (Formerly numbered 166L.) Lecture, two hours; laboratory, four hours. Prerequisite: course 130 or equivalent. Laboratory experiments in linear and non-linear 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.
135A. Elementary Structural Analysis. (Formerly numbered 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; analysis of statically determinate and indeterminate structures such as beams, frames, arches, and trusses; introduction to slope-deflection equations.

Mr. Dong (F,Sp)

135B. Intermediate Structural Analysis. (Formerly numbered 165B.) Prerequisite: course 135A. 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 methods; introduction to matrix methods; stiffness, flexibility matrices for bars, beams.

Mr. Nelson (F,W)

135C. Computer Analysis of Structures. (Formerly numbered 165C.) Prerequisite: course 135A. Development of algorithms and FORTRAN coding for matrix 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)

135L. Structural Design and Testing Laboratory. (Formerly numbered 165L.) Lecture, two hours; laboratory, eight hours. Prerequisites: courses 15 or equivalent, and course 135A. Computer-aided optimum design, construction, instrumentation, and test of a small scale model structure. Use of computer-based data acquisition and interpretation systems for comparison of experimental and theoretically predicted behavior.

Mr. Falton (Sp)


Mr. Fourny (F)


Mr. Fourny (F)


Mr. Roberts (F)


Mr. Feury, Mr. Schmit (F)

141. Design of Steel Structures. (Formerly numbered 167A.) Lecture, three hours; recitation, three hours. Course 135A. Design of members; beam size and spacing; design of tension members, compression members, beams, beam columns, and tension splices according to AISC specifications for buildings.

Mr. Hart (F)


Mr. Selna (W)

142L. Reinforced Concrete Structural Laboratory. (Formerly numbered 167L.) Laboratory, eight hours. Prerequisites: course 142, consent of instructor. Experimental verification of strength design methods used for reinforced concrete elements. Full- or near full-scale slab, beam, column, and joint specimens tested to failure.

Mr. Selna (Sp)

142X. Reinforced Concrete Structure Laboratory (2 units). (Formerly numbered 167X.) Laboratory, four hours. Prerequisite: junior standing. Design and fabrication methods used for construction of reinforced concrete structures. Fabrication of full-scale slab, beam, column, and joint elements formed, fabricated, and cast in the laboratory.

Mr. Selna (Sp)


Mr. Selna (Sp)

150. Engineering Hydrology. (Formerly numbered 164A.) Prerequisite: senior standing or consent of instructor. Recommended: elementary probability. Precipitation, climatology, stream flow analysis, flood frequency analysis, groundwater, snow hydrology, hydrologic simulation. Possible field trips.

Mr. Dracup, Mr. Yeh (F)

151. Introduction to Water Resources Engineering. (Formerly numbered 164B.) Prerequisites: course 120, Mechanical, Aerospace, and Nuclear Engineering 103 or consent of instructor. Principles of hydraulics, the flow of water in open channels and pressure conduits, reservoirs and dams, hydraulic machinery, hydroelectric plants, reservoir systems, irrigation, system analysis and design applied to water resources engineering.

Mr. Yeh (W)

155. Water Quality Control Systems. (Formerly numbered 164D.)Prerequisites: Mechanical, Aerospace, and Nuclear Engineering 103 or upper division standing in engineering, or consent of instructor. Biological, chemical, and physical bases of water quality and pollution; potability and chemical aspects of treatment and reclamation; analysis and design of water and wastewater treatment systems; field trips.

Mr. Stenstrom (F)

156. Water Quality Control Laboratory. (Formerly numbered 164L.) Laboratory, eight hours. Prerequisites: course 155 (may be taken concurrently). Chemistry 11A, 11B. Basic laboratory techniques and practice for the characterization and analysis of waters and wastewaters. Selected experiments include measurement of biochemical oxygen demand, suspended solids, dissolved oxygen, temperature, and other parameters used in water quality control.

Mr. Stenstrom (F)

157. Design of Water Quality Control Systems. (Formerly numbered 164F.) Lecture, two hours; laboratory, four hours. Prerequisite: course 155. Design of wastewater treatment plants. Hydraulic profiles, conceptual design, process design and control, economic evaluation of design. Field trip.

Mr. Neethling, Mr. Stenstrom

M161. New Energy Technology: Resources, Conversion, Storage, and Utilization. (Formerly numbered M134A.) (Same as Mechanical, Aerospace, and Nuclear Engineering M134A.) Prerequisite: Chemical Engineering 105A or Mechanical, Aerospace, and Nuclear Engineering 105A or equivalent in physics or chemistry or equivalent engineering courses: fossil fuel, 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. Perrella (F)

163. Air Pollution Control. (Formerly numbered 181A.) Prerequisite: senior standing or consent of instructor. Sources of air pollutants and their atmospheric transport, dispersion, and photochemical reactions. Design and operational basis for stationary and mobile source control systems. An overview of current regulatory trends.

Mr. Liu, Mr. Perrine (Sp)

164. Waste and Hazardous Waste Management. (Formerly numbered 181B.) Prerequisite: senior standing or consent of instructor. Waste sources and handling. Resource recovery processes and system design. Site selection, design, and operation for landfill disposal. Leachate transport, monitoring, and design. Disposal of hazardous wastes. Mr. Perrine (Sp)

175. Introduction to Elements of Decision Making. (Formerly numbered 174A.) Prerequisite: Mechanical, Aerospace, and Nuclear Engineering 193A or equivalent mathematics course. Elements of decision making and the decision process. Decision formalization and utility theory. Formulation of utility functions and objective functions. Subjective probabilities. Bayesian approach to value of information. Risk sharing and group decisions. Methods of eliciting judgments; bias and scoring rules.

Mr. Rubenstein, Mr. Rubenstein (F)

180. Civil Engineering Projects. (Formerly numbered 186.) Lecture, two hours; recitation, four hours. Prerequisites: courses 120, 141 or 142 or 143, 151. Integration of civil engineering disciplines for design of bridges or other projects. Stream flow studies, stream bed transport, and scour. Foundation design of piers, abutments, and approach structures. Structural concepts, loading, analysis, member selection, and detailing of abutments, piers, and superstructures.

Mr. Hart (W)

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. Occasional one-hour and two-hour arrangements. May be repeated for credit.

(F, W, Sp)

Graduate Courses

220. Shear Strength of Soil and Stability of Slopes. (Formerly numbered 285A.) Prerequisite: course 120. Detailed study of fundamental concepts of shear strength of soils, strength determining factors, methods of strength measurement. Slope stability and stability analysis techniques using circular and noncircular failure surfaces, effect of side forces, total and effective stress analyses.

Mr. Lade (F)

221. Foundation Engineering. (Formerly numbered 285B.) Prerequisites: courses 120, 220. 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. Fello (W)


Mr. Lade (Sp)
232. Earth Pressures and Earth Retaining Structures. (Formerly numbered 286D.) Prerequisites: course 120, graduate standing. The basic concepts of the theory of earth pressures behind retaining structures, with special application to the design of retaining walls, bulkheads, and excavation bracing; their stability, interaction of loads, stability of caps, and construction techniques. Mr. Lade (Sp)

238L. Advanced Soil Mechanics Laboratory. (Formerly numbered 285L.) Prerequisites: courses 120, 121, 220, 221. Lectures and laboratory studies of advanced aspects of soil properties and their application to design. Permeability, consolidation, stress testing, pore water pressure measurements, advanced instrumentation and measurement techniques. Preparation of engineering reports. Mr. Lade (Sp)

229. Seminar on Advanced Topics in Soil Mechanics. (Formerly numbered 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 (Sp)


Mr. Mal, Mr. Muki (W)

231. Inelastic Effects in Structures. (Formerly numbered M264C.) Prerequisite: course 130 or equivalent or consent of instructor. Basic concept of analogy between inelastic strain, geometrically nonlinear strain, and applied force in stress analysis. Mathematical and physical theories of plasticity and creep. Bauschinger effect. Elastic-plastic static in metals.

Mr. Lin (Sp)

232. Theory of Plates and Shells. (Formerly numbered M264A.) Prerequisite: course 130 or Mechanical, Aerospace, and Nuclear Engineering numbered M264A.) Prerequisite: course 130 or equivalent or consent of instructor. Review of analysis of plates and shells.

233. Mechanics of Composite Material Structures. (Formerly numbered M264B.) Prerequisites: courses 232 or equivalent and 130 (or an introductory course on linear elasticity or continuum mechanics or consent of instructor). Review of analysis of plates and shells. Mr. Muki (F)

234. Advanced Topics in Structural Mechanics. (Formerly numbered M265D.) Prerequisites: graduate standing in engineering, consent of instructor. Current topics in composite materials, computational methods, finite element analysis, structural synthesis, nonlinear mechanics, and structural mechanics in general. Topics may vary from quarter to quarter. Mr. Muki (F)

235A. Advanced Structural Analysis. (Formerly numbered M265A.) Prerequisite: course 135B. Review of elasticity theory; theorem on virtual work, stationary value of potential and complementary potential; Castigliano's, Maxwell's, and Strain energy methods for deformable systems; solution methods for linear equations; analysis of structural systems with one-dimensional elements; introduction to variational principles of the displacement and load problem.

Mr. Dong (W)

235B. Finite Element Analysis of Structures. (Formerly numbered M265B.) Prerequisite: courses 130 and 135A or consent of instructor. Direct and indirect stiffness methods for deformable systems; solution methods for linear equations; analysis of structural systems with one-dimensional elements; introduction to variational principles of the displacement and load problem, and mixed methods for membrane, plate, shell structures; instability effects. Mr. Dong (W)

235C. Nonlinear Structural Analysis. (Formerly numbered M265C.) Prerequisite: course 235B or consent of instructor. Classification of nonlinear effects; material and geometric nonlinearities; Bauschinger effect. Elastic-plastic static in metals. Mr. Schmitt (Sp)

236. Stability of Structures I. (Formerly numbered M267A.) Prerequisite: course 130 or 135B or equivalent. Elastic buckling of bars. Different approaches to stability problems. Inelastic buckling of columns and beam-columns. Mr. Schmitt (Sp)


Mr. Dong, Mr. Friedman (F)

237C. Introduction to Probabilistic Dynamics. (Formerly numbered M269C.) (Same as Mechanical, Aerospace, and Nuclear Engineering M269C.) Prerequisite: course M137. Response of structural and mechanical systems to random vibrations. Stationary and nonstationary excitations. Response of structures to random parameters. Discrete and continuous linear systems. Applications to earthquakes, wind sway of buildings, gust response, vibrations due to gear inaccuracies, train traffic vibrations, etc.

Mr. Hart (Sp, even years)

238. Experimental Structural Analysis. (Formerly numbered M268A.) Prerequisite: consent of instructor. Study of modern techniques in experimental mechanics, including dimension analysis, measurement theory and methods, and mechanical testing techniques of modern optics (e.g., holography). Moire analysis, photoelasticity and speckle interferometry.

Mr. Fourney (Sp)

M240. Optimum Structural Design. (Formerly numbered M267A.) (Same as Mechanical, Aerospace, and Nuclear Engineering M267A.) Prerequisite: course 235A or Mechanical, Aerospace, and Nuclear Engineering 261A or consent of instructor. Synthesis of structural systems; analysis and design optimization problems; techniques for synthesis and optimization; application to aerospace and civil structures.

Mr. Felton, Mr. Schmitt (W)

241. Advanced Steel Design. (Formerly numbered M267S.) Prerequisite: course 141. Working and ultimate load methods. Emphasis on seismic design. Mr. Hart (W)

242. Advanced Reinforced Concrete Design. (Formerly numbered M267C.) Prerequisite: course 142. Ultimate strength and seismic design considerations. Concrete mechanical properties. Columns: stability, biaxial bending. Slab design. Slab yield line theory. Mr. Seina (W)

244. Structural Loads and Safety for Civil Structures. (Formerly numbered M276C.) Prerequisite: course 142. Load combinations and effects on structures. Emphasis on load combination and interaction of loads. Mr. Her (F)


Mr. Seina (W)

246. Structural Response to Ground Motions. (Formerly numbered M267B.) Prerequisite: course M237A. Spectral analysis of ground motions; response, time, and Fourier spectra. 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.

Mr. Hart, Mr. Seina (Sp)

250A. Surface Water Hydrology. (Formerly numbered M284A.) Prerequisite: course 150 or consent of instructor. In-depth study of the surface water components of the hydrologic cycle. Instantaneous, continuous, and transient analysis of ground water and surface water systems. Emphasis on the management of water quality. Mr. Drapac, Mr. Yeh (W)


251. Water Resources Systems Engineering. (Formerly numbered M284C.) Prerequisite: course 151. Application of mathematical programming techniques to water resources systems. Topics include reservoir regulation, optimal timing and calibrating of water resources, mathematical programming, and water resources systems. Emphasis on the management of water resources, and real-time conjunctive operation of ground water and surface water resource systems. Mr. Drapac, Mr. Yeh (Sp)

252. Engineering Economics of Water and Related Natural Resources. (Formerly numbered M284G.) Prerequisite: one or more courses from Economics 1, 2, 100, 101A, and 101B, or consent of instructor. Economic theory and applications in the management of water and natural resources, hydrology and water quality. Mr. Drapac (Sp)

253. Mathematical Models for Water Quality Management. (Formerly numbered M296H.) Prerequisite: course 155 or consent of instructor. Development of models for water quality in surface waters and groundwater. Emphasis on numerical techniques to solve the nonlinear partial differential equations arising out of water quality and chemical engineering research.

Mr. Sterlison (W)
254. Aquatic Chemistry. (Formerly numbered 254A.) Lecture, three hours; laboratory, two hours. Prerequisites: course 184D, Chemistry 11B, Mathematics 33B. The dilute aqueous solution 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 experiment. Mr. Neethling (F).

255A. Advanced Water Quality Control Systems I. (Formerly numbered 254K.) Prerequisites: courses 155 and 254A (later courses may be taken concurrently), consent of instructor. Physical, chemical, and biological basis for design of water quality control systems. Principles and design of conventional and advanced water and wastewater treatment systems. Field trip. Mr. Neethling, Mr. Stenstrom (W).

255B. Advanced Water Quality Control Systems II. (Formerly numbered 254L.) Prerequisite: course 255A. Physical, chemical, and biological basis for design of water quality control systems. Principles and design of conventional and advanced water and wastewater treatment systems. Field trip. Mr. Neethling, Mr. Stenstrom (Sp).

258A. Membrane Separations in Aquatic Systems. (Formerly numbered 258AM.) Prerequisite: course 258. Application of membrane separations to desalination, water reclamation, brine disposal, and ultrapure water systems. Discussion of reverse osmosis, ultrafiltration, electrodialysis, and ion exchange technologies from both practical and theoretical standpoints. Mr. Stenstrom (Sp).

259. Selected Topics in Water Resources (2 units). (Formerly numbered 259F.) Prerequisites: graduate standing, consent of instructor. Review of recent research and development in the management of water resources. Water and hydropower 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).

265. Geochemical Engineering. (Formerly numbered 281.) Prerequisites: course 250B, graduate standing. The science and engineering underlying movement and fate of chemicals within the geophysics of the environment. Models of transport to, within, and from groundwaters and other water systems. Mr. Liu, Mr. Perrine (Sp).

275. Multiattribute Decision Making with Conflicting Objectives. (Formerly numbered 275L.) Prerequisite: course 175 or Computer Science 274A or equivalent. The structuring of models for multiattribute decision problems. The theory of quantifying preferences over multiple objectives. Multiattribute utility theory. The structuring of models for conditional utility strategies under conflict situations. The theory of metagames and metarationality. Mr. Pearl, Mr. Rubinstein (W).


296A-296ZZ. Seminar: Current Topics in Civil Engineering. (2 to 4 units.) (Formerly numbered 296A-296ZZ.) Prerequisite: consent of instructor. Lectures, discussions, and student presentations and projects in areas of current interest in civil engineering. May be repeated for credit. S/U grading.

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. Additional topics may be scheduled with change in title.

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 curriculum and instruction at the University. May be repeated for credit. S/U grading.

596. Directed Individual or Tutorial Studies (2 to 8 units). Prerequisites: graduate standing in civil engineering, consent of instructor. Petition form 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 12 units). Prerequisites: graduate standing in civil engineering, consent of instructor. 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 civil engineering, consent of instructor. Supervised independent research for M.S. candidates, including thesis prospectus. S/U grading.

598. Research for and Preparation for M.S. Thesis (2 to 16 units). Prerequisites: graduate standing in civil engineering, consent of instructor. Supervised independent research for M.S. candidates, including thesis prospectus. S/U grading.

599. Research for and Preparation for Ph.D. Dissertation (2 to 16 units). Prerequisites: graduate standing in civil engineering, consent of instructor. Usually taken after student has been advanced to candidacy. S/U grading.

**Computer Science**

3731D Boelter Hall, (213) 825-6396

**Professors**

Masanao Aoki, Ph.D.

Aligids A. Azhienis, Ph.D.

Daniel M. Berry, 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.

Milos D. Ercegovac, Ph.D.

Gerard Estrin, Ph.D., Chair

Theostratos Fisk, Ph.D., in Residence

Richard R. Muntz, Ph.D.

Gary F. Martin, Ph.D.

Lawrence P. McNamee, Ph.D.

Michel A. Melkanoff, Ph.D.

Richard J. Popek, Ph.D.

Jacques J. Vidal, Ph.D.

Chand R. Viswanathan, Ph.D.

Bertram Russeau, Ph.D., Emeritus

Thomas A. Rogers, Ph.D., Emeritus

**Associate Professors**

Michael G. Dyer, Ph.D.

Eliezer M. Gafni, Ph.D.

D. Stott Parker, Jr., Ph.D.

David A. Hennes, Ph.D.

**Assistant Professors**

Margot Flowers, Ph.D.

David H. Jefferson, Ph.D.

Richard E. Korf, Ph.D.

Josef Skrzypiec, Ph.D.

Yuval Tamir, Ph.D.

**Lecturers**

David G. Kay, M.S., J.D.

Leon Levine, M.S., Senior

Thomas M. Simon, Ph.D.

Vance C. Tyree, M.S., Senior

**Adjunct Professors**

Barry W. Boehm, Ph.D.

Norman C. Dalkey, Ph.D.

Edward L. Glaser, A.B.

**Adjunct Associate Professors**

Teresin Gray, Ph.D.

Tom Schag, Ph.D.

**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 composed 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 grad-
ute students seeking engineering degrees. The John E. Anderson 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 ABET-accredited computer science and engineering curriculum at UCLA provides the education and training necessary to design, implement, test, and utilize the hardware and software of digital computers and digital systems. This curriculum has major components from the Computer Science and Electrical Engineering Departments. Within the curriculum students study all aspects of computer systems from electronic design, based on solid-state physics concepts, through logic design, integrated circuit selection and design, MSI, LSI, and VLSI concepts and device utilization, machine language design, implementation and programming, operating system concepts, system programming, 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—Economics 101A or 102 or 111 is also acceptable); 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 116, 121A, or 123A.
4. English 3; Mathematics 31A, 31B, 32A, 32B, 33A, 33B, 61; Physics 8A/8AL, 8B/8BL, 8C/8CL, 8D/8DL; one life science course.
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, 168, 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 John E. Anderson Graduate School of Management offer a concurrent degree program which enables students to complete requirements for the M.S. in Computer Science and the M.B.A. (Master of Business Administration) in three academic years. Students should request all application materials from the M.B.A. Admissions Office, John E. Anderson 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.

10C. Introduction to Programming. (Formerly numbered Engineering 10C.) Lecture, four hours; recitation, two hours. Recommended for mathematics/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.

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 numeric computation. Mr. Levine (Sp)

11. Introduction to Computer Science I. Lecture, four hours; recitation, two hours. Limited to computer science and engineering majors. Open to graduate students on S/U grading basis only. Not open to students with credit for course 10C, 10F, former course 10S, or Program in Computing 10. Human factors in programming and program design. Exposure to computer organization and capabilities, data representation, professional ethics. Principles of programming (using PASCAL as the example language): algorithm design and procedural abstraction. Program design and development. Control structures and data structures.

Mr. Kay, Mr. Martin (F)

12. Introduction to Computer Science II. Lecture, four hours; recitation, two hours. Prerequisite: course 11 or consent of instructor. Limited to computer science and engineering majors. Open to graduate students on S/U grading basis only. Internal data structures (e.g., lists, trees, queues) and associated algorithms, described by function and implementation, with examples in a very high-level language and an algorithmic language respectively (e.g., LISP and C). Sorting, searching, algorithm analysis, models of computation. Mr. Kay, Mr. Levine (W)

13. Introduction to Computer Science III. Lecture, four hours; recitation, two hours. Prerequisite: course 12 or consent of instructor. Limited to computer science and engineering majors. Open to graduate students on S/U grading basis only. Design and development of programs solving problems of intermediate complexity drawn from various disciplines, using high-level languages such as LISP and C. Software engineering, data abstraction, machine interface, external data structures. Survey of current topics in computer science.

Mr. Kay, Mr. Martin (Sp)

30. Introduction to Computer Operating Systems. Lecture, four hours; laboratory, two hours. Prerequisite: course 20. Open to graduate students on S/U grading basis only. Introductory course on functions, design principles, and use of modern computer systems. Overview of batch and time-sharing systems. Functional description of assemblers, compilers, linkage editors, loaders. Job control language, overlays, file structures, buffering, protection. Assignments include problems on the computer and the design and implementation of simple O/S functions.

Mr. Muntz (Sp)

99. Individual Programming Projects (2 to 4 units). Prerequisite: course 10C or consent of instructor. Intended for students wishing to learn individually new programming languages and for students wishing to make up deficiencies so as to bring them to the level of course 20. Students design, check-out, and run programs in various programming languages.
Upper Division Courses

111. Systems Programming. Lecture, four hours; laboratory, two hours. Prerequisites: courses 30, 141. Introduction to the design and performance evaluations 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. Mr. Jefferson, Mr. Muntz (W,Sp).

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 system scalability, performance metrics, probability theory, transforms, Markov chain models, queueing theory, counting and graphs, network flow theory. Presentation of this set of tools in a fashion that is rich with examples from the computer systems field. Mr. Kleinrock (F,Sp).

130. Software Engineering. Lecture, four hours; laboratory, two hours. Prerequisite: course 20. Structured programming, program proving, modularity, abstract data types, composite design, program testing, iteration. Additional topics as set by instructor.

131. Programming Languages. Lecture, four hours; recitation, two hours. Prerequisite: course 13 or former course 20. Study, comparison, and evaluation of programming languages, in particular ALGOL 60, ALGOL 68, PL/1, FORTRAN, and COBOL, the compiled language. Consideration of the most commercially available compiled languages in use today. Additional topics as set by instructor. (F,Sp).

132. Compiler Construction. Lecture, four hours; recitation, two hours. Prerequisites: courses 131, 141, 181. Compiler structure; lexical and syntactic analysis; semantic analysis and code generation; theory of parsing. Mr. Martin.

141. Basic Methods of Data Organization. Lecture, four hours; recitation, two hours. Prerequisites: courses 131, 141, 181. Compiler structure; lexical and syntactic analysis; semantic analysis and code generation; theory of parsing. Mr. Martin.

151A. Computer Architecture I. Lecture, four hours; recitation, two hours. Prerequisites: course 10C or 11. Physics BC. 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 algorithmic systems. Modules for the data and control sections. Hardwired and microprogrammed approaches. Arithmetic algorithms and their implementation. Mr. Ercogevac, Mr. Renfals (F,Sp).

151B. Computer System Architecture II (Intermediate). Lecture, four hours; recitation, two hours. Prerequisite: course 151A. Corequisite for mathematics, computer science majors and engineering undergraduates specializing in computer science and engineering: course 152B. Formal description of machine organization. Effects on machine organization of instruction set-addressing. Machine-level representations of structures, memory organization and management; control sequence generator; I/O processing and interrupts; reliability aspects. Mr. Ercogevac, Mr. Lang (Sp).


152A. Introductory Digital Circuits Laboratory (2 units). Corequisite: course 151A. Familiarization with design and interconnection of logic circuits and networks through implementation and debugging procedures, including experience with printed circuit design. Mr. Rennells (F,Sp).

152B. Digital Systems Laboratory (2 units). Corequisite: course 151B. A computer-based laboratory which probes computer architecture through construction simulation and measurement of digital subsystems. Mr. Rennells (W,Sp).

151. 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 microworlds, vision, automatic programming, expert systems, and cognitive modeling. Mr. Dyer, Ms. Flowers (W,Sp).

153. Introduction to Natural Language Processing. Lecture, four hours; recitation, 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 generation and programming of expert systems. 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, 171, 170 or Electrical Engineering 102, 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, and 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 description.

Mr. Skrzypek (F).

168L. Computer Vision Laboratory (2 to 4 units). Laboratory, four hours. Prerequisites: course 168, senior standing, consent of instructor. Image acquisition, storage, processing, and analysis. Design and implementation of algorithms for low-level vision. Experiments in motion, texture, color, edge detection, binary and gray-level images. Scheme-based personal computer vision station. Mr. Skrzypek (Sp).

170. Basic Methodologies for Computer Modeling and Simulation. Lecture, four hours; laboratory, two hours. Prerequisites: course 168L, course 232, IEEE488. May be repeated for credit with consent of instructor. An introduction to computer-oriented techniques for modeling and simulation systems which evolve with time, with emphasis on examples from social and life sciences. Linearity, impulse responses, stability, state variables, algorithms for filtering and control. Mr. Aoki (W).

171. Real-Time Computer Systems. Prerequisite: senior standing or consent of instructor. A survey of fundamentals, with emphasis on hardware and system concepts. Analysis of computer interface, including multiprocessing, interrupt, and time-sharing considerations. Digital communication, remote consoles, sampling, quantizing, multiplexing, analog-digital conversation, and data reconstruction. Mr. Karpul, Mr. Levine (F).

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. Design and construction of operating systems and programs to control digital systems as encountered in data acquisition, on-line computing, communication facilities, terminals, modems, interfaces, and standards (e.g., RS 232, IEEE-488). May be repeated for credit with consent of instructor.

Mr. Carlyle (W,Sp).

172. Simulation and Models. Prerequisite: course 20. Use of simulations and programming for discrete event systems in simulation languages (e.g., GPSS, SIMSCRIPT). The simulation data base and considerations for language development. Statistical considerations: design of experiments, random number generation, analysis of experiment, and Computer exercises.

Mr. Karpul, Mr. McNamee (F).


Mr. McNamee.

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 systems, including problems of intelligent terminals, communications, and graphics languages. Application areas and cost effective uses of interactive systems. Design and development of interactive graphics programs to solve representative problems in various application areas.

Mr. Vidal (W).

181. Formal Languages and Automata Theory. Lecture, four hours; recitation, two hours. Prerequisite: senior standing or consent of instructor. Grammars, automata, and languages. Finite-state languages and finite-state automata. Context-free languages and pushdown store automata. Unrestricted rewriting system (i.e., languages and Turing machines). Introduction to computability and decision problems.

Mr. Greibach (F).

183. Discrete Systems and Automata. Prerequisites: two or more courses lower division mathematics or comparable experience with mathematical ideas, such as in linguistics or basic courses in logic or computer programming. An introductory course emphasizing finite-state systems: graphs, machines, languages, regular expressions, context-free languages, memory, system identification, diagnosis; design considerations.

Mr. Carlyle.

196A. Introduction to Bioengineering and Cybernetics (2 units). (Formerly numbered Engineering M196A.) 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 disciplines. Lectures presented by faculty currently performing research in one of the above sessions include laboratory tours. P/NP grading.

Mr. DiStefano (F).

M196B. Modeling and Simulation of Biological Systems. (Formerly numbered Engineering M196B.) (Same as Medicine M196B.) Lecture, four hours; laboratory, two hours. Prerequisite: calculus. Introductions to classical and modern systems and modeling and simulation methods for studying biological systems. Multicompartmental modeling, multiconfigurational curve fitting, and simulation laboratory projects. Applications in physiology and medicine. Life science and medical students are encouraged to enroll.

Mr. DiStefano (Sp).

C196L. Biocybernetics Research Laboratory (2 to 4 units). (Formerly numbered C170L.) Lecture, one to two hours; discussion, one to two hours; laboratory, two to four hours. Prerequisites: course M196B, consent of instructor. Interdisciplinary experimental laboratory techniques. Care, use, and design of laboratory instrumentation. Specialized research hardware, software, and computers. Laboratory automation. Comprehensive experimental design, including simulation, Radioactive isotope use and safety. Comprehensive experimental design, including simulation, Radioactive isotope use and safety. Comprehensive experimental design, including simulation.
198. Special Studies (2 to 8 units). Prerequisites: upper division standing, consent of instructor. Individual investigation or research 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

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.

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, analysis and synthesis of, and applications of information processing systems. Each member completes one tutorial and one or more original pieces of work in the specialized area. May be repeated for credit.

Mr. Estrin (F.W.Sp)


Mr. Kleinrock (W)


Mr. Kleinrock, Mr. Munzt (W)

214. Data Transmission in Computer Communications. Prerequisites: course 112, graduate standing in computer science. Discrete data streams, formats, rates, transductions; digital data transmissions via analog signaling in computer communication; media characteristics, system methodologies, performance analysis; modern designs; physical interfaces in computer communication links; national/international standards; tests and measurements.

Mr. Carlyle

215. Computer Communications and Networks. Prerequisite: course 112. Resource sharing: computer traffic characteristics; multiplexing; network structure; packet switching and other switching techniques; the ARPANET and other computer network examples; network delay and network work design and optimization; network protocols; routing and flow control; satellite and radio packet switching; local networks; commercial network services and architectures. Optional topics include error control techniques: modern, SDLC, HDLC, X.25, etc.; protocol verification; network simulation and measurement; integrated networks; communication processor monitors.

Mr. Kleinrock (F.Sp)

216. Distributed Multiaccess 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 (Sp)


Mr. Garla (W)

219. Current Topics in Computer System Modeling Analysis (2 to 12 units). Prerequisite: consent of instructor. Review of current literature in an area of computer system modeling analysis in which the instructor has developed special proficiency as a consequence of research interests. May be repeated for credit.

241AL. Data Management Systems (6 units). (Formerly numbered 241A.) Lecture, four hours; laboratory, two hours. Prerequisites: courses 131, 141, or equivalent. File management in programming languages and systems development. Focus on Second generation programming languages, text processing, secondary index organizations. Data base systems, architecture, design, and models (network, hierarchical, and relational). Logical and physical structures. Query languages. Commercial data base systems. Data base design, performance, security, and integrity.

Mr. Cardenas (F)


Mr. Cardenas (Sp)

242A. Privacy and Security in Computer Information Systems. Prerequisite: course 111 or consent of instructor. Analysis of the technical difficulties of producing secure computer information systems that provide guaranteed controlled sharing, with emphasis on software models and design. Examination of current systems and practices. Possible certifiability of such systems. Relevant social issues.

Mr. Popek

243A. Relational Data Bases. Prerequisites: courses 131, 141. The relational model of data: definitions and operations; relational languages. Relational data bases: experimental and commercial; design methodology.

Mr. Parker (W)

243B. Abstract Data Types and Program Specification. Prerequisites: courses 141, 181. The notions of abstract data type and abstract program specification. How to use programs to manipulate abstract data, independently of their implementations. These notions also give powerful techniques for program structuring and verification. Programming exercises.

249. Current Topics in Data Structures (2 to 12 units). Prerequisite: consent of instructor. Review of current literature in an area of data structures 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 consent of instructor.


Mr. Martin


Mr. Martin

259. Current Topics in Computer Science: Programming Languages and Systems (2 to 12 units). Lecture, four hours; laboratory, two hours. Prerequisites: consent of instructor. Review of 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. Cardenas (Sp)

259B. Privacy and Security in Computer Information Systems. Prerequisite: course 111 or consent of instructor. Analysis of the technical difficulties of producing secure computer information systems that provide guaranteed controlled sharing, with emphasis on software models and design. Examination of current systems and practices. Possible certifiability of such systems. Relevant social issues.

Mr. Popek

259C. Relational Data Bases. Prerequisites: courses 131, 141. The relational model of data: definitions and operations; relational languages. Relational data bases: experimental and commercial; design methodology.

Mr. Parker (W)

259D. Abstract Data Types and Program Specification. Prerequisites: courses 141, 181. The notions of abstract data type and abstract program specification. How to use programs to manipulate abstract data, independently of their implementations. These notions also give powerful techniques for program structuring and verification. Programming exercises.

249. Current Topics in Data Structures (2 to 12 units). Prerequisite: consent of instructor. Review of current literature in an area of data structures 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 consent of instructor.


Mr. Martin


253B. Advanced Topics in Fault-Tolerant Computing. Prerequisite: course 253A. Analysis and discussion of the modeling, design, and evaluation of fault-tolerant computing systems. Emphasis on current research results and new systems in the stages of design and development. May be repeated for credit with topic change. Mr. Avizienis, Mr. Rennels (Sp)

254A. Computer Memories and Memory Systems. Prerequisite: course 251A or consent of instructor. Generic types of memory systems; control, access modes, hierarchies, and allocation algorithms. Characteristics, system organization, and device considerations of ferro magnetic, thin film memories, and semiconductor memories.

Mr. Chu, Mr. Rennels (W)

255A. Distributed Processing and Distributed Database System. (Formerly numbered 255B.) Prerequisite: course 241 AL or 251A. Interprocess communication in distributed systems. System partitioning and reconfiguration. Tolerance of man-made faults. Fault-tolerant software.

Mr. Karplus (Sp)

256A. LS1 in Computer System Design. (Formerly numbered M258A-M258B-M258C.) (Same as Electrical Engineering M258A-M258B-M258C.) Lecture, four hours; laboratory, four hours. Prerequisites: graduate standing in computer science or electrical engineering. Consent of instructor: LS1/VLSI design and application in computer systems. Fundamental design techniques that can be used to implement complex integrated systems on a chip.

Mr. Rennels, Mr. Tyree (W or Sp)

256B-M258C. LS1 in Computer System Design. (Formerly numbered M258A-M258B-M258C.) (Same as Electrical Engineering M258A-M258B-M258C.) Lecture, four hours; laboratory, four hours. Prerequisite: course 258A. LS1/VLSI design and application in computer systems. In-depth studies of VLSI architectures and VLSI design tools. In Progress grading.

Mr. Rennels, Mr. Tyree (W or Sp)

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.

261A. Problem Solving and Search. (Formerly numbered 261A.) Prerequisites: course 141, programming experience in a higher-level language, and graduate standing. Examination in depth of that part of artificial intelligence concerned with problem-solving behavior, including problem spaces, brute-force search, heuristic search, two-player games, planning, subgoaling, GPS, macro-operators, and abstraction. Emphasis on mathematical rigor and complexity analyses of search algorithms.

Mr. Korf (F)

261A. Language and Thought. Prerequisite: consent of instructor. Understanding the relationship between natural language and artificial languages. Introduction to natural language processing. Representation and manipulation of conceptualizations underlying processes of thought for natural language comprehension and generation. Process models of conceptualization, distinctness of perception and representation, mental spaces, and multi-modal sensory integration, and robotics.

Mr. Dyer, Ms. Flowers (F or W)


Mr. Dyer, Ms. Flowers (W or Sp)

264A. Artificial Intelligence Programming I. Prerequisite: consent of instructor. Knowledge of Lisp or Prolog. Introduction to tools, techniques, and issues in artificial intelligence programming. Functional programming for artificial intelligence applications. Use of techniques for constructing, manipulating, and using objects.

Mr. Dyer, Ms. Flowers (F or W)

264B. Artificial Intelligence Programming II. Prerequisite: course 264A. Course may be taken concurrently. Techniques of logic programming. Artificial intelligence programming languages (e.g., Prolog, AmoRo, Duck, Connnive, Planner, Q4, KRL, Actors, etc.) and artificial intelligence features (e.g., non-monotonic logics, datadependencies for truth maintenance, meta-rules, semantic networks, frame-based systems).

Mr. Dyer, Ms. Flowers (W or Sp)


Mr. Dyer, Ms. Flowers (W or Sp)

267A. Neural Models. (Formerly numbered 275A.) Prerequisites: graduate standing, consent of instructor. Review of major neurophysiological milestones in understanding brain and perception. Focus on brain theories that are important for modeling computer science and, in particular, on models of sensory perception, sensory-motor coordination, and cerebellar and cerebral structure and function. Students required to prepare a paper analyzing research in one area of interest.

Mr. Vidal (W)

267B. Artificial Neural Systems and Connectionist Computing. Prerequisites: graduate standing, consent of instructor. Analysis of the major connectionist computing paradigms and underlying models of biological and physical processes. Examination of past and present implementations of artificial neural networks along with their applications to associative knowledge processing, general multisensor pattern recognition, and robot control. Students required to prepare a paper analyzing research in one area of interest.

Mr. Vidal (Sp)


Mr. Skrzypek (W)

2685. Seminar in Computational Neuroscience (2 units). Prerequisite: consent of instructor. Intended for students undertaking thesis research. Discussion of advanced topics and current research in computational neuroscience. Neural networks and connectionism as a paradigm for parallel and concurrent computing systems. Comparison of perceptual recognition, multimodal sensory integration, and robotics. May be repeated for credit. SJU grading.

Mr. Skrzypek (W or Sp)

269. Seminar: Current Topics in Artificial Intelligence. Prerequisite: consent of instructor. Review of current literature and research practice 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. Examination of principles of computer treatment of selected numerical problems in algebraic and differential systems, transforms and spectra, data acquisition and reduction, emphasis on concepts pertinent to modeling and simulation. Introduction to the applicability of contemporary developments in numerical software. Computer exercises.

Mr. Cartyle, Mr. Karplus (F or Sp)


Mr. Karplus (Sp)


Mr. Karplus (W)

272. 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 data, dataflow machines, array processors, and advanced mathematical modeling techniques. Topics vary each quarter. May be repeated for credit. SJU grading.

Mr. Karplus

272A. Digital Computer Modeling and Analysis of Dynamic Data Sources. (Formerly numbered 2703.) Prerequisites: course 1370 or equivalent or other introductory systems course or consent of instructor. Development of digital computer algorithms for interactive modeling of dynamic data sources and analytical tools for sequential decision procedures in approximately-representative and empirical and perhaps nonstationary data generated by such data sources.

Mr. Aoki

272B. Analytical and Computational Methods for Modeling and Optimization of Dynamic Systems. (Formerly numbered 2705.) Prerequisites: course 1370 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 methods, model selection and simplification, sensitivity analysis, least squares and Kalman filtering, and optimal control algorithms.

Mr. Aoki, Mr. DiStefano (W)

Mr. McNamee (W)


Ms. Greibach, Mr. Parker (F)

27B. Knowledge-Based Systems. Prerequisite: course 274A or 277A or consent of instructor. Machine representation of judgmental knowledge and uncertain relationships. Inference on inexact knowledge bases. Rule-based systems—principles, advantages, and limitations. Signal understanding, automated planning systems. Knowledge acquisition and explanation producing techniques.

Mr. Pearl (W)

27C. Computer Methods of Data Analysis and Model Formulation. Prerequisites: Linear Algebra, and Nuclear Engineering 131A or equivalent or consent of instructor. Techniques of using computers to interpret, summarize, and form theories of empirical observations. Mathematical models of decision-making, between the computational complexity, storage requirements, and precision of computerized models.

Mr. Pearl (F, W, Sp)

27D. Current Topics in Cognitive Systems. Prerequisites: consent of instructor, additional prerequisites for each offering as indicated by the department. Theory and implementation of systems which emulate or support human reasoning. Current literature and individual studies in artificial intelligence, knowledge-based systems, decision support systems, computational psychology, and heuristic programming theory. May be repeated for credit with topic change.

Mr. Pearl (W)

27E. Pattern Analysis and Machine Intelligence. Prerequisites: graduate standing, consent of instructor. Fundamentals of pattern recognition, feature extraction and selection, autonomous learning, clustering, and machine intelligence.

Mr. Klinger (F)

27F. Structured Computer Vision. Prerequisites: graduate standing, consent of instructor. Methods for computer vision, including feature extraction, object recognition, and machine intelligence. Laboratory automation.

Ms. Klinger (F)

27G. 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 applications.

Mr. Klinger (F)

27H. 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.

Mr. Klinger (F)

280A. Algorithms. Prerequisites: consent of instructor, additional prerequisites for each offering as announced in advance by 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.

Ms. Greibach (Sp)

281A. Computability and Complexity. Prerequisite: course 181 or compatible background. Concepts fundamental to the study of information systems and theory of computing, with emphasis on the computational limitations imposed by sets of strings. Turing-recognizable (recursively enumerable) sets, closure properties, machine characterizations, nondeterminism, decidability, unsolvable problems; "easy" and "hard" problems, PTIME and NPSPACE.

Ms. Greibach, Mr. Parker (F)

281D. Discrete State Systems. Prerequisite: consent of instructor. Recommended: course 181. Finite-state machines, transducers, and their generalizations. Noncomputability and undecidability, reducibility, 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.

Mr. Carlyle (Sp)

284A-284Z. Topics in Automata and Languages. Prerequisites: course 181, additional prerequisites for each offering as announced in advance by department. Formal models of computation: 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.

Ms. Greibach (Sp)

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 translatableness of programs; expressive power of program constructs and data structures; selected current topics.

Ms. Greibach (F)

288S. Seminar in Theoretical Computer Science (2 units). Prerequisites: courses 280A, 281A, consent of instructor. Intended for students undertaking thesis research. Discussion of advanced topics and current research in such areas as algorithms and complexity models for parallel and concurrent computation, and formal language and automata theory. May be repeated for credit. S/U grading.

Ms. Greibach (F, W, Sp)

290A-290Z. 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. May be repeated for credit. S/U grading.

Ms. Greibach (F, W, Sp)

M296A. Modeling Methodology for Biomedical Systems. (Formerly numbered M270C.) (Same as Medicine M270C.) Prerequisite: course 270B or Biological Engineering 142 or Mathematics 115A or Mechanical Information, and Nuclear Engineering 171C or equivalent. Foundations of multicompartamental, noncompartamental, and dynamic system modeling methods. Special emphasis on their applications and limitations. Use of computer simulations in such limited data environments. Models for experiment design, data analysis, basic studies of mechanism, and control (therapy) of biomedical processes. Model parameter estimation algorithms.

Mr. DiStefano (F)

M296B. Optimal Control and Data Analysis for Biological and Other Dynamic Systems. (Formerly numbered M270D.) (Same as Biostatistics M270D and Medicine M270D.) Prerequisite: courses 272B and M296A, 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. DiStefano (W)

M296C. Advanced Topics and Research in Bioinformatics. (Formerly numbered M270E.) (Same as Medicine M270E.) Prerequisite: course M296A or consent of instructor. Original research problem course M296B. Research techniques and experience on special topics involving models, modeling 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. DiStefano (Sp)

C296L. Biocybernetics Research Laboratory (2 to 4 units. Formerly numbered C296D). Lecture, one to two hours; discussion, one to two hours; laboratory, two to four hours. Prerequisites: course M196B, consent of instructor. Interdisciplinary experimental laboratory techniques. Care, use, and design of laboratory instrumentation. Specialized research hardware, software, and computers. Laboratory automation. Comprehensive experimental design, including simulation, Radioactive isotope use and safety. Experimental animals, controls, and kinetic stimulus-response experiments. Concurrently scheduled with course C196L.

Mr. DiStefano (F, W, Sp)

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 student's curriculum and instruction at the University. Designated for I.B. students only. May be repeated for credit. S/U grading.

Mr. Estrin (F, W, Sp)

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 are to treat as a client. The project involves computer system design, submitting a team report of their findings and recommendations. In Progress grading.

Mr. Cardenas, Mr. Melkanoff

596. Directed Individual or Tutorial Studies (2 to 8 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 investigation of advanced technical problems. S/U grading.

597A. Preparation for M.S. Comprehensive Examination (2 to 12 units). Prerequisites: graduate standing in computer science, consent of instructor. Examination as a criterion for graduation. Preparation for the comprehensive examination. 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. S/U grading.

597C. Preparation for Ph.D. Oral Qualifying Examination (2 to 16 units). Prerequisites: graduate standing in computer science, 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 computer science, 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 computer science, consent of instructor. Preparation for and dissertation. 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
Nicolaos G. Alexopoulos, Ph.D.
Frederick G. Allen, Ph.D., Chair
A V. Balakrishnan, Ph.D.
Ezio Biglieri, Dr.Eng.
Francis F. Chen, Ph.D.
Robert S. Elliott, Ph.D.
Harold R. Fettermann, Ph.D.
Stephen E. Jacobsen, Ph.D.
N. J. Orchard, M.Sc.
Neville C. Luhmann, Jr., Ph.D.
H. J. Orchard, M.Sc.
Izhak Rubin, Ph.D.
Oscar M. Stafsudd, Jr., Ph.D.
Gabor C. Temes, Ph.D.
Chand R. V. Vaidyanathan, Ph.D.
Kang-Lung Wang, Ph.D.
Paul K. C. Wang, Ph.D.
Donald M. Wilberg, Ph.D.
Alain N. Wilson, Jr., Ph.D.
Nhan Levan, Ph.D.
H. J. Orchard, M.Sc.

Associate Professors
Chandrashkekar J. Joshi, Ph.D., in Residence
Past B. Katehi, Ph.D.
Ji-Ming Liu, Ph.D.
Kenneth W. Martin, Ph.D.
Richard E. Morthensen, Ph.D.
Dee-Son Pan, Ph.D.
Jack Wilkie, B.Sc.

Assistant Professors
Asad A. Abidi, Ph.D.
Richard L. Baker, Ph.D.
Henry Samueli, Ph.D.
Denham S. Ward, M.D., Ph.D.

Senior Lecturer
Vance C. Tyree, M.S.

Adjunct Professors
Paul T. Greiling, Ph.D.
Jimmy K. Omura, Ph.D.
William A. Peebles, Ph.D.
Yahya Rahmat-Samii, Ph.D.

Adjunct Associate Professors
Kenneth W. lliff, Ph.D.
Siegfried G. Knorr, Ph.D.
George J. Ruzicka, Ph.D.
Joel N. Schulman, 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 ABET-accredited 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 152B and, by petition only, Electrical Engineering 199; Civil Engineering 106A (satisfies the engineering economics requirement): Mathematics 132 (strongly recommended, although Mechanical, Aerospace, and Nuclear Engineering 191A may be taken with consent of the vice chair for undergraduates).

(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.


(5) Four 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 cohesiveness with respect to subject matter; and one must satisfy the engineering and science in society requirement). AND three courses from History 1A, 1B, 1C, Humanities 1A, 1B, 1C, 2A, 2B, 2C (selection of a course in the Humanities 2 sequence precludes the corresponding course in the Humanities 1 sequence and vice versa; courses must be completed within your first 90 units).

(6) Two 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 100.) Lecture, four hours; recitation, one hour. Prerequisites: Mathematics 31A, 31B, 32A, 32B, 33A, 33B, Physics 8C. Electrical quantities, circuit principles, signal waveforms, AC circuits, semiconductor devices, small signal models, amplifiers, electrical and electronic instruments.

Mr. Samueli (F,W,Sp)

100L. Circuit Analysis Laboratory (2 units). (Formerly numbered 100L.) Laboratory, four hours. Prerequisite or corequisite: course 100 or 111A. Experiments with circuits containing linear and nonlinear devices; transient and steady state behavior of circuits. Mr. Samueli (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)
142. Linear Systems: The State-Space Approach. (Formerly numbered 128A.) Prerequisite: course 102. State-space methods of linear system analysis and design, with application to problems in networks, control, and system modeling. Mr. Wiberg (W)

161. Electromagnetic Waves I. (Formerly numbered 117B.) Lecture, four hours; recitation, one hour. Prerequisite: course 161. Radiated potential fields and equivalent sources. Far-field patterns of dipoles, loops, and helices. Reciprocity, directivity, beamwidth, and sidelobe level of antenna patterns. Design of linear arrays. Scheinholz unit circle. Design of feeding networks. Array design including mutual coupling. Mr. Elliott (Sp)

162A. Antenna Design I. (Formerly numbered 117B.) 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. Dolph-Chebyshev excitation. Design of slot arrays with mutual coupling. Design of traveling wave antennae, reflectors, and lenses. Mr. Elliott (W)

162B. Antenna Design II. (Formerly numbered 117B.) Lecture, four hours; recitation, one hour. Prerequisite: course 162B. Radiation patterns of horns, slots, and patch antennas. Equivalent source representations. Synthesis of sum and difference patterns. Dolph-Chebyshev excitation. Design of slot arrays with mutual coupling. Design of traveling wave antennae, reflectors, and lenses. Mr. Elliott (W)

163A. Introductory Microwave Circuits. (Formerly numbered 117Y.) Lecture, four hours; recitation, one hour. Prerequisite: course 163. Equivalent mode voltage current representation of guided waves in arbitrary rectilinear structures. Design of matching obstacles, attenuators, phase shifters, directional couplers, hybrid junctions, isolators, circulators, and microwave filters. Mr. Elliott (W)

163B. Microwave and Millimeter Wave Active Circuits. (Formerly numbered 117T.) Prerequisite: course 163A. Analysis of microwave and millimeter wave tubes such as klystrons, TWT, BWO, Magnetrons, and Gyrotrons, and solid-state circuits for IMPATTs, BARITTS, TUNNETS, Gunn effect devices, GaAs FETs, and bipolar transistors. Mr. Luhmann (W)

164A. Electromagnetics Laboratory (2 units). (Formerly numbered 117T.) Lecture, one hour; laboratory, three hours. Prerequisite: course 164A. 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)

164AL. Active Microwave Circuit Design Laboratory (2 units). (Formerly numbered 117T.) Lecture, 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, GaAs, MESFET). Mr. Luhmann (Sp)

165. Modern Optics. (Formerly numbered 117E.) Lecture, four hours; recitation, one hour. Prerequisite: course 165. Two-dimensional transformations. Diffraction methods including Fourier transform, Gaussian beams. Coherent and incoherent imaging systems. Optical processing methods. Holography and applications. Mr. Yeh (Sp)

Graduate Courses

201S. Electrical Engineering Seminar (2 units). (Formerly numbered 201.) Prerequisite: graduate standing in engineering. Lectures on current research topics in electrical engineering. S/U grading. (F,Sp)


M208B. Analytical Methods of Engineering II. (Formerly numbered 216B.) Lecture, 12 units. (Formerly numbered M210B.) Prerequisites: course 216A or Mechanical, Aerospace, and Nuclear Engineering M291A.) Prerequisite: course M208A or Mechanical, Aerospace, and Nuclear Engineering M291A or consent of instructor. Application 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 ordinary and partial differential equations. Mr. Gibson, Mr. Levan (Sp)

210A. Advanced Circuit Theory I. Prerequisites: course 111B, knowledge of linear algebra and complex function theory. State equations for linear circuits. Characterization of n-ports and multiterminal elements. Introduction to and applications of the scattering matrix and its derivatives. Mr. Orchard (F)


211B. Active, Passive, and Digital Filters. (Formerly numbered 210D.) Prerequisite: course 211A or consent of instructor. Approximation theory Realization of passive filters. Electromechanical filters. Active filters with lumped and/or distributed elements. Switched-capacitor filter design. Mr. Orchard (F)


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, pole-zero compensation, circuit design techniques for optimum Slew rate Multiplier, A/D and D/A converters. Mr. Abidi, Mr. Martin (W)

215B. Advanced Digital Integrated Circuits. (Formerly numbered 216B.) Prerequisite: course 115C. Advanced logic families (description, analysis, and comparison). MSI digital circuits (flipflops, registers, counters, PLAs, etc.). VLSI memories (ROMs, RAMs, CCDS, bubble memories, EPROMs, EEPROMs) and VLSI systems (microcomputers, PLAs, ACIs, 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-off in materials and circuit design, special functions, hardware/software trade-off. Integrated circuit design project. Mr. Martin (F)


M216A. LSI in Computer System Design. (Formerly numbered M253A.) (Same as Computer Science M252A.) Lecture, four hours; laboratory, four hours. Prerequisites: graduate standing in computer science or electrical engineering, consent of instructor. LSI techniques in computer system design. Fundamental design techniques that can be used to implement complex integrated systems on a chip. Mr. Viswanathan (F,Sp)
230A. Algorithms and Processing in Communication and Radar. (Formerly numbered 234.) Prerequisite: course 230A. Basic digital signal processing algorithms in communication and radar systems. Optimum dynamic range scaling for random data. Algorithms for fast convolution and transform. Spectral estimation of time-series data: Parallel processing, VLSI algorithms, and systolic arrays. Mr. Yao (W)

230D. Signal Processing in Communications. (Formerly numbered 227S.) Prerequisite: course 241B or consent of instructor. Basic digital signal processing techniques for estimation and detection of signals in communication and radar systems. Optimization of dynamic range, quantization, and state constraints; DFT, convolution, FFT, NT, Winograd DFT, systolic array; spectral analysis-windowing, AR, and ARMA; system applications. Mr. Yao (W)

231A. Information Theory: Channel and Source Coding. (Formerly numbered 231.) Prerequisite: course 230A. Not open for credit to students with credit for former System Science 220A. Queue modeling and analysis with applications to space-time digital switching systems and to integrated-service telecommunication networks. Mr. Rubin (W)

231B. Error Control Codes and Cryptography. (Formerly numbered 236.) Prerequisite: course 231A. Introduction to Galois fields with applications to error control coding and cryptography. Linear block codes, cyclic codes, BCH codes, Reed-Solomon codes, and Goppa codes. Digital circuit implementation of encoders, decoders, and cryptographic systems. Communication and public key cryptography and key management. Mr. Baker (W)

231C. Rate Distortion Theory and Source Coding Techniques. Prerequisites: courses 230A and 231A. Not open for credit to students with credit for former System Science 220A. Queue modeling and analysis with applications to space-time digital switching systems and to integrated-service telecommunication networks. Mr. Rubin (W)

232B. Telecommunication Switching and Queueing Systems. (Formerly numbered 237.) Prerequisite: course 232A. Not open for credit to students with credit for former System Science 220A. Queue modeling and analysis with applications to space-time digital switching systems and to integrated-service telecommunication networks. Mr. Rubin (W)

232C. Telecommunication Architecture and Networks. (Formerly numbered 238.) Prerequisite: course 232B. Analysis and design of integrated-service telecommunication networks and multiple-access procedures. Stochastic analysis of priority-based queuing systems models. Queueing networks; network protocol architectures; error control; routing, flow, and access control. Applications to local-area, packet-radio, satellite, and computer communication networks. Mr. Rubin (Sp, W)

232D. Telecommunication Networks and Multiple-Access Communications. (Formerly numbered 227T.) Prerequisite: course 232B. Analysis and design of integrated-service telecommunication networks and multiple-access communication systems. Topics include: access architectures, and multiple-access schemes. Message delays, error/flow control, switching, routing, protocols. Applications to local-area, packet-radio, local-distribution, computer and satellite communication networks. Mr. Rubin (Sp, W)

232E. Graphs and Network Flows. (Formerly numbered 220G.) Prerequisite: course 136 or consent of instructor. Solution to analysis and synthesis problems which may be formulated as flow problems in capacitated (or cost constrained) networks. Development of tools of network flow theory using graph theoretic methods; application to communication, transportation, and transmission problems. Mr. Jacobsen (W, 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. Jacobsen (Sp)

236B. Nonlinear Programming. (Formerly numbered 2006.) Prerequisite: course 236A or equivalent. Basic course in nonlinear programming. Convex sets and functions and their basic properties. Kuhn-Tucker points, saddle points, and non-linear 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 computational procedures for decomposing large-scale mathematical programming problems. Generalized linear programming, decomposition algorithms, column generation, economic implications. Application to stochastic programming and optimal control. Topics in nonconvex programming, minimizing functions on the 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. Methods of solution. Detailed examples 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. Reliability models for complex systems, coherent structures, modular decomposition, reliability bounds, current methods and hazard functions. Optimization problems in reliability: redundancy allocations, maintenance policies, stress-strength and safety considerations in engineering design. Statistical problems, current topics.  Mr. Jacobsen (Sp)

239AS. Topics in Communication. (Formerly numbered 227EA-227EZ.) Prerequisite: consent of instructor. Topics in one or more special aspects of communication systems, such as phase-coherent communication systems, optical channels, time-varying channels, feedback channels, broadcast channels, networks, coding and decoding techniques. May be repeated for credit with topic change.

239BS. Topics in Operations Research. (Formerly numbered 227BA-227BZ.) Prerequisite: consent of instructor. Treatment of one or more selected topics from areas such as integer programming; combinatorial optimization; network synthesis; scheduling, routing, location, and design problems; implementation considerations for mathematical 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. State-space description of dynamical systems. Derivation of state spaces from input-output data. State controllability and observability. Stability and state feedback stabilization. State observer. Mr. Balakrishnan (F)

240B. Linear Optimal Control. (Formerly numbered 221.) Prerequisites: courses 141 or equivalent and 240A, or consent of instructor. An introduction to optimal control, with emphasis on detailed study of LQG, or linear regulators with quadratic cost criteria. Relationships to classical control system design. Mr. Levan (W)

240C. Optimal Control. (Formerly numbered 222C.) Prerequisite: course 240B. Applications of variational methods. Pontryagin's maximum principle, dynamic programming and nonlinear programming to problems of optimal control theory and practical systems. Mr. P.K.C. Wang (Sp)

241A. Stochastic Processes. (Formerly numbered 200C.) Prerequisite: course 131B or equivalent. Fundamentals and applications of second-order theory of stochastic processes. Correlation and spectral density. Gaussian process, processing by dynamic systems, Bayes rule and conditional expectation; mean-square estimation and Kalman filtering. Mr. Mortensen (F)


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 designing nonlinear control 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. Techniques of linear control and nonlinear control are used to control and stabilize the respiratory system. Emphasis on solving problems of current interest in biomedicine. Mr. Ward, Mr. Wiberg

249S. Topics in Feedback Control. (Formerly numbered 222H.) Prerequisites: consent of instructor. Topics in feedback control. Thorough 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; applications to flight control; nuclear reactors, process control, biomedical problems. May be repeated for credit with topic change.

260A-260B. Advanced Engineering Electrodynamics. (Formerly numbered 217A-217B.) Prerequisites: courses 161, 162A. Advanced treatment of concepts in electrodynamics and their applications to modern engineering problems. Waves in anisotropic, inhomogeneous, and dispersive media. Guided waves, scattering, interference, diffraction, and radiation, including optical phenomena. Partially coherent waves, statistical media. Mr. Alexopoulos, Mr. Yeh (F, 260A; W, 260B)

261. Microwave and Millimeter Wave Circuits. (Formerly numbered 217C.) Prerequisite: course 163A or consent of instructor. Rectangular and circular waveguides, microstrip, stripline, line, and dielectric waveguide distributed circuits, with applications in microwave and millimeter wave integrated circuits. Substrate materials, surface wave phenomena. Analytical methods for discontinuity effects. Design of passive microwave and millimeter wave circuits. Mr. Alexopoulos (Sp)


270. Quantum Electronics I. (Formerly numbered 213A.) Prerequisite: course 123A or consent of instructor. Review of quantum mechanics, approximation methods, interaction of radiation and matter. Mr. Mortensen (F)

271. Quantum Electronics II. (Formerly numbered 213B.) 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. Stafusaid (W)

272. Quantum Electronics III. (Formerly numbered 213C.) 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. Steffad (Sp)

273. Quantum Electronics IV. (Formerly numbered 213D.) Prerequisite: course 271 or consent of instructor. Quantum electronic systems, modulation, detection, acousto-optics, magneto-optics, nonlinear optics. Raman scattering, Brillouin scattering. Mr. Stafsaid (Sp)

279S. Quantum Electronics Seminar (2 units). (Formerly numbered 213J.) Prerequisite: course 270 or consent of instructor. A series of lectures and student presentations on topics of interest in quantum electronics, modern optics, and laser physics. May be repeated for credit. S/U grading. Mr. Stafsaid (W/Sp)

285A. Plasma Waves and Instabilities. (Formerly numbered 214A.) Prerequisites: courses 101, and M185 or Physics 212A. Wave phenomena in plasmas described by the macroscopic fluid equations. Emphasis on homogeneous plasmas in uniform magnetic fields. Microwaves, plasma oscillations, ion acoustic waves, cyclotron waves, hydrogenic waves, whistlers 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 222A. 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)


M288. Fusion Reactor Technology and Design. (Formerly numbered M214E.) (Same as Mechanical, Aerospace, and Nuclear Engineering M237C.) Prerequisites: Mechanical, Aerospace, and Nuclear Engineering M135 and 137, or consent of instructor. Magnetic fusion confinement technology. Fusion plasma requirements for controlled fusion. Structure and maintenance of the burning plasma. Dynamics, stability, and control. Applications in tokamaks, tandem mirrors, and alternate concepts. 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 current teaching and instruction at the University. May be repeated for credit. S/U grading.

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 12 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. 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.
Rointan F. Bunshah, D.Sc.
David L. Douglass, Ph.D., Vice Chair
Bruce S. Dunn, Ph.D., Chair
John H. Lyman, Ph.D.
John D. Mackenzie, Ph.D.
Kanji Ono, Ph.D.
Aly H. Shaibak, Ph.D.
George H. Sines, Ph.D.
Christian N. J. Wagner, Dr.rer.nat.
Alfred S. Yue, Ph.D.
Daniel Rosenthal, Ph.D., Emeritus

Associate Professor
William Klement, Jr., Ph.D.

Assistant Professors
Nancy M. Haegel, Ph.D.
Alexander Pechenik, Ph.D.

Adjunct Professors
Howard A. Slack, Ph.D.
Morris A. Steinberg, D.Sc.

Visiting Assistant Professor
Jenn-Ming Yang, Ph.D.

Scope and Objectives

At the heart of materials science is an understanding of the microstructure of solids. "Microstructure" is used broadly in reference to solids viewed at the subatomic (electronic) and atomic levels, and the nature of the defects at these levels. The microstructure of solids at various levels profoundly influences the mechanical, electronic, chemical, and biological properties of solids. The phenomenological and mechanistic relationships between microstructure and the macroscopic properties of solids are, in essence, what materials science is all about.

Materials engineering, 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 to students enrolled in the Department of Chemistry (College of Letters and Science). Several courses in the undergraduate curriculum also play an important role in one of the options of the manufacturing engineering program.

The graduate program allows for specialization in one of the following fields: science of materials, physical metallurgy and metal processing, mechanical metallurgy and deformation processing, and ceramics and ceramic processing.

Bachelor of Science in Materials Engineering

The ABET-accredited materials engineering program is designed for students who wish to pursue a professional career in the materials field and desire a broad understanding of the relationship between microstructure and properties of materials. Metals, ceramics, and 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 (185 minimum units required):


(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, M192A or Chemical Engineering M192A (satisfies the mathematics requirement); Civil Engineering 106A (satisfies the engineering economics requirement).

(3) Five elective courses from Civil Engineering 135A, Electrical Engineering 121A, 123A, 123B, 124, Materials Science and Engineering 140D, 143A, 143B, 145B, 146B, 146F, 147B, 147E, 148A, Mechanical, Aerospace, and Nuclear Engineering 158A (the design content of the elective courses and the elective laboratory must total six units).

(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 at least 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 also may be satisfied within the free electives).

(6) Two free elective courses.

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.

Mr. Douglass (F,W,Sp)
15. Introduction to Manufacturing Engineering. (Formerly numbered Engineering 15.) Manufacturing processes, materials and design in manufacturing: productivity, competitive aspects of manufacturing, manufacturing planning, production-scheduling, flexible manufacturing systems, economic and social aspects of manufacturing. Mr. Shabaik (F)

Upper Division Courses

M107A. Principles of Biotechnology. (Formerly numbered Engineering M107A.) (Same as Psychology M153.) Prerequisite: upper division standing. The principles of biological science developed in an engineering design context. Emphasis on how physiological, psychological, and sociological factors affect the integration of man into environmental, informational, and managerial systems through engineering design. Mr. Lyman (F, W, Sp)


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. Mr. Lyman (Sp)

141. Phase Relations in Solids. (Formerly numbered Engineering 141.) Prerequisites: course 14. Chemical Engineering M105A or Mechanical, Aerospace, and Nuclear Engineering M105A. Summary of thermodynamic laws, equilibrium criteria, solution thermodynamics, mass-action law binary and ternary phase diagrams, glass transitions. Mr. Ardeli (D)

142A. Diffusion and Diffusion-Controlled Reactions. (Formerly numbered Engineering 142A.) Prerequisite: course 141. Diffusion in metals and ionic solids, nucleation and growth theory; precipitation from solid solution, eutectoid decomposition, design of heat treat processes of alloys, grain and intermetallic phases, gas-solid reactions, design of oxidation-resistant alloys, recrystallization, and grain growth. Mr. Doglass (F)

142L. Diffusion and Diffusion-Controlled Reactions Laboratory (2 units). (Formerly numbered Engineering 142L.) Corequisite: course 142A. Design of heat-treating cycles and performing experiments to study interdiffusion, growth of intermediate phases, recrystallization, and grain growth in metals. Analysis of data. Comparison of results with theory. Mr. Doglass (F)

143A. Mechanical Behavior of Materials. (Formerly numbered Engineering 143A.) Prerequisite: course 14 or equivalent. Recommended: Civil Engineering 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. Mr. Sines (F, W)

143B. Failure Analysis of Metals. Prerequisite: course 143A. Failure analysis and interpretation of failure based on design deficiencies, material selection, metallurgical defects, processing and fabrication errors, improper service conditions. Relationship to heat treatment, corrosion, joining techniques, and mechanical behavior. Engineering and legal aspects. Case histories. Mr. Doglass (Sp)

143L. Mechanical Testing Laboratory (2 units). (Formerly numbered Engineering 143L.) Laboratory, four hours. Prerequisite or corequisite: course 143A. Experimental techniques for the measurements of mechanical properties of engineering materials: tensile, compressive, fatigue, creep and bend testing. Mr. Ono, Mr. Sines (W, Sp)

144A. Polymer Science. (Formerly numbered Engineering 144A.) Prerequisite: consent of instructor. Polymeric materials: molecular weight and distribution, chemical structure and bonding, structure, and mechanical properties. Glassy polymers, rubbery polymers, elastomers, adhesives. Fiber forming polymers, polymer processing technology, plasticization. Mr. Yang (W)

144L. Laboratory Experiments in Polymer Synthesis and Characterization (2 units). (Formerly numbered Engineering 144L.) Prerequisite: 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. Laboratory by Diabek (F). Correlation of polymer structure and molecular weight with properties. Effect of polymer additives (e.g., plasticizers). Mr. Yang (Sp)

145A. Introduction to Materials Characterization A (Crystalline and Amorphous 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 orientation and crystal shape; 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 modes; chemical analysis, electron optics of both instruments. Mr. Ardeli (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 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, Mr. Pechenik (W)

146F. Electronic, Ceramic, and Ferrite Materials. (Formerly numbered Engineering 146F.) 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 designs. 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 ceramic and ferrite materials. Determination of specific mechanical properties through process control for engineering applications. Quantitative characterization and selection of raw materials. Slip casting and extrusion of clay bodies. Sintering of powders. Glass melting and fabrication. Determination of chemical and physical properties. Mr. 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, metal forming, steels and cast iron, nonferrous alloys. Design of metallic alloys for specific applications. Mr. Bunshah, Mr. Wagner (W)

147E. Manufacturing Processes. (Formerly numbered Engineering 147E.) Prerequisite: course 14. Theoretical basis for cold forming and hot forming processes: rolling, extrusion, and forging. Conventional metal removal. Solidification processes and castings. Mr. Shabaik (Sp)

147F. Modern Process Metallurgy. (Formerly numbered Engineering 147F.) Prerequisites: course 14A, and Chemical Engineering M105A or Mechanical, Aerospace, and Nuclear Engineering M105A. Modern processes used in extraction and refining of metals and alloys. The role of vacuum processing in modernizing and enlarging the range 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 14B. Experimental investigation, analysis, and correlation of metal forming and casting processes (forging, extrusion, drawing, and rolling). Force measurements and energy calculations in metal forming. Experimental investigation of hot and isostatic pressing of powders. Mr. Shabaik (Sp)

148A. Structure and Properties of Composite Materials. (Formerly numbered Engineering 148A.) Prerequisites: course 14, at least two courses from 143A, 144A, 146A, 147A. 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)

149A. Materials and Structures in Nature and in Civilization. Lecture, two hours; laboratory, four hours. Prerequisite for underclassmen: consent of instructor. 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 properties of fiber and particulate materials and structures. Individual experimental project; report and presentation. Mr. Klement (Sp)

149C. Properties of Art Ceramic Materials. (Formerly numbered Engineering 149C.) Lecture, three hours; laboratory three hours. Not intended for engineering majors. Composition and properties of art ceramics and glazes. Ceramic raw materials and their functions in bodies and glazes. Design of glazes and methods of expressing composition. Laboratory projects. 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 occurrence and use 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).
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180B. Machine and Systems Biotechnology. (Formerly numbered Engineering 180B.) Prerequisite: course M107A or consent of instructor. Quantitative and qualitative methods for assessing man as a component in engineering design applications. Limits and potential for various human factors models, techniques, and computer applications to display-control design, decision-making problems, and task definition; problems 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 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


240B. Principles of Materials Science B (Structural 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; anomalous solids, kinematical theory of scattering, electrons in a periodic potential, pseudo-potentials, conduction of electrons in solids. Mr. Dunn, Ms. Haegel (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. Nuclear of reaction products, defect structure of oxides, crystal structure and morphology of oxide films, factors influencing adherence of surface films. Mr. Douglass (W)

242A. Plasticity Theory Applied to Metalworking I. Prerequisite: Mechanical, Aerospace, and Nuclear Engineering 158A. Fundamental concepts describing the mechanics of plastic deformation of homogenous solids in shear and compression. Tensile and compressive conditions, 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 158A or equivalent. The engineering and scientific aspects of crack nucleation, slow crack growth, and unstable fracture. Fracture mechanics, dislocation models, fatigue, fracture in reactive environments, alloy development, fracture-safe design. Mr. Ono (W)

243B. Design for Fatigue Reliability. Prerequisites: one or more courses from 143A, Mechanical, Aerospace, and Nuclear Engineering 156A, and 158A, or equivalent. Prediction of fatigue life of machines, structures, and vehicles with statistical confidence. Design concepts; techniques to prevent premature failure. Low-cycle, high-cycle, and crack growth. Effects of environment, residual stress, over-stressing, and surface treatments. Air Force specifications. Mr. Sines (F, even years)

243C. Dislocations and Strengthening Mechanisms in Solids. Prerequisite: course 144a, 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 (F, odd years)

244. Electron Microscopy. Prerequisite: course 145B or equivalent. Essential features of the electron microscope, geometry of electron diffraction, kinematical and dynamical theories of electron diffraction, including anomalous absorption, applications of the theory to crystallography, stress in crystals, fractography, electron diffraction resolutions, Lorentz microscopy, laboratory applications of contrast theory. Mr. Ardell (Sp, even years)

245C. Diffraction Methods in Science of Materials. Prerequisite: course 145A or equivalent. Theory of the diffraction of waves (X rays, electrons, and neutrons) in crystalline and noncrystalline materials. Long- and short-range order in crystals, structural effects of plastic deformation, solid-state transformations, arrangements of atoms in liquids and amorphous solids. Mr. Wagner (Sp, odd years)

246A. Mechanical Properties of Nonmetallic Crystalline Solids. Prerequisite: course 146A. Material and environmental factors affecting the mechanical properties of nonmetallic crystalline solids, including atomic bonding and structure, atomic-scale defects, microstructural features, residual stresses, temperature, stress state, strain rate, size, and surface conditions. Methods for evaluating mechanical properties. Mr. Mackenzie (W, even years)

246B. Structure and Properties of Glasses. Prerequisite: course 146A. Structure of amorphous solids and glasses. Conditions of glass formation and theories of glass structure. Mechanical, electrical, and optical properties of glass and their relationship to structure. Mr. Mackenzie (W, even years)

246C. 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 of these properties. Electronic conduction, ferroelectricity, and photochromism. Magnetic ceramics. Infrared, visible, and ultraviolet transmission. Unique application of ceramics. Mr. Dunn, Mr. Mackenzie (Sp, even years)


247C. Advanced Solidification. Prerequisites: courses 141, 147A, or equivalent. Liquid state concepts; 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, even 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, microhardness, metallography, X-ray diffraction, and analysis. Mr. Mackenzie, Mr. Sines (F, even years)

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, electrophoresis. Applications in semiconductors, chemical, optical, mechanical, and metallurgical industries. Mr. Bunshah (W, odd years)

249A-249B. Seminars in Materials Science and Engineering. (2 to 12 units each). Lectures on current research topics in materials science and engineering. May be repeated for credit. S/U grading

250A. Analysis and Design of Composite Materials. Prerequisites: course 142A and one course from 143A, Electrical Engineering 165, Mechanical, Aerospace, and Nuclear Engineering 156A, or 158A. Mechanics of laminated composites, textile structural composites, strength and failure of thermal and fiber composites, fatigue and damage tolerance, environmental effects, microcomputer software for composite analysis, and design. Mr. Yang (F)

250B. Advanced Composite Materials. Prerequisite: course 249A or Materials Science and Engineering 280B. Fibers, resins, and composites. Physical, mechanical, and nondestructive characterization techniques. Mr. Ono (W)

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. Mr. Lyman (W)

280B. Advanced Biotechnology. (Formerly numbered Engineering Systems 280B.) Prerequisites: course 180B or Mechanical, Aerospace, and Nuclear Engineering 180A or consent of instructor. Specialized coverage of "human factors" and "human engineering" in orientation toward obtaining design optimization of the functions of humans in relation to engineering parameters of environment, communication, and control. Mr. Lyman (Sp)

288. Seminar in Engineering (2 to 4 units). Prerequisites: graduate standing in materials science and engineering, consent of instructor. Seminar topics 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.

596. Directed Individual or Tutorial Studies (2 to 8 units). Prerequisites: graduate standing in materials science and engineering, consent of instructor. Petition forms are required and must 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 12 units). Prerequisites: graduate standing in materials science and engineering, consent of instructor. Reading and preparation for M.S. comprehensive examination. S/U grading.

597B. Preparation for Ph.D. Preliminary Examinations (2 to 16 units). Prerequisites: graduate standing in materials science and engineering, consent of instructor. Reading, preparation for oral qualifying examination, including preliminary research on dissertation. S/U grading.

598. Research and for Preparation of M.S. Thesis (2 to 12 units). Prerequisites: graduate standing in materials science and engineering, consent of instructor. Supervised independent research for M.S. candidates, including thesis prospectus. S/U grading.

599. Research and for Preparation of Ph.D. Dissertation (2 to 15 units). Prerequisites: graduate standing in materials science and engineering, consent of instructor. Usually taken after student has been advanced to candidacy. S/U grading.
Mechanical, Aerospace, and Nuclear Engineering

5732 Boelter Hall, (213) 825-2855, 825-2281

Professors
Mohamed A. Abdou, Ph.D.
George E. Apostolakis, Ph.D.
Ivan Catton, Ph.D.
Andrew F. Charwat, Ph.D.
Robert W. Conn, Ph.D.
Vijay K. Dhir, Ph.D.
Petros P. Flessas, Sc.D.
Nasr M. Gronemier, Ph.D.
William E. Kastenberg, Ph.D., Chair
Robert E. Kelly, Sc.D.
Cornelius T. Leondes, Ph.D.
Ajit K. Maj, Ph.D.
William C. Meecham, Ph.D.
Michel A. Melkoph, Ph.D.
Anthony F. Mills, Ph.D.
D. Lewis Mingori, Ph.D.
Philip F. O'Brien, M.S.
David Okrent, Ph.D.
Gerald C. Pomraning, Ph.D.
Lucien A. Schmit, Jr., M.S.
Aly H. Shabaik, Ph.D.
George H. Sines, Ph.D.
Russell A. Westmann, Ph.D.

Emeritus Professors
Joseph S. Beggia, D.Ing.
Harry Buchberg, M.S.
Kurt Forster, Ph.D.
Walter C. Hurty, M.S.
Antony J. A. Morgan, Ph.D.
Russell R. O'Neill, Ph.D.
Richard Stern, Ph.D.
Edward H. Taylor, M.S.
William T. Thomson, Ph.D.

Associate Professors
Claude G. Fleury, D.Sc.
James S. Gibson, Ph.D.
Peter A. Monkowski, Ph.D.
Daniel C. H. Yang, Ph.D.

Assistant Professors
Ann R. Karagoian, Ph.D.
Adrienne G. Lavine, Ph.D.
Vinod G. Mengle, Ph.D.
Denny K. Miu, Ph.D.
Zvi Shiller, Ph.D.

Lecturers
Charles Ashbaugh, M.S.
Alexander Samson, Ph.D., Sonor

Adjunct Professors
Leslie Cave, B.Sc.
R. Philip Hammond, Ph.D.
Milton S. Pless, Ph.D.
Robert J. Taylor, Ph.D.

Adjunct Associate Professors
Sukumar Chakravarty, Ph.D.
Charles L. Gustafson, Ph.D.
Kenneth A. Solomon, Ph.D.

Adjunct Assistant Professor
James M. McDonough, Ph.D.

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, development of new technologies, and computer-aided design. Structural dynamics and wave propagation, structural dynamics and aeroelasticity to structural optimization and synthesis, and mechanics of composite structures. 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, helicopter rotors, and fixed-wing aircraft. Other key areas of research include applied plasma physics and plasma technology, surface modification and coatings by plasma, fusion reactor design, experimental tokamak confinement 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 research 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 opportunities to specialize in fluid mechanics, heat and mass transfer, fluids, dynamics and control, or structures, while the latter includes opportunities to emphasize mechanical design, dynamics, and control; power systems and thermal design; or manufacturing processes.

At the graduate level, the department offers programs leading to M.S. and Ph.D. degrees in Mechanical Engineering, Aerospace Engineering, and Nuclear Engineering. An M.S. in Manufacturing Engineering is also offered.

Bachelor of Science in Aerospace Engineering

The ABET-accredited aerospace engineering program is concerned with the design and construction of various types of fixed-wing and rotary-wing (helicopters) aircraft used for air transportation and national defense. It is also concerned with the design and construction of spacecraft, the exploration and utilization of space, and related technological fields.

Aerospace engineering is characterized by a very high level of technology. The aerospace engineer is likely to operate at the forefront of scientific discoveries, often stimulating these discoveries and providing the inspiration for the creation of new scientific concepts. Meeting these demands requires the imaginative use of many disciplines, including fluid mechanics and aerodynamics, structural mechanics, materials and aeroelasticity, dynamics, control and guidance, propulsion, and energy conversion.

Course requirements are as follows (188 minimum units required):

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; 157, 157A (satisfy the laboratory requirement); Civil Engineering 106A (satisfies the engineering economics requirement); Mechanical, Aerospace, and Nuclear Engineering 191A or M192A or a suitable course in the Mathematics Department selected in consultation with your adviser (satisfies the mathematics requirement).

3. Three elective courses selected in consultation with your adviser from Mechanical, Aerospace, and Nuclear Engineering 131A, 132A, 133A (thermodynamics, heat, and mass transfer); 153A, 153C (acoustics); 155, 164, 169A, 171C (dynamics and control); 161A, 161B (space technology); 156A, 158A, 168 (structural mechanics); 162A, M192F (design mechanisms); 131AL, 162C, Civil Engineering 130F, 137L (laboratory).

4. English 3; Chemistry 11A, 11B/11BL; Computer Science 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).

Unless taken as part of the core.
Bachelor of Science in Mechanical Engineering

The ABET-accredited mechanical engineering program is designed to provide a basic knowledge in thermodynamics, fluid mechanics, heat transfer, solid mechanics, mechanical design, dynamics, control, mechanical systems, manufacturing, and materials. The program includes fundamental subjects important to all mechanical engineers, with an option in mechanical design, dynamics, and control, power systems and thermal design; or manufacturing processes.

Course requirements are as follows (188 minimum units required):

1. Seven core courses: Civil Engineering 108, Electrical Engineering 100, Materials Science and Engineering 14, Mechanical, Aerospace, and Nuclear Engineering 102, 103, M105A, M105D.
2. Eleven mechanical engineering core courses: Materials Science and Engineering 147B, Mechanical, Aerospace, and Nuclear Engineering 131A, 133A, 150A, plus one course from 156A, 158A, 166A (or Civil Engineering 130), and two courses from 162A, M169A, 171A; Civil Engineering 106A (satisfies the engineering economics requirement); Mechanical, Aerospace, and Nuclear Engineering 162B 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 163L, 195L.
- Mechanical Design, Dynamics, and Control: Civil Engineering 130F (two units of lab credit), 137L, Materials Science and Engineering 143L, Mechanical, Aerospace, and Nuclear Engineering 162C (two units of lab credit), 162L.
- Power Systems and Thermal Design: Mechanical, Aerospace, and Nuclear Engineering 131AL.

(3) Four elective courses, approved by your adviser, to be selected from one of the subject areas listed below (at least one course in each subgrouping — a, b — within your selected subject area should be included):

Manufacturing Processes:
- b. Civil Engineering 175, Mechanical, Aerospace, and Nuclear Engineering 174, 194A, 194B, 195A.

Mechanical Design, Dynamics, and Control:

Power Systems and Thermal Design:
- a. Chemical Engineering 130A, Mechanical, Aerospace, and Nuclear Engineering 132A, 135, 150B.
- c. English 3; Chemistry 11A, 11B/118B; Computer Science 10C or 10F; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 8A, 8B/8B; 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 and 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 mechanical, aerospace, and nuclear engineering programs and requirements for the M.S. and Ph.D. degrees, see "Graduate Study" at the beginning of this chapter.

Lower Division Course

94. Introduction to Computer-Aided Design and Drafting, (Formerly numbered Engineering 94.) Lecture, two hours; laboratory, four hours. Fundamentals of computer graphics and two- and three-dimensional modeling on computer-aided design and drafting systems. Students use one or more on-line computer systems to design and display various objects.

Upper Division Courses

102. Mechanics of Particles and Rigid Bodies. (Formerly numbered Engineering 102.) Lecture, three hours; recitation, two hours. Prerequisites: Mathematics 33A, Physics 8A. Newtonian mechanics (statics and dynamics) of particles and rigid bodies. Fundamental concepts of mechanics. Statics, kinematics, and kinetics of particles and rigid bodies. Impulse-momentum and work-energy relationships. Applications.

103. Elementary Fluid Mechanics. (Formerly numbered Engineering 103.) Lecture, three hours; recitation, two hours. Prerequisites: Mathematics 32B, 33A, Physics 8B. An introductory course dealing with the application of the principles of mechanics to the flow of compressible and incompressible fluids.

105A. Introduction to Engineering Thermodynamics. (Formerly numbered Engineering 105A.) (Same as Chemical 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 principles in the analysis and design of closed and open systems.

105D. Transport Phenomena. (Formerly numbered Engineering 105D.) 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.

109A. Engineering and Policy: Resources and Risk. (Same as Civil Engineering M115.) 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.


131AL. 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.

132A. Mass Transfer. (Formerly numbered Engineering 132A.) Prerequisites: courses M105D, 131A. The principles of mass transfer by diffusion. Mass transfer by convection in laminar and turbulent flows. Simultaneous heat and mass transfer. Applications involving combustion of solids and volatile fuels, evaporation and condensation, ablation and transpiration, gas absorption and catalysis.

133A. Engineering Thermodynamics. (Formerly numbered Engineering 133A.) Prerequisites: courses 103, M105A, M105D. Applications of thermodynamic principles to engineering processes. Energy conversion systems. Rankine cycle and other power cycle refrigeration, psychrometry, reactive and nonreactive fluid flow systems.

134A. New Energy Technology: Resources, Conversion, Constraints. (Same as Civil Engineering M161.) Prerequisite: course M105A or equivalent in thermodynamics 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 (W)

Mr. Catton (W,Sp)

Mr. Mills (Sp)

Mr. Mills (Sp)

Mr. Mills (Sp)

Mr. Catton (W,Sp)

Mr. Meecham (F, W, Sp)
134B. Solar Energy Use and Control. (Formerly numbered Engineering 134B.) Prerequisite: course M105D or equivalent or consent of instructor. Nature and availability of solar radiation; review of selected heat-transfer concepts to solar energy conversion and use; design analysis of nonlocussing solar energy collector-converters and methods of energy storage; selected applications. Mr. Mills (W)

135. Fundamentals of Nuclear Power. (Formerly numbered Engineering 135.) Prerequisite: course 155, M105A, M105D, or equivalent. Introduction to nuclear engineering; nuclear physics, neutron cross sections, nuclear fission and fusion; elementary analysis and design of reactors. Criticality, reactivity changes, neutron theory; heat removal, and heterogeneous effects. Mr. Karagozian (F)

136. Thermal Hydraulic Design of Nuclear and Other Power Systems. (Formerly numbered Engineering 136B.) Prerequisite: senior standing. Thermal hydraulic design of nuclear and other power systems, power generation and heat removal, power cycle components, hydraulic component design, overall plant design, steady state and transient operation. Mr. Dhir (W)

137. Introduction to Fusion Engineering and Reactor Design. (Formerly numbered Engineering 137B.) Prerequisite: course 135 or consent of instructor. Fusion reactions, fuel cycle, and operating conditions. Magnetic and inertial confinement, including tokamaks, magnetic mirrors, laser fusion, and selected others. Concepts for and supply of fuel for fusion reactors, design of reactors and key subsystems. Application of fusion reactors for electricity, fissionable fuel, and/or chemical fuel production. Mr. Conn (F)

150A. Intermediate Fluid Mechanics. (Formerly numbered Engineering 150A.) Prerequisite: courses 103 or equivalent or consent of instructor. The basic equations governing fluid motion. Fundamental solutions of the Navier-Stokes equations. Lubrication theory. Elementary potential flow theory. Boundary layers. Turbulent flow in pipes and boundary layers. Compressible flow: normal shocks, channel flow with friction or heat addition. Mr. Kelly (F, W)

150B. Aerodynamics. (Formerly numbered Engineering 150B.) Prerequisite: courses 103, 150A, or equivalent. Advanced aspects of potential flow theory. Incompressible flow around thin airfoils ($C_1$, $C_2$) and wings (lift, induced drag). Gas dynamics: oblique shocks, Prandtl-Meyer expansion. Linearized subsonic, transonic, and supersonic flows and waves. Wave drag. Transonic flow. Mr. Kelly (Sp)

150P. Jet Propulsion Systems. (Formerly numbered Engineering 150P.) Lecture, four hours; laboratory, two hours. Prerequisites: courses M105A, 150A, or equivalent. Thermodynamic properties of gases, aircraft jet engine operation, and rocket engines and cycles. Analytical, combustion systems, performance of rocket vehicles. Ms. Karagozian (F)

151. Performance of Vehicles. (Formerly numbered Engineering 151.) Prerequisite: courses 103, M105A. Preliminary design analysis of the performance of a variety of vehicles, including automobiles, trains, aircraft, rocket-powered vehicles, ground effect machines, ships and sailboats; performance parameters include speed, range, payload, propulsive efficiency, and air or water pollution. Mr. Charwat

153A. Engineering Acoustics. (Formerly numbered Engineering 153A.) Prerequisite: upper division standing in engineering or consent of instructor. Fundamental acoustic systems; the ear and hearing; basic acoustical instrumentation; propagation of sound; sources of sound; architectural reverberation; selected subjects. Mr. Meecham (W)

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, and environmental factors in sound propagation, sound absorption, 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.) Prerequisite: course 154S. Classical preliminary design of an aircraft, including weight estimation, performance and stability, and conceptual design. Qualitative presentation of the basic design of a low-speed aircraft. Mr. Friedmann (W)


154S. Flight Mechanics, Stability, and Control of Aircraft. (Formerly numbered Engineering 154S.) Prerequisites: courses 150A, 150B. Aircraft performance, stability, and control of basic components needed for the design of an aircraft. The effects of airplane flexibility on stability derivatives. Mr. Friedmann (F)

155. Intermediate Dynamics. (Formerly numbered Engineering 155.) Prerequisite: course 161A. Preliminary design of a low-speed aircraft. The axial and transverse dynamics of a rigid body. Euler's equations, motion of rotating bodies; oscillatory motion, normal coordinates, orthogonality relations, the vibrating string. Mr. Gibson (Sp)

156A. Advanced Strength of Materials. (Formerly numbered Engineering 156A.) Prerequisite: Civil Engineering 106B. Column buckling, Euler's column theorem. Ayclic's stress functions, stress concentrations. Loads on balls, rollers. Rotating disks, thick hollow spheres, thick hollow circular cylinders, curved beams, coated structures. Mr. Weismann (F, Sp)

157. Basic Mechanical Engineering Laboratory. (Formerly numbered Engineering 157.) Laboratory, eight hours. Prerequisites: courses 103, M105A, M105D, Civil Engineering 108. Methods of measurement of basic quantities and performance of basic experiments in the thermal sciences, fluid mechanics, and structures. Primary sensors, transducers (motion, force and stress, temperature), recording equipment, signal processing, and data analysis. Mr. Yang (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. Monkewitz (Sp)

157B. Advanced Stability and Control. (Formerly numbered Engineering 157B.) Prerequisite: course 150B. Concepts of the preliminary design of a low-speed aircraft. Design for fatigue prevention and structural optimization. Field trips to aerospace companies. Mr. Friedmann (W)


161A. Introduction to Astronautics. (Formerly numbered Engineering 161A.) Prerequisite: course 152. The space-environment of earth, near-earth orbits and trajectories, step rockets and staging, the two-body problem, orbital transfer and rendezvous, elementary perturbation theory, strength of earth's oblateness. Mr. Kaspar (Sp)

161B. Introduction to Space Technology. Recommended prerequisites: courses 102, M105D, 150P, 161A. Propulsion requirements for typical space missions, thermochromy of propellants, internal ballistic, rocket propulsion, liquid propellant feed systems, SPOG, instability, electric propulsion. Multi-stage rockets, separation dynamics. Satellite structures and materials, loads and vibrations. Thermal control of spacecraft. Mr. Mingon (W)

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 of mechanisms from a wide range of applications, including automatic machinery, transportation systems, and computer peripheral equipment. Mr. Yang (F)

162B. Fundamentals of Mechanical System 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. Introduction to the analysis of basic components and subsystems such as gears, bearings, hydraulic and pneumatic systems. 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. Prerequisites: course 162B or consent of instructor. Laboratory and design course for students interested in development of control systems. Hands-on experience with modern engineering tools and techniques in the field, including the basics of digital data acquisition. Mr. Yang (Sp)

162M. Senior Mechanical Engineering Design. (Formerly numbered Engineering 162M.) Lecture, one hour; laboratory, five hours. Prerequisites: courses 152, Civil Engineering 106B, Materials Science and Engineering 147B. Must be taken during the last two quarters of the senior year. Students conduct a major design project: conceptualize, analyze, synthesize, and optimize group design projects. Consideration of constraints such as economics, safety, reliability, manufacturability, and social impact. Presentation, including a report with engineering specifications and drawings, made in competition among groups. Mr. Yang (Sp)

163. Dynamics and Control of Physical Systems. (Formerly numbered Engineering 163.) Prerequisites: courses 155 or M105A (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


163L. Robotics Laboratory. (Formerly numbered Engineering 163L.) Laboratory, eight hours. Prerequisite: consent of instructor. Hands-on experience in programming and operating industrial robots. Re-creates the process of on-line applications in robotics, systems, languages, sensory systems, and artificial intelligence. Mr. Melkanoff (W)

166A. Analysis of Flight Structures. (Formerly numbered M166.) Prerequisite: Civil Engineering 108. Introduction to 2-D elasticity, stress-strain laws, cold 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 aero-damping vehicles; normal modes; geometric concepts; transformations and damping and nonlinear behavior. Normal modes of columns. Mr. Friedman, Mr. Westman (F)

168. Introduction to Finite Element Technology. Lecture, four hours; laboratory, four hours. Prerequisites: course 94, Civil Engineering 108, Computer Science 10F, Mathematics 33A. Recommended: course 156A or 158A or Civil Engineering 130 or consent of instructor. Limited to 20 senior students. Introduction to the finite element method (FEM) and its matrix formulation; computer implementation of FEM concepts; program capabilities; programming and postprocessing techniques; graphics display capabilities; geometric and analysis modeling; interactive engineering systems; links with computer-aided design. Recent trends in FEM technology; design optimization. Term projects using FEMLAB computer codes. Mr. Fleury (Sp)

M169A. Introduction to Mechanical Vibrations. (Formerly numbered Engineering 169A.) (Same as Civil Engineering M137.) Prerequisites: course 102, Civil Engineering 168, or Mechanical Engineering 108 or Electrical Engineering 102 or equivalent. Introduction to feedback principles, controls system design, and system stability. Modeling of physical systems in engineering and other fields; transform methods; controller design using Nyquist, Bode, and root locus methods; compensation; computer-aided analysis and design. Mr. Mingori (Sp)

171A. Introduction to Feedback and Control Systems I: Dynamic Systems Control I. (Formerly numbered Engineering 171A.) Prerequisite: course 171A or M192A or Electrical Engineering 116 or equivalent. Introduction to feedback principles, control systems design, and system stability. Modeling of physical systems in engineering and other fields; transform methods; controller design using Nyquist, Bode, and root locus methods; compensation; computer-aided analysis and design. Mr. Mingori (Sp)

171C. Dynamic Systems Control II. (Formerly numbered Engineering 171C.) Recommended prerequisite: course 171A or Electrical Engineering 141. State-space models of continuous and discrete-time dynamic systems. Linear algebra of systems; vector spaces; geometric concepts; transformations and matrices; canonical forms. Stability, controllability, and observability. State representation of nonlinear systems; linearization. Emphasis on modeling concepts, applications, and computer-aided problem solving. Mr. Fleury (F)


175. Applications of Probabilistic Risk Analysis. (Formerly numbered 136A.) Prerequisite: consent of instructor. Applications of probabilistic models for failure of components, subsystems, and systems. Derivation and application of models for source terms, dispersion, dose-response relationships, and cost/benefit relationships. Emphasis on several case studies (e.g., hazardous waste control, energy systems, and high-level radioactive waste). Mr. Kastenberg, Mr. Okrent (Sp)

180A. Environmental Biotechnology. (Formerly numbered Engineering 180A.) Prerequisite: Materials Science and Engineering M107A or consent of instructor. Physical, physiological, and psychological aspects of man's interaction with man-made, natural, 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 191A.) Prerequisites: course 102, Electrical Engineering 100. Introduction to the Laplace transform: 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 integration, residue theorems, and applications to transform inversion and partial differential equations. Mr. Ghoenim (W)


192B. Mathematics of Engineering. (Formerly numbered Engineering 192B.) Prerequisite: course 192A or equivalent. Applications of mathematical methods to engineering problems. Eigenvalue problems for continuous systems and the related special functions. Mr. Kastenberg, Mr. Kelly (Sp)


M192F. Numerical Optimization Methods for Engineering Design. (Formerly numbered Engineering 192F.) (Same as Civil Engineering M140.) Prerequisites: Computer Science 10F, Mathematics 32A, 33A. Recommended: Mathematics 115A. Systematic presentation of numerical optimization methods for engineering design; one-dimensional minimization, unconstrained minimization, linearly constrained minimization, general nonlinear problems, approximation concepts, duality, and numerical optimization software. Emphasis and computer-aided programming of numerical optimization. Applications to general design in mechanical, aerospace, and manufacturing engineering. Mr. Fleury (F)

193A. Engineering Probabilities and Stochastics. (Formerly numbered Engineering 193A.) Prerequisite: junior standing in engineering. Sets and set algebra; sample spaces; combinatorics; absolute and conditional probability; discrete and continuous random variables; probability density functions; characteristics and density functions; Chebyshev's inequality; Laplace-Fourier transforms; law of large numbers; central limit theorems; discrete and continuous stochastic processes. Mr. Meecham (W)


194A. Fundamentals of Computer-Aided Design and Manufacturing. (Formerly numbered Engineering 194A.) Prerequisite: junior standing in engineering or mathematics. Corequisite: course 194B. Basic course in computer-aided design and manufacturing. Foundation of computerized drafting, including primitives, operators, and major functions. Descriptions and representations of solid objects, hardware, software, and available commercial systems. The data processing and numerical control aspects of computer-aided manufacturing. Mr. Melkanoff (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 an on-line computer-aided system, to draw and to design various parts and systems. Mr. Melkanoff (W)

195A. Numerically Controlled Machine Programming II. (Formerly Control Systems C120.) Prerequisites: FORTRAN programming language. Advanced programming of machining processes in APT. Introduction to IBM APT-AC numerically controlled processor. Designing of postprocessors. Variable programming in numerically controlled languages. Method of generating numerical control programs by using CAD systems. Mr. Melkanoff (F)

195L. Numerically Controlled Manufacturing Machine Laboratory. Laboratory, eight hours. Prerequisite: consent of instructor. Programming and control of numerically controlled metal cutting machines. Numerically controlled programming in various languages. Postprocessors utilization. Direct interface to computer-aided design. Mr. Melkanoff (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. Occasional field trips may be arranged. May be repeated for credit. (F, W, Sp)

Graduate Courses


Mr. Pomraning (Sp)

Mr. Dhri (W)

231D. Application of Numerical Methods to Transport Phenomena. Prerequisite: 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, separation flow, flow in porous media. Effects of concentration and temperature gradients, chemical reactions, radiation, electric and magnetic fields.

Mr. Kastenberg (Sp)


Mr. Dhri (F)

231F. Advanced Heat Transfer. Prerequisite: course 231A. Advanced topics in heat transfer from the current literature. Linear and nonlinear theories of thermal and fluid flow: high-temperature flows; mathematical methods in transport phenomena; phenomenological theories of turbulent heat and mass transport.

Mr. Catton (F)

232B. Advanced Mass Transfer. Prerequisites: courses 131A, 150A. Generalized constitutive equations for laminar and convective heat and mass transfer problem, including equilibrium and nonequilibrium chemistry. Similar and nonsimilar solutions for laminar flows; solution procedures for turbulent flows. Multicomponent diffusion. Application to the hyperbolic boundary layer, ablation and transpiration, cooling smoke, and combustion.

Mr. Mills (W)


Mr. Charwat (W)

234A. Topics in Thermal Design. Prerequisites: courses 131A, 132A. Consideration of thermal design problems selected from applications such as heat exchangers, reactor designs, thermal and environment control, spacecraft temperature control, and solar thermal conversion. Presentations made by the staff and occasionally by invited off-campus specialists.

Mr. Perry (Sp)

235A. Nuclear Reactor Theory. Prerequisites: courses 135, 136A, 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. Pomraning (W)


Mr. Conn, Mr. Pomraning (Sp)

235C. Methods of Nuclear Reactor Analysis. Prerequisite: course 235A or consent of instructor. The analysis of nuclear reactor systems by approximate techniques, analytical methods, and numerical methods. A synthesis of reactor physics and engineering, with applications to various systems.

Mr. Pomraning

236A. Nuclear Fuel Element Behavior. Prerequisite: course 136C. Void swelling of cladding materials, fuel swelling due to fission gases, pore migration and fuel restructuring, fission gas release, codes for swelling and gas release, densification, and hot pressing, modeling of the structural behavior of fuel elements and assemblies.

Mr. Okrent (W)


Mr. Okrent (W)

236D. Probabilistic Risk Assessment. Prerequisite: course 175. Basic concepts of risk benefit; low probability, high-consequence events; statistical and physical 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. Prerequisites: at least four courses from 235A, 235B, 235C, 236A, 236B, 236C, 236D. 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-hydraulics, shielding, and safety.

Mr. Kastenberg (Sp)


Mr. Conn


Mr. Conn (W)

237C. Fusion Reactor Technology and Design. (Formerly numbered M252.) Same as Electrical Engineering M267. Prerequisites: Electrical Engineering M185, or consent of instructor. Magnetic fusion reactor concepts and technological components, solid and liquid breeder blankets, neutronics, fuel cycles, in-vessel components, radiation shielding, magnets, system design and optimization.

Mr. Abdou (Sp)

239B-239BZ. Seminar: Current Topics in Transport Phenomena (2 to 4 units each). Prerequisite: consent of instructor. Lectures, discussions, student presentations, and projects in areas of current interest in transport phenomena. May be repeated for credit. S/U grading.

Mr. Kastenberg (Sp)

239DA-239DZ. Seminar: Current Topics in Nuclear Engineering (2 to 4 units each). Prerequisite: consent of instructor. Lectures, discussions, student presentations, and projects areas of current interest in nuclear engineering. May be repeated for credit. S/U grading.

239FA-239FZ. Special Topics in Transport Phenomena (2 to 4 units each). Prerequisites: consent of instructor, additional prerequisites for each offering as announced in advance by department. Advanced study in areas of current interest in nuclear engineering, such as reactor safety, risk-benefit trade-offs, nuclear materials, and reactor design. May be repeated for credit with topic change.

239HA-239HZ. Special Topics in Fusion Physics, Engineering, and Technology (2 to 4 units each). (Formerly numbered 235AA-235Z.) Prerequisites: consent of instructor, additional prerequisites for each offering as announced in advance by department. Advanced study in areas of current interest in fusion science and engineering, such as instabilities in burning plasmas, alternate fusion confinement concepts, inertial confinement fusion, fusion-fission hybrid systems, and fusion reactor safety. May be repeated for credit with topic change.

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. Charwat, Mr. Kelly (F)

250B. Viscous and Turbulent Flows. Prerequisite: course 150A or consent of instructor. The fundamental principles of fluid dynamics applied to the study of fluid resistance. States of fluid motion discussed in order of advancing Reynolds number; wakes, boundary layers, instability, transition, and turbulent shear flows; dam break problems. Mr. Monkewitz (Sp)

250C. Compressible Flows. Prerequisites: courses 150A, 150B, or equivalent. 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.

Ms. Karagopian (Sp)

251A. Stratified and Rotating Fluids. Prerequisite: course 150A or equivalent of consent of instructor. Fundamentals of flows with density variations or rotation, illustrated by examples with environmental, geophysical, or technical importance. Linear and finite amplitude wave motion. Flow past bodies; blocking phenomena. Viscous effects. Instabilities. Turbulent shear flows, wakes, plumes, and gravity currents.

Mr. Kelly

251B. Marine Hydrodynamics. Prerequisites: courses 150A, 193A, and 193B, or equivalent, or consent of instructor. Basic hydrodynamics; small amplitude and shallow water theories: waves on beaches; waves; mathematical hydraulics; breaking of a dam.

Mr. Kelly (W)

251C. Fluid Dynamics of Pollution. Prerequisite: course 150A or consent of instructor. Designed to introduce students in engineering and/or scientists of various disciplines to the fundamental aspects of pollution problems. The fluid dynamics of photochemical smog, oil slicks, and pollution in waterways.

Mr. Kelly (F)
252A. Stability of Fluid Motion. Prerequisite: course 150A or equivalent or consent of instructor. Mechanisms by which laminar flows can become unsteady and lead to turbulence. Linear stability theory; thermal, centrifugal, and shear instabilities; boundary layer instability. Nonlinear aspects: sufficient criteria for stability, subcritical instabilities, supercritical states, transition to turbulence. Mr. Friedmann, Mr. Mingori.

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 theories, and origins of Reynolds stresses. Mr. Meecham

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. Meecham

253B. Fundamentals of Aeracoustics. Prerequisite: course 150A or consent of instructor. Detailed discussion of plane wave points, point sources, Nonlinear effects, layer theory, and multiple reflections. Inhomogeneous wave equation. Monopole, dipole, quadrupole source fields from scattering inhomogeneities and turbulence; Lighthill's theory; moving media. Similarity methods. Selected applications.

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; three-dimensional random processes using wave number and frequency space; response and radiation of infinite and finite structures; statistical energy analysis. Mr. Meecham (Sp)

254A. Special Topics in Aerodynamics. Prerequisite: courses 150A, 150B, 158A, 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. Mengle

255A. Advanced Dynamics. Prerequisites: courses 155 and 169A, or consent of instructor. Variational principles and Lagrange's equations. Kinematics and dynamics of rigid bodies; process and rotation of rigid bodies. Mr. Yang (W)

255B. Mathematical Methods in Dynamics. Prerequisite: course 255A. Concepts of stability; state space interpretation; stability determination by simulation, linearization, and Liepounov's direct method; the Hamilton-Jacobi equation and dynamical systems; averaging and perturbation methods of nonlinear analysis; parametric excitation and non-linear resonance. Application to mechanical systems. Mr. Gibson (W, odd years)

256A. Mechanics of Deformable Solids. Prerequisites: courses 158A and 166A, or consent of instructor. Kinematics of deformation, strain tensors, invariance, compatibility; conservation laws; stress tensors; equations of motion; boundary conditions; constitutive equations; energy, power, dissipation, anisotropy; reciprocity linear elastic properties, plane and generalized plane problems; dynamical problems. Mr. Mal, Mr. Westmann (F)


256C. Plasticity, Creep, and Thermal Stresses. Prerequisite: course 156A or 158A or consent of instructor. Incremental plastic stress-strain relations. Stress-strain-time relations commonly used in structural analysis. Unified treatment of plastic strain, creep strain, and thermal strain. Elastic-plastic, and creep analyses of beams, columns, shafts, frames, and plates. Mr. Westmann (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 modes of failure; fracture toughness; crack tip stress intensity factors; engineering applications in stiffened structures, pressure vessels, plates, and shells. Mr. Westmann

257A. Elastic Wave Propagation I. (Same as Earth and Space Sciences M224A.) Prerequisites: 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 and guided waves in multilayered media; 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 257A. 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. Mal (W)

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. Selected applications. Mr. Charwat

259A. Seminar on Advanced Topics in Fluid Mechanics. Prerequisite: consent of instructor. Advanced study of topics in fluid mechanics, with intensive student participation involving assignments in research problems leading to a term paper or an oral presentation (possible help from guest lecturers).

259B. Seminar on Advanced Topics in Solid Mechanics. Prerequisite: consent of instructor. Advanced study in various fields of solid mechanics on topics which may vary from term to term. Topics include dynamics, elasticity, plasticity, and stability of solids. Mr. Westmann

260AA-260ZZ. Seminar: Current Topics in Mechanical Engineering (2 to 4 units each). (Formerly numbered 259AA-259ZZ.) Prerequisite: consent of instructor. Summer and winter sessions covering new developments and projects in areas of current interest in mechanical engineering. May be repeated for credit. S/U or letter grading. (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.

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 which contain mechanical, thermal, electrical, and electronic feedback elements, and other complex components and subsystems. Application of both classical methods and modern computer-based techniques. Mr. Yang (W)

263B. Topics in Modeling and Dynamics of Aerospace Vehicles. Prerequisites: courses 171A, 255A. Recommended: courses 154A, 255B, 269A. Modeling, dynamics, and stability of aerospace vehicles; introduction to performance control of applications to spinning and dual-spin spacecraft, space structures, rotor dynamics and coupled rotor fuselage dynamics of helicopters, active control of aircraft, propulsion systems, and others. Mr. Friedmann, 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. Kinematics, trajectory, modeling, trajectory planning, and systems dynamics. Control concepts and control computer algorithms. Mr. Yang (W)


263B. Failure of Structural Systems. Prerequisite: Civil Engineering 135B. 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 problems involving complex structures. Mr. Sines (F)

269A. Advanced Dynamics of Structures. Prerequisites: course M269A, Civil Engineering 235A. Analysis of linear and nonlinear response of structures to dynamic loadings. Stresses and deflections in structures. Structural damping and self-induced vibrations. Mr. Friedmann (W)

269C. Introduction to Probabilistic Dynamics. (Formerly numbered 269C.) (Same as Civil Engineering M237C.) Prerequisite: course M169A. Response of structural and mechanical systems to random vibrations. Deterministic and stochastic excitation of structures and systems. Response of systems with random parameters. Discrete and continuous linear systems. Applications to earthquakes, wind sway of buildings, gust response, vibrations due to gearing inaccuracies, train vibrations, etc. Mr. Friedmann (Sp, even years)

269D. Aeroelastic Effects in Structures. Prerequisite: course M269A. Presentation of field of aeroelasticity from unified viewpoint applicable to flight structures, suspension bridges, buildings, and other structures. Derivation of aeroelastic operators and unsteady airloads from governing variational principles. Flow induced instability and response of structural systems. Mr. Friedmann (F)


271B. Dynamic Systems Stochastic Estimation and Control. Prerequisites: courses 171C, 171D, and 271A, or consent of instructor. Applied treatment of optimal state estimation and stochastic control problems for continuous and discrete-time dynamic models with state-space descriptions. Kalman filtering, smoothing, and prediction algorithms. Robustness, optimal controllers; the separation principle. Emphasis on efficient numerical computations. Applications in various fields. Mr. Leondes (W)
Mr. Leondes (W)

271D. Seminar and Special Topics in Dynamic Systems Control. 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)

Mr. Gibson (W)

Mr. Gibson (Sp)

291C. Integral Equations in Engineering. (Formerly numbered Engineering 291C.) Prerequisite: Mathematics 250B. 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. Westmann (Sp)

295A. Computer-Aided Manufacturing. Prerequisites: courses 94, 163A, 163L, 195L. Analysis of the usage of the computer in manufacturing. Manufacturing information systems; group technology; computer-aided manufacturing process planning; flexible manufacturing systems. 
Mr. Melkanoff (F)

295B. Computer-Integrated Manufacturing. Prerequisite: course 295A. Course is an introduction to design of computer-integrated manufacturing, including automated factories and flexible manufacturing systems. 
Mr. Melkanoff (W)

298. Seminar in Engineering (2 to 4 units). Prerequisites: graduate standing in mechanical, aerospace, and nuclear 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. Kastenberg (F, W, Sp)

497A-497B. Field Project in Manufacturing Engineering. Lecture, two hours. Prerequisite: consent of instructor. Teams of students perform detailed system analysis and plan the design of manufacturing engineering systems at various manufacturing plants. In progress grading. 
Mr. Melkanoff (W, 497A; Sp, 497B)

594. Directed Individual or Tutorial Studies (2 to 8 units). Prerequisites: graduate standing in mechanical, aerospace, and nuclear 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 12 units). Prerequisites: graduate standing in mechanical, aerospace, and nuclear engineering, consent of instructor. 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 mechanical, aerospace, and nuclear engineering, consent of instructor. S/U grading.

597C. Preparation for Ph.D. Oral Qualifying Examination (2 to 20 units). Prerequisites: graduate standing in mechanical, aerospace, and nuclear 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 mechanical, aerospace, and nuclear 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 mechanical, aerospace, and nuclear engineering, consent of instructor. Usually taken after student has been advanced to candidacy. S/U grading.

Schoolwide Programs, Courses, and Faculty

6426 Boelter Hall, (213) 825-2473

Bachelor of Science in Engineering

Bioengineering Major Field

The bioengineering major field is an interdepartmental program leading to an ABET-accredited Bachelor of Science degree in Engineering that may soon be replaced by several new programs in this area. Therefore, applicants may not be admitted to this major but will have an opportunity to pursue one of the new alternatives. For further information, contact the Associate Dean, Student Affairs, 6426 Boelter Hall.

Graduate Study

For information on graduate admission to the schoolwide engineering programs and requirements for the M.S., Engineer, and Ph.D. degrees and certificate of specialization, see “Graduate Study” at the beginning of this chapter.

M.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

11A. 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)

12A. 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

Mr. Rosenstein (F, Sp)

106C. Experimental Design Laboratory. Laboratory, eight hours. Prerequisite: course 106B or equivalent. Creative experimental projects for student designs in any engineering domain where individual students have preparation and interest, exemplifying the professional method. Predicted idealized performance compared to experimentally achieved reality. Student prize competition entries encouraged. 

106D. Engineering Systems Design Laboratory. Laboratory, eight hours. Prerequisites: course 106C, advanced senior standing. Similar to course 106D and normally a continuation thereof. Design projects generally emphasizing productivity, energy, environment, and process cost-benefit studies. 

109. The Engineer and Society. Prerequisite: senior standing. Selected lectures, discussions, oral and written reports relating to engineering, its sociological and ecological impacts, present, future, and past relationships. Maximum student participation in topical selection and class structuring. Creativity and original thinking emphasized. 

Mr. O’Brien (F, W, Sp)


Mr. Rosenstein (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’Brien (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

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. Mr. O'Neill

472A-472D. The Engineer in the Business Environment (3 units, 3 units, 3 units, 1½ 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). Mr. O'Neill

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. Mr. O'Neill

495. Teaching Assistant Training Seminar. Prerequisites: graduate standing in engineering, appointment as a teaching assistant. Seminar on communication of engineering principles, concepts, and methods, preparation, organization of material, presentation, use of visual aids, grading, advising, and rapport with students. S/U grading. (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. 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. Piltsbury, Engineer
Bonham Spence-Campbell, E.E.

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 and research are the central concerns 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. 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. 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.

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.

Photo: Architectural rendering produced by introductory computer graphics students on the school’s Computervision system.
Graduate School of Architecture and Urban Planning

1317 Perloff Hall, (213) 825-3791

The Graduate School of Architecture and Urban Planning (GSAUP) 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 Perloff Hall, (213) 825-0525, 825-7857

Professors
- Marvin Adeison, Ph.D.
- Samuel Aroni, Ph.D.
- Baruch Givoni, Ph.D.
- Thomas S. Hines, Ph.D.
- Lionel March, Sc.D., Program Head
- Murray A. Milne, M.Arch.
- Barton Myers, M.Arch.
- Richard Schoen, M.Arch.
- George Stiny, Ph.D.
- Thomas H. Vreeland, Jr., M.Arch.
- Richard S. Weinstein, M.A., Dean

Associate Professors
- Franklin Israel, M.Arch.
- F. Eugene Kupper, M.Arch.
- Jurgen Lang, Dipl.Arch., ETH
- Robin Liggett, Ph.D.
- George Rand, Ph.D.

Assistant Professors
- Diane Favro, Ph.D.
- Ben Refuerzo, M.Arch.

Lecturers
- Berge Aran, Ph.D.
- Charles Griggs, B.Arch.
- Jeffrey Hamer, M.Arch.
- Anthony Lumsden, B.Arch.
- Donald Mills, B.Arch.
- John Ruble, M.Arch.

Adjunct and Visiting Professors
- Charles Jencks, Ph.D., Adjunct
- Rex Lotery, B.Arch., Adjunct
- William J. Mitchell, M.E.D., Visiting
- Charles W. Moore, Ph.D., Adjunct

Adjunct Associate Professors
- Kuppeswamy Iyengar, M.Arch.
- Barton Phelps, M.Arch.
- Robert J. Yudell, M.Arch.

Degrees Offered

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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. Applications are accepted from students with a variety of backgrounds. No academic or experiential training in architecture is required, although some students have had experience in the field prior to admission.

Applicants are required to submit three letters of recommendation, academic transcripts, a statement of purpose, and a “creative” portfolio. No admission tests are required. In addition to the application for graduate admission, applicants should submit the “Departmental Supplement,” available from the Admissions Office, Architecture/Urban Design, Graduate School of Architecture and Urban Planning, B315 Perloff Hall, UCLA, Los Angeles, CA 90024-1467.

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

Major Fields or Subdisciplines

No in-depth specialization is required within the context of the M.Arch. I program. However, you are required to concentrate several elective courses within a single curricular area. A minimum of three elective courses must be taken within this curricular area, including two courses in theory and one studio application, during the second year of study.

Specializations are currently available in the following areas: urban design; policy, planning, 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 four-unit courses at the graduate level (200 and 400 series). The total number of units required is 108. The required courses, listed below, must be taken in the sequence indicated.

First Year

- Fall: Courses 200, 411, 421
- Winter: Courses 412, 431, 436
- Spring: Courses 413, 432, 442

Second Year

- Fall: Courses 414, 433, elective
- Winter: Courses 415, 441, elective
- Spring: Courses 403, 201, elective
Third Year
Fall: Courses 415 or 403, 291, elective
Winter: Courses 461, 498, elective
Spring: Course 597A

You must complete an elective sequence consisting of at least three related courses, terminating in a 403 advanced studio (normally in Spring Quarter of your second year). The elective sequence is intended to allow you to gain in-depth knowledge of a chosen area of specialization and to apply that knowledge in a design studio. Elective sequences are offered in the following areas: (1) urban design, (2) policy, programming, and evaluation, (3) technology, (4) design theory and methods, (5) history, analysis, and criticism of architecture. Details of currently available and approved elective sequences may be obtained from the graduate adviser.

In addition to completing an elective sequence, you are expected to explore a variety of topics by taking additional elective courses within the Architecture/Urban Design Program, in the Urban Planning Program, or outside GSAUP. You are required to take at least 28 units of elective coursework, including the elective sequence. At least 16 units must be taken within the Graduate School of Architecture and Urban Planning.

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. Students granted advanced standing may have their residence requirement shortened to two years (six quarters), have their unit requirement reduced to 72 units, and may be permitted to waive specified required courses.

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.

You must enroll in eight units of Architecture and Urban Planning 597A, which may not be taken until all other required courses have been successfully completed. You may also apply eight units of course 596A toward the elective course requirements for graduation. Eight of the 16 units may be applied toward the graduate course requirement. All independent 500-series work must be undertaken with the guidance and approval of an Architecture/Urban Design faculty member and is graded on an S/U basis.

Comprehensive Examination Plan
You are required to successfully complete a comprehensive examination in any one of the following areas: (1) architectural design, (2) urban design, (3) policy, programming, and evaluation, (4) technology, (5) design theory and methods, (6) history, analysis, and criticism of architecture. The examinations are administered by the appropriate curriculum area committees.

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 graduate 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; and history, analysis, and criticism of architecture.

Course Requirements
A minimum of 44 units of coursework (normally 11 four-unit courses) is required. At least 32 units must be at the graduate level; eight units of Architecture and Urban Planning 597A or eight units of course 596A are to be included in the 32 units. The remaining 12 units may be either upper division or graduate courses. No more than eight units of 596 courses may be applied toward the requirements for graduation.

Students in architectural design are required to complete at least 12 units of advanced design studio work plus 12 units of approved seminar courses.

Students in urban 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 research project 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 at least eight units of Architecture and Urban Planning 598A. 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 committee at least one quarter before taking the examination and to receive approval of an examination topic from that committee. You are then required to take at least eight units of Architecture and Urban Planning 597A. The examination consists of a research project or design project on the approved topic, which is to be publicly presented and defended after the completion of all required coursework. The examination 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 this plan. The examination must be submitted within two years after entry into the program.
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 graduate 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 598A 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 598A. 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. I) or to do a research thesis. They should make this determination at least three months prior to the anticipated date of graduation.

Ph.D. in Architecture

Admission
Applicants must hold a bachelor's degree from an accredited college or university. It is anticipated that most applicants will have completed a first professional degree in architecture (a five-year B.Arch. or a professional M.Arch. degree). Students with degrees in other fields are also encouraged to apply but may, at the discretion of the Ph.D. program committee, be required to complete specific coursework as a condition of admission.

Applicants are required to submit three letters of recommendation, academic transcripts, a statement of purpose, a proposed program of studies, a short biographical résumé, and examples of research and/or creative work. An interview may also be required.

Applicants whose native language is other than English are required to pass the Test of English as a Foreign Language (TOEFL) before entering. Refer to "Proficiency in English" under "Graduate Admission" in Chapter 3 for further information.

Criteria considered for admission include (1) evidence of capacity for original scholarship and research in architecture, and ability to achieve eminence in the field; (2) an outstanding academic record, including grades (3.5 minimum GPA), Graduate Record Examination (GRE) scores, and references; (3) demonstration in the work submitted of adequate preparation in fields related to the architectural profession; (4) evidence that your background and experience are appropriate to your field of specialization; (5) 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 the 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 theory 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 if supported by qualified faculty members willing to provide the necessary instruction and guidance.

Minor Field Requirement
You are required to include in your program of study at least one minor field, which must be from outside the Architecture/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.
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 evaluation 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 technology 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

Graduate Courses

200. Introduction to the History of Architecture. Lecture, three hours. A survey of Western architecture from prehistory to the present day. Examination of not only architectural styles, but the aesthetic, social, political, economic, technological, and theoretical determinants of built form and different methods of analyzing our architectural heritage.

Ms. Favro

201. Introduction to Architectural Theory. (Formerly numbered 201A.) Lecture, three hours. A broad overview of major architectural theorists from antiquity to the end of the 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.

Mr. 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.

Mr. Adelson

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)

226A. Computer Graphics. (Formerly numbered 227A.) 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.

226B. Computer Applications in Architecture and Urban Planning. (Formerly numbered 227A.) 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.
27. Introduction to Physical Planning. Lecture, 90 minutes; discussion, 90 minutes; four graphics sessions. Overview of physical planning, land use, construction of land-use/building surveys; social issues. Review of history/major zoning issues. Major proposals: planning issues in L.A.; data workshop: graphics in planning reports, presentations. Ms. Leavitt (W)

27A. Energy-Conserving Solar Design and Practice. (Formerly numbered 446.) Lecture, three hours. Prerequisite: course 227A and one course in energy. Introduction to the conservation of energy, the study of energy efficiency in buildings and urban structures. Mr. Crone (F, W)

27B. Modern and Postmodern Architecture. (Formerly numbered 189.) Lecture, three hours. Students are introduced to 20th-century architectural developments in Western Europe and the United States. Mr. Jencks

27C. History of the American Household and the American Home. Lecture, 90 minutes; discussion, 90 minutes. Prerequisite: course 221 or consent of instructor. An introduction to the history of householding in the United States. Ms. Hayden

27D. Ancient Architecture. (Not the same as course 266 prior to Fall Quarter 1986.) Lecture, three hours. Examination of ancient buildings and architectural developments from the pre-industrial era. Ms. van Sylly (Sp)

27E. Ancient Architecture. (Formerly numbered 266.) Lecture, three hours. Examination of ancient buildings and architectural developments from the pre-industrial era. Ms. van Sylly (Sp)

27F. Teaching Apprentice Practicum. (Not the same as course 296 prior to Fall Quarter 1986.) Lecture, three hours. Orientation for Ph.D. students in urban and regional planning. Discussion of current research and research directions. Mr. Adelson (F, W, Sp)

27G. Special Topics in Architecture and Urban Design (2 to 4 units). Prerequisite: consent of instructor. Selected advanced topics in architecture, urban design, and urban theory. May be repeated for credit. Ms. Favro

28A. Renaissance and Baroque Architecture. (Formerly numbered 288.) Lecture, three hours. Examination of European architecture from the 15th to 17th century, with primary focus on developments in the Italian peninsula. Examination of Renaissance and Baroque structures contextually, exploring changing cultural and theoretical values as well as aesthetic characteristics. Ms. Favro

29A. Research Practicum in Architecture. Lecture, three hours. Exploration of different architectural design processes with faculty members. May be repeated for credit. Mr. Adelson

29B. Research Practicum in Technology. Lecture, three hours. Exploration of different architectural design processes with faculty members. May be repeated for credit. Mr. Adelson

29C. Research Practicum in Design Theory and Methods. Lecture, three hours. Exploration of different architectural design processes with faculty members. May be repeated for credit. Mr. Adelson

29D. Research Practicum in History, Analysis, and Conservation. Lecture, three hours. Exploration of different architectural design processes with faculty members. May be repeated for credit. Mr. Adelson

30A. Theories of Teaching. Lecture, three hours. Examination of the theories of teaching and learning. Critical examination of the nature of teaching and the roles of the teacher. Mr. Adelson

31. Theory of Architectural Programming. Lecture, three hours. Examination of different architectural design processes with faculty members. May be repeated for credit. Mr. Adelson

32A. Special Topics in Architecture and Urban Design (2 to 4 units). Prerequisite: consent of instructor. Selected advanced topics in architecture, urban design, and urban theory. May be repeated for credit. Ms. Favro

32B. Special Topics in Architecture and Urban Design (2 to 4 units). Prerequisite: consent of instructor. Selected advanced topics in architecture, urban design, and urban theory. May be repeated for credit. Ms. Favro

32C. Special Topics in Architecture and Urban Design (2 to 4 units). Prerequisite: consent of instructor. Selected advanced topics in architecture, urban design, and urban theory. May be repeated for credit. Ms. Favro

32D. Special Topics in Architecture and Urban Design (2 to 4 units). Prerequisite: consent of instructor. Selected advanced topics in architecture, urban design, and urban theory. May be repeated for credit. Ms. Favro
402. Projects in Urban Design. Studio, eight hours. Prerequisite: consent of instructor. Students may choose from a number of different projects in relevant problem areas to be supervised by faculty members. May be repeated for credit. (F,W,Sp)

403A-403D. Project with Specific Topic. (Formerly numbered 403A-403H.) Studio, eight hours. Prerequisites: prior courses of particular sequence or consent of instructor. May be repeated for credit. (F,W,Sp)

403A. Projects in Policy, Programming, and Evaluation. (Formerly numbered 443.) Studio, six hours. Prerequisite: prior courses of particular sequence or consent of instructor. May be repeated for credit. (F,W,Sp)

403B. Projects in Technology. (Formerly numbered 443.) Studio, six hours. Prerequisite: prior courses of particular sequence or consent of instructor. May be repeated for credit. (F,W,Sp)

403C. Projects in Design Theory and Methods. (Formerly numbered 443.) Studio, six hours. Prerequisite: prior courses of particular sequence or consent of instructor. May be repeated for credit. (F,W,Sp)

404. Joint Planning/Architecture Studio. Lecture, one hour; discussion, one hour; studio, four hours. An opportunity to work on a joint planning/architecture project for a client. Outside speakers; field trips. Examples of past projects include Third Street Housing, Santa Monica; “New American House” for nontraditional households; guide to setting up shelters for homeless in Los Angeles County. Ms. Leavitt, Ms. Levin (W)

411. Introductory Design Studio. Studio, 12 hours. Prerequisite: course 411 or consent of instructor. The design of the project starts with the exploration of the architectural program in relation to the design process and, particularly, the implications of the program on architectural forms and concepts. In a second phase, structural elements are introduced to fulfill the physical requirements of the project, and further develop the intended forms and concepts. (W,Sp)

413. Building Design with Landscape Studio. Studio, 12 hours. Prerequisites: courses 411 and 412, or consent of instructor. Building design and site planning in relation to the potential and limitations of the natural landscape, with special attention to natural light, heat, and ventilation. (Sp)

414. Major Building Design I. Studio, 12 hours. Prerequisite: second-year standing. Design projects which enable students to integrate architectural and environmental issues, with emphasis either on treatment in breadth of large-scale projects or exploration in depth and detail of smaller-scale projects. Students learn to integrate structure, environmental controls, physical context, and the cultural environment in design of buildings and to present their ideas in graphic or model form. (F)

415. Major Building Design II. Studio, 12 hours. Prerequisite: course 414. Design projects which enable students to integrate architectural and environmental issues, with emphasis either on treatment in breadth of large-scale projects or exploration in depth and detail of smaller-scale projects. Students learn to integrate structure, mechanical systems, physical context, and the cultural environment in design of buildings and to present their ideas in graphic or model form. Special emphasis on integration of environmental control systems. (F)

416. Comprehensive Design Studio. 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; laboratory, three hours. Description of architectural drawing techniques and skills, including development of the drawing board, furniture, and other design details, 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 development of the student's ability to visualize and express design concepts clearly and accurately. (MI)

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 forces systems; polygon of forces, moment equilibrium. Internal actions: axial force and bending moment. Reactions, stability, and static determinacy. Determine frames. Plane trusses: analysis and design. (M)


433. Structures III. Lecture, three hours. Prerequisites: course 432, consent of instructor. Introduction to structural analysis. Analysis of statically determinate systems, elements, and loads. Wind loads: distribution with height, design for comfort, structure behavior under lateral loads. Steel construction and concepts for high-rise structures. Structural case studies in timber and steel. Reinforcement theory: stress, tensile strength, modulus, intensity, history, seismic instrumentation. Case studies of recent earthquakes damage. Earthquake design concepts and seismic code requirements. Mr. Aroni, Mr. Iyengar (F)


436. Building Construction. (Formerly numbered 436.) Lecture/studio, eight hours. Prerequisites: completion of required coursework with emphasis on study of the architect in contemporary society, current forms of design, and the different passively integrated solar systems for heating buildings, considering their anticipated performance and suitability for different climates and building types. Focus on quantitative aspects, including calculations of performance terms of energy saving and expected indoor comfort conditions. Mr. Givoni (W)

441. Environmental Control Systems. Lecture, three hours. Prerequisite: consent of instructor. The design of the mechanical systems necessary for the function and control of buildings: air handling and delivery, heating and cooling, ventilation, and control of light, fire protection, building automation, life safety, plumbing, vertical and horizontal circulation, communication and electrical power distribution, analysis of the interaction of these systems and their 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 natural energy, human thermal comfort; design for 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.) Prerequisites: 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. Focus on quantitative aspects, including calculations of performance terms of energy saving and expected indoor comfort conditions. Mr. Givoni (W)

443B. Passively Integrated Solar Systems: Cooling. (Formerly numbered 443.) Prerequisites: 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 quantitative aspects, including calculations of performance terms of energy saving and expected indoor comfort conditions. Mr. Givoni (Sp)

444. Light and the Visual Environment. Prerequisite: a course in building climatology or consent of instructor. A study of the operation of the visual part of the different passively integrated solar systems for heating buildings, considering their anticipated performance and suitability for different climates and building types. Focus on quantitative aspects, including calculations of performance terms of energy saving and expected indoor comfort conditions. Mr. Milne (W)

451. Architectural Acoustics. (2 to 4 units.) Lecture, three hours. Prerequisite: course 414 or consent of instructor. An applied course in acoustical design in architecture, including the design of partitions to provide good sound insulation. Acoustical materials. The acoustic design of auditoriums. The control of noise in HVAC systems. Mr. Harris (W)

482. Communication and Diffusion of Innovation. Seminar, three hours. Innovation in the building industry and the design professions. Successful and unsuccessful innovations in the building products arena and in other industries. The role of technology in processes, and technologies. Students are expected to contribute to the meager literature of the field through case studies and projects. Visitors and field trips. Mr. Schoen (W)

460. Computer-Aided Design Projects. (Not the same as course 460 prior to Fall Quarter 1986.) Lecture/seminar, three hours. An introduction to professional practice in a context of computer technology planning for introduction of computer technology systems, software, and hardware; the role of the architect in contemporary society, current forms of practice and emerging trends. Contractual relationships, ethical responsibility, office management, and promotion. Case studies of the practical process. Mr. Phelps (W)

468. Urban Innovations Group Workshop (4 to 8 units). Laboratory. Prerequisite: consent of workshop staff. Applied research and development work in the Urban Innovations Group workshop under the supervision of the workshop staff. Client-oriented projects concerned with significant urban, social, or technological problems of the physical environment. May be repeated for credit. (F,W,Sp)
Urban Planning

1118A Perloff Hall, (213) 825-7331, 825-8957

Professors
Leland S. Burns, Ph.D.
John Friedmann, Ph.D.
Dolores Hayden, M.Arch.
Peter Karrinzer, M.Pl.
Peter Morris, B.A.
Donald Shoup, Ph.D.
Edward W. Soja, Ph.D.
Martin Wachs, Ph.D., Program Head

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 FitzSimmons, Ph.D.
Rebecca Morales, Ph.D.
Paul Ong, Ph.D.
Michael Storper, Ph.D.

Scope and Objectives

The professional urban planner works on the creation and management of the urban environment, including its physical, economic, and social elements. Housing, transportation, air and water quality, the preservation of historic communities, and the development of community-level economic and employment programs are some of the tasks undertaken by recent graduates of the UCLA 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 John E. Anderson 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, B302A Perloff Hall, UCLA, Los Angeles, CA 90024-1467.

A statement of purpose, letters of recommendation, grade-point averages, and relevant experience are all considered in the review process for admission. Applicants must submit transcripts from each college attended and are encouraged to submit Graduate Record Examination (GRE) scores. The Test of English as a Foreign Language (TOEFL) is required of applicants whose native language is not English, unless they have completed at least two years of university-level coursework at an English-language institution. A score of 600 on the TOEFL is expected; applicants with a score below 550 are not considered for admission. Refer to “Proficiency in English” under “Graduate Admission” in Chapter 3 for further information.

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: This area of concentration concerns the interrelated aspects of area development in both the United States and Third World nations. The perspective on questions of area development is that of political economy and spatial analysis. Industrialization, urbanization, and rural development are major focal points of interest. Within this area, you are expected to select an emphasis either on developments within the United States and other advanced industrial countries, with a focus on local community and labor market areas, or on problems of development in the Third World.

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 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, grass roots social movements and community self-empowerment, 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 several area studies centers (e.g., Latin American, African, and the Pacific Rim), 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 generally 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 or Professor Edward Soja.

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 11 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 examination plans 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 598P (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 may be 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 substantial 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.

The Graduate School of Architecture and Urban Planning and the John E. Anderson Graduate School of Management offer a three-year concurrent degree program designed for students who seek careers which draw on general and specialized skills in urban planning and management. By providing knowledge of the workings of both the private and public sectors, the program enables individuals who have acquired these skills to move easily between careers in private industry and public service.

Students should request all application materials from the M.B.A. Admissions Office, John E. Anderson 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 professional knowledge and skills while receiving advanced area studies and language training.

Students should apply through the Urban Planning Program. Further details may be obtained from the graduate counselor in the Urban Planning Program.

Ph.D. in Urban Planning

Admission

Students admitted to the Ph.D. program in Urban 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. Employment experience in planning or a closely related field is strongly recommended.

Foreign Language Requirement

A foreign language is not required either for admission to or completion of the doctoral program. However, students who are expecting to do dissertation research abroad are strongly advised to obtain the necessary language skills prior to beginning such research.

Course Requirements and Qualifying Examinations

You must demonstrate a high level of competence 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 methods 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 beginning of the 19th century and with philosophical 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 application to urban and regional studies and planning. Statistical tools include probability theory, probability distribution, sampling, survey methods, estimation techniques, hypothesis testing, analysis of variance, correlation, regression, and factor analysis. You may also study methods which address research of a more qualitative nature, including ethnomet hodology, anthropological field methods, historiography, architectural research methods, and Marxist methodologies.

To fulfill the research methods requirement, you must complete a sequence of three methods courses beyond the introductory level with a grade of B or better. In order to meet a minimum requirement in statistics, one of the three courses must be Architecture and Urban Planning 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 competence 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 appointed by the program head to supervise your preparation for the field examination, which normally takes from six months to a year following successful completion of the planning theory requirement. The examination has two parts — one written, one oral. The written part is given each quarter simultaneously to all students 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 provide a breadth of knowledge which extends beyond the specific area of the major field. This requirement is closely adjusted to your dissertation 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 minor field requirements, you may petition the Graduate Division for approval of your doctoral committee.

The doctoral committee administers the University 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 Urban 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 discretion 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 services, urban and regional development, natural environment and resources, and the built environment. May be repeated for credit.


M195. Engineering and Environmental Geology. (Same as Earth and Space Sciences M139.) Lecture, two and one-half hours. Prerequisite: Earth and Space Sciences 1 or 100. Recommended: Earth and Space Sciences 111A. Principles and practice of soil mechanics and foundation engineering in light of geologic conditions, recognition, prediction, and control or abatement of subsidence, landslides, earthquakes, and other geologic aspects of urban planning and subsurface disposal of liquids and solid wastes. 3 to 6 units.

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 community-based inner-city program using materials from the Alternatives Inner-City Future Exercise, (2) each student is expected to identify the value assumptions and theories of social justice implicit or explicit in alternative intervention programs, and (3) each student is expected to participate in class discussions that emphasize minority issues which affect implementation. 3 to 6 units.

Mr. Estrada (W)

199. Special Studies (2 to 8 units). See listing under "Architecture/Urban Design."

Graduate Courses

M202A. Public Control of Land Development (4 to 6 units). (Same as Law M286.) Analysis 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, tax controls, and urban development. 4 to 6 units.

Mr. McGee (W)

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, community development, and related topics. 3 to 4 units.

M202C. Seminar: Urban Affairs (3 to 6 units). (Same as Law M526.) Exploration in a concrete case setting 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 a topic in which they are most interested. 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.
206A. Urban Data Analysis: Demographic Applications. (Formerly numbered 206.) Lecture, three hours; laboratory, one hour. Prerequisites: one graduate-level statistics course. Students must be working in a field setting to enroll. A job fair is held at the beginning of Winter Quarter to place students in field settings. Students who wish to arrange their own placement and join the class may do so with consent of instructor. Development of basic demographic methods of analysis in a policy context, providing a parallel development of content, data sources, and applications. Topics include data sources and errors, mortality, fertility, age structure, and their effects on planning policy.

Mr. Estrada, Mr. Levine (Sp)

206B. Urban Data Analysis: Planning Models. Lecture, three hours; laboratory, one hour. Prerequisite: course 206A (or equivalent). An advanced course in urban data analysis which builds on course 206A. Examination of the relationship between demographic and other socioeconomic processes, with emphasis on planning models. Topics include internal and international migration, crime analysis, transportation demand, and economic activity forecasting.

Mr. Estrada, Mr. Levine (F)

207. Public Resource Allocation. Lecture, three hours. Prerequisite: passing score on a microeconomics examination or equivalent. An advanced course in the practical use of economics in analyzing public resource allocation problems. Topics include a review of marginal analysis, the difference between equity and efficiency, the role of a public problem, environmental pricing, public service pricing, and conflicts between individual and collective rationality.

Mr. Ong (F)

208. 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 a dissertation proposal; introduction to the alternative conceptions of science (or rigorous scholarship) that are predominant in various social science paradigms. S/U grading.

Ms. FitzSimmons (Sp)

209. 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.

210A. A History of Planning Thought since 1800. (Formerly numbered 2018.) Lecture, three hours. A historical introduction to the major ideas and theories of planning which have influenced its development from the early 19th century to the present.

Ms. Sandercock (F)

210B. Colloquium in Planning Theory. (Formerly numbered 201C.) Lecture, one hour; discussion, two hours. Prerequisite: course 210A. Intended for Ph.D. students. M.A. students may enroll by departmental permission. An introduction to some of the central theoretical issues of contemporary planning, such as the role of planning in the state, the nature of social learning, conceptions of space and time, the politics of spatial design, the ethics of foregrounding. Designed to help students develop a topic for the research paper required in course 210C. In Progress grading (credit to be given only on completion of course 210C).

Mr. Sandercock (F)

210C. 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 faculty. Open to all, with permission on discussions on topics selected for research by the class.

211. 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, health, educational, and use; the law's role as a partial cause and cure of these problems. Examination of law as a changing process rather than a collection of principles, so that students develop a facility to interact with law and lawyers in a positive and forceful manner.

Mr. Heskin (Sp)

213. Social Indicators and Reports for Metropolitan Regions. Discussion, three hours. Prerequisite: second-year standing. Research seminar concerned with the development of social indicators program planning and reporting the performance of complex urban systems.

Mr. 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 planning profession.

Mr. Wachs (F)

M215B. Spatial Statistics. (Same as Geography M272.) Lecture, two hours; discussion, one hour; laboratory, one hour. Prerequisites: Geography 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 statistical surfaces.

Mr. Levine, Mr. Ong (F)

217A-217B. Comprehensive Planning Project. Prerequisite: second-year standing. The comprehensive project brings together students of varying backgrounds and interests in joint solution of an urban planning problem spanning two quarters. Successful completion of the project meets the requirements of Comprehensive Examination Plan A of the master's program.

Mr. Estrada (W, 217A; Sp, 217B)

219. Special Topics in the Built Environment (2 to 4 units). See listing under "Architecture/Urban Design."

220A. Quantitative Analysis in Urban Planning I. Lecture, three hours. Prerequisite: passing score on a basic mathematics proficiency examination given the first day of class. An introduction to mathematical and statistical concepts and methods with applications in urban planning. Review of basic mathematical concepts fundamental to planning methods; descriptive statistics, probability, and sampling techniques. An introduction to the use of the computer as a tool in analysis of planning-related data.

Mr. Levine (F)

220B. Quantitative Analysis in Urban Planning II. Lecture, three hours. Prerequisite: course 220A or equivalent (demonstrated by passing score on math examination given the first day of course 220A). An introduction to concepts of statistical inference and modeling, with emphasis on urban planning applications. Topics include hypothesis testing, analysis of variance, correlation, regression, and causal modeling. Applications include such planning problems as forecasting population growth and change, estimating the use and need for public facilities, and analyzing the changing social and economic characteristics of urban regions. Course material is presented which cover the design and analysis of typical urban planning research projects. Use of the computer as a tool in statistical analysis and modeling.

Mr. Levine, Mr. Ong (W)

221. Evaluation Methods. (Formerly numbered 221A, 221B.) Lecture, three hours. Prerequisites: courses 207, 220A. An examination of methods used to evaluate the efficiency and effectiveness of government programs and investment projects. Theory and practice of evaluation, with emphasis on techniques of cost-effectiveness analysis, cost-benefit analysis, discounting, sensitivity analysis, target efficiency, fiscal audits, and evaluation design.

Mr. Burns, Mr. Marris (W)

223A. Professional Development Series. Lecture, three hours. A lecture-seminar-project course offering an introduction to the planning profession and, more specifically, to urban planning 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 problems and to the various viewpoints and methods that the areas of concentration specialties would bring to bear. Course 223A is generally taken Fall Quarter of the first year as an introduction to course 223B.

Ms. Gilmore, Ms. Leavitt (F)

223B. Professional Development Series. Lecture, three hours. Highly recommended prerequisite: course 223A. Problems of professional practice. Students must be working in a field setting to enroll. A job fair is held at the beginning of Winter Quarter to place students in field settings. Students who wish to arrange their own placement and join the class may do so with consent of instructor. Development of methods which integrate theory and practice through readings and individual and collective analyses of each student's experience. In addition, a larger look at the planning profession is provided by professionals brought to the classroom to dialogue with the students. Students combine course 223B with one quarter of course 490 or 496F to meet the fieldwork requirement.

Mr. Heskin (W)


229. Special Topics in Planning Methods (2 to 8 units). Seminar on topical and historical survey methods selected by the faculty. May be repeated for credit.

M231. Urban Housing and Community Development (3 to 4 units). (Same as Law M287.) Lecture, three hours; discussion, one hour. Comprehensive consideration of the rebuilding and construction of American cities, with major emphasis on the "housing process" — the way in which shelter and related facilities are created by the institutions which direct housing activities in urban areas. Students are encouraged to undertake planning projects, with emphasis on field research, in lieu of a substantial portion of the final examination.

Mr. McGee (F)

232A. Introduction to Regional Planning: The Evolution of Regional Planning. Lecture, two hours. A critical and historical survey of the evolution of regional planning theory and practice, with particular emphasis on the relations between regional planning and developments within Western social and political philosophy. Major concepts include regionalism and regionalism, the territorial community, and the social production of space.

Mr. Soja (F)

232B. Spatial Planning: Regional and International Development. An examination of the theory and practice of spatial planning at the regional, national, and international scales, including an evaluation of regional growth strategies, national settlement policy, growth center concepts, and the normative-ideological issues involved in international development planning. Generally taken in the first year.

Mr. Vetter (W)

233. The Political Economy of Urbanization. An introduction to the basic concepts and analytical approaches of urban political economy, with major emphasis on American cities, and with the historical geography of urbanization, the development and transformation of urban spatial structure, suburbanization and metropolitan political fragmentation, urban fiscal crisis, and the role of urban social movements.

Mr. Soja (Sp)
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, 235A; Sp, 235B)

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.

Mr. Davis (F)

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- or three-week intensive workshops on financing techniques and economic development law in the first part of the course; individual student projects during remainder of course.

Ms. Haas (Sp)

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/or policy. Topics usually reflect faculty research projects and change from year to year. May be repeated for credit.

239. Special Topics in Urban and 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 (W)

241B. Urban Transportation Planning II. (Formerly numbered M241B.) Prerequisites: courses 207, 220B, and 241A, or consent of instructor. Economic and social basis for travel; basic data sources for examining urban travel and transportation; techniques of forecasting and analyzing travel; mathematical models of travel; trip generation, trip distribution, modal split, traffic assignment, and route choice; uses of forecasts and approaches to transportation system and project evaluation.

Mr. Levine, Mr. Wachs (Sp)

241C. Urban Transportation Planning III. (Formerly numbered M241C.) 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

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, segregation, pricing, production efficiency, organization of the construction industry, market failure, and appropriate policy responses.

Mr. Burns (F)

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 methods used to fund public infrastructure. Topics include fiscal impact analysis of real estate development, the effects of taxes on land use decisions, benefit assessments to finance neighborhood public investment, private and intergovernmental 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 and within cities; review of the results of lawsuits to equalize public services.

Mr. Shoup (Sp)

246. Housing in Social and Economic Development Policy. Lecture, three hours. Prerequisite: course 207 or equivalent or consent of 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. Burns (W)

249. Special Topics in Social Policy and Analysis (2 to 8 units). Lecture, three hours. Seminar on topics in social policy and analysis selected by the faculty. May be repeated for credit.

250. Introduction to Social Policy. Lecture, three hours. An analysis of the demographic changes, history, trends, needs, and ideological debates which affect the development of social policy in the United States, compared with Western Europe.

Mr. Morris (W)
251. Planning for Multiple Publics. Lecture, three hours. Prerequisite: course 220B or equivalent. This course explores the planning challenges of multiple publics and the negotiation of different perspectives and demands in the planning process. Lecture, three hours. Ms. Hecht (W)

252. Cultural Land Use Regulation. Lecture, three hours. Prerequisite: course 260A or consent of instructor. This course examines the cultural aspects of land use regulation and their impact on planning decisions. Lecture, three hours. Ms. Pincetl (Sp)

253. Social Theory for Planners. Lecture, three hours. Prerequisite: course 260A or consent of instructor. This course explores the role of social theory in understanding and addressing planning challenges. Lecture, three hours. Ms. Marris (Sp)

254. Survey Methods in Planning. Lecture, three hours. Prerequisite: course 220A or equivalent. This course introduces the principles of survey methods used in planning. Lecture, three hours. Mr. Grigsby (W)

255. Land Use and Development. Lecture, three hours. Prerequisite: course 260A or consent of instructor. This course examines the principles of land use and development in urban and rural settings. Lecture, three hours. Mr. Storper (Sp)

256. Social Impact Analysis. Lecture, three hours. Prerequisite: consent of instructor. This course focuses on the social impacts of planning decisions. Lecture, three hours. Mr. Gottlieb (W)

260A. Political Economy and the Environment. Lecture, three hours. This course explores the relationship between political economy and environmental issues. Lecture, three hours. Ms. Hecht (F)

260B. Politics, Institutions, and the Environment. (Formerly numbered 261B.) Lecture, three hours. This course examines the role of politics and institutions in environmental decision-making. Lecture, three hours. Mr. Storper (Sp)

261. Land-Use Control: Economic and Structural Perspectives. Lecture, two hours; discussion, one hour. Prerequisite: courses 260A and 260B, or consent of instructor. This course examines the economic and structural aspects of land-use control. Lecture, two hours; discussion, one hour. Ms. Pincetl (Sp)

262A. Urban Environmental Problems: Wastes and Hazards. Lecture, three hours. Prerequisites: courses 260A and 260B, or consent of instructor. This course focuses on the management of urban environmental problems related to waste and hazards. Lecture, three hours. Ms. Hecht (Sp)

262B. Urban Environmental Problems: Water Resources. Lecture, two hours; discussion, two hours. Prerequisites: courses 260A and 260B, or consent of instructor. This course examines the management of water resources in urban environments. Lecture, two hours; discussion, two hours. Mr. Grigsby (Sp)

263. Natural Resource Conservation. Discussion, three hours. Prerequisites: courses 260A and 260B, or consent of instructor. This course explores the principles of natural resource conservation. Discussion, three hours. Mr. Gottlieb (W)

264. Environmental Law and Policy. (Same as Law M264.) Lecture, three hours. Prerequisites: courses 260A and 260B, or consent of instructor. This course introduces the legal aspects of environmental policy. Lecture, three hours. Ms. FitzSimmons (W)

265. History of American Environmentalism. Discussion, three hours. Lectures and discussion, three hours. Prerequisites: courses 260A and 260B. This course examines the historical development of environmentalism in the United States. Discussion, three hours. Ms. FitzSimmons (W)

266. City and Countryside in the Third World. (Not the same as course 266 prior to Fall Quarter 1984.) Lecture, three hours. This course explores the planning challenges of urban and rural development in the Third World. Lecture, three hours. Ms. FitzSimmons (W)

267A. Resource-Based Development Planning. Discussion, three hours. Recommended prerequisite: course 266. This course focuses on planning for resource-based development in the Third World. Discussion, three hours. Ms. Hecht (Sp)

267B. Rural Development Issues. Lecture, three hours. Recommended prerequisite: course 266. This course examines the complexities of rural development planning. Lecture, three hours. Ms. Hecht (W)

270. Homelessness: Housing and Social Service Issues. Lecture, 90 minutes; discussion, 90 minutes; one field trip. This course explores the issue of homelessness and its impact on social services. Lecture, 90 minutes; discussion, 90 minutes; one field trip. Ms. FitzSimmons, Mr. Gottlieb (F)

271. Inner-City Housing Policies: Old and New Approaches. Lecture, 90 minutes; discussion, 90 minutes. This course examines the history and evolution of housing policies in urban areas. Lecture, 90 minutes; discussion, 90 minutes. Ms. Leavitt (W)

272. Real Estate Development for Planners and Architects. See listing under "Architecture/Urban Design." Ms. Hunter, Mr. Kamnitzer (W)

273. Site Planning. (Formerly numbered 267.) Lecture, 90 minutes; laboratory, 90 minutes. This course focuses on the principles of site planning. Lecture, 90 minutes; laboratory, 90 minutes. Ms. Kamnitzer (F)


281. Inner-City Housing Policies: Old and New Approaches. Lecture, 90 minutes; discussion, 90 minutes. This course examines the history and evolution of housing policies in urban areas. Lecture, 90 minutes; discussion, 90 minutes. Ms. Leavitt (W)

275. Inner-City Housing Policies: Old and New Approaches. Lecture, one hour; discussion, one hour; laboratory, four hours. This course explores the history and evolution of housing policies in urban areas. Lecture, one hour; discussion, one hour; laboratory, four hours. Ms. Leavitt (W)

276. Planning Workshop (4 to 8 units). Lecture, one hour; discussion, one hour; laboratory, four hours. This course provides hands-on experience in planning projects. Lecture, one hour; discussion, one hour; laboratory, four hours. Ms. Leavitt (W)

277. Introduction to Historic Preservation. Lecture, two hours; discussion, one hour; one-day field trip. This course introduces the principles of historic preservation. Lecture, two hours; discussion, one hour; one-day field trip. Ms. Lehrer (Sp)

278. Qualitative Research Methods for Planners and Designers. See listing under "Architecture/Urban Design." Ms. Leavitt (W)

281A. Introduction to the History of the Built Environment in the United States. (Formerly numbered 261.) Lecture, two hours; discussion, one hour. This course provides an introduction to the history of the built environment in the United States. Lecture, two hours; discussion, one hour. Ms. Van Slyck (W)
281B. Advanced Seminar in the History of the Built Environment. Discussion, three hours. Prerequisite: course 281A. An extended discussion of research methods and writing techniques suitable for advanced students working toward completion of some research on the history of the built environment in the United States. 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. Van Slyck (Sp)

284. Looking at Los Angeles. (Not the same as course 284 prior to Fall Quarter 1986.) Discussion, three hours. An introduction to the physical form and history of Los Angeles, with emphasis on visual observation of the city as a skill for architects and planners. Field trips throughout the city. Ms. Hayden

285. Great Planning Debates: Gender. Lecture, 90 minutes; discussion, 90 minutes. A seminar on the substantial literature on the complex relationships between gender, race, and class in urban planning. Alternative theories describe an inadequate fit between American households, housing, and services and document environmental inequities women and children face in contemporary cities. Students prepare oral seminar reports on topics such as social service provision, housing, transportation, economic development, and safe public spaces. Ms. Hayden

375. Teaching Apprentice Practicum (1 to 4 units). See listing under "Architecture/Urban Design."

404. Joint Planning/Architecture Studio. Lecture, one hour; discussion, one hour; studio, four hours. An opportunity to work on a joint planning/architecture project for a client. Outside speakers; field trips. Examples of past projects include Third Street Housing, Santa Monica; "New American House" for nontraditional households; guide to setting up shelters for homeless in Los Angeles County. Ms. Leavitt, Ms. Levin (W)


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, and host campus instructor, department chair, and graduate dean. Used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596P. Research in Planning (2 to 8 units). May be repeated for credit.

597P. Preparation for M.A. Comprehensive Examination or Ph.D. Qualifying Examinations (2 to 8 units). May be repeated for credit. S/U grading.

598P. Preparation for M.A. Thesis in Urban Planning (2 to 8 units). May be repeated for credit. S/U grading.

599P. Ph.D. Dissertation Research in Planning (2 to 8 units). May be repeated for credit. S/U grading.
As the number one public graduate school of education in the nation, the UCLA Graduate School of Education (GSE) is widely recognized for its integration of theory and practice. Since GSE is at the forefront in academic excellence, research, and innovative programs, all levels of education from kindergarten through graduate school are benefited.

The school has attracted prominent scholars and is internationally known for its research centers in evaluation, higher education, and other fields. GSE has endeavored to improve educational practice, enhance theoretical and applied research, expand the study and criticism of educational policy, and advance the education of professional leaders and specialists.

Students come from throughout the world to study with the school's renowned faculty. Whether students choose to pursue a Ph.D., an Ed.D., a master's degree, or a services, specialist, or instructional credential, they will graduate with a broad understanding of people, educational theory, and tested practice.

Alumni of the school can be found all over the world — on faculties of major universities, in research, in administration, in curriculum development, and in the classroom.
Graduate School of Education

Office of Student Services:
201 Moore Hall, (213) 825-8325

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HeLEN S. Astin, Ph.D.
Eva L. Baker, Ed.D.
Gordon L. Berry, Ed.D.
Nicholas Bluten Jones, Ph.D.
James E. Bruno, Ph.D.
Leigh Burstein, Ph.D.
Burton R. Clark, Ph.D. (Allan Murray Cartter Professor of Higher Education)
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Arthur M. Cohen, Ph.D.
James E. Bruno, Ph.D.
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Clarence Fielstra, Ph.D.
Claude W. Fawcett, Ph.D.
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Carl Weinberg, Ed.D.
W. James Popham, Ed. D.
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Geoffrey Saxe, Ph.D.
Val D. Rust, Ph.D.
Carol Lee Howes, Ph.D.
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Sandra Graham, Ph.D.
Barbara Recht, Ph.D.
Don T. Nakanishi, Ph.D.
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Marjorie S. Day, Ph.D.
Philip Ender, Ph.D.
Madeline Hunter, Ed.D.
Owen Knox, Ed.D.
Burtis Taylor, Ed.D.
Adjunct Assistant Professor
Juan F. Lara, Ph.D.

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). (Note: The Miller Analogies and Doppelt Mathematical Reasoning Test may be substituted for the GRE; minimum scores are 48 and 19 respectively.)

2. Acceptance in a particular division is dependent on the availability of openings in the respective fields of emphasis; 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 experience, 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 90024-1521.

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

Curricular Divisions
Administration, Curriculum, and Teaching Studies

Educational Psychology

Higher Education, Work, and Adult Development
Social Research Methodology

Social Sciences and Comparative Education

Teacher Education

Academic Interinstitutional Programs

Special Studies

Divisions which may be selected in completion of the specific 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 division.

Master of Education — Administrative and policy studies in education; bilingual/cross-cultural education (not offered in 1987-88); curriculum and the study of schooling; teacher education.

Master of Arts in Education — All divisions, except administration, curriculum, and teaching studies.

Doctor of Education — All divisions, except social sciences and comparative education.

Doctor of Philosophy in Education — All divisions.

Master of Education
The Master of Education (M.Ed.) professional degree program is designed for individuals preparing for 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 a selected field of emphasis:

(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. field of emphasis will not be offered in 1987-88.)

(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 field of emphasis 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. Six courses (24 units) must be taken in the Education 200 and 500 series. A maximum of two 500-series courses (eight units) may be applied toward the total 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 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
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 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. field of emphasis 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 maximum of two 500-series courses (eight units) may be applied toward the total 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.

Theses and Dissertations Adviser and the Graduate Division publication, Regulations for Thesis and Dissertation Preparation, provide guidance in the final preparation of the manuscript. The department does not require a formal examination in connection with the thesis plan.

Comprehensive Examination Plan
The comprehensive examination is concerned with central topics in the selected division and field of emphasis. Questions are comprehensive in nature and are designed to measure the breadth and depth of knowledge, as well as ability to focus that knowledge on specific problems.
The 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 field of emphasis (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 field of emphasis) 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 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.

For further information on the written and oral qualifying examinations, contact the Office of Student Services.

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.

**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**

Information regarding a foreign language requirement within a selected division 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 field of emphasis (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.

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 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.

For further information on the written and oral qualifying examinations, contact the Office of Student Services.

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 1987-88.)

**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 an emphasis in curriculum. Articulated programs do not allow course credit to be applied toward more than one degree.
the implications of relevant theory and research for perspectives, including those of particular minority instructional practices.

formal and informal groups, subcultures in educational organizations 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.

Programs leading to items 5 and 6 above will not be offered in 1987-88.

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. (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. Mr. Dor-Bremme, Mr. Rust

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, Ms. Wrigley

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. Mr. Alkin

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, and emphasis on individualizing curriculum and classroom management. Observation in schools.

M148. 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, affirmative 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

197. Current Issues in Education. Prerequisite: consent of instructor. A variable topics course organized on a selected current issues basis, integrating field observations and readings through seminar discussions. See Schedule of Classes for topics and instructors. May be repeated for credit with consent of instructor.

199. 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 paper or paper or thesis writing, regardless of their field of interest. Mr. S. Cohen

200B. Survey Research Methods in Education. Prerequisite: course 210A or equivalent. Problems of conceptualization, organization, and gathering non-experimental and quasi-experimental 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 and qualitative data.

201C. History of American Education. (Same as History M264.) Seminar, three hours. The intellectual and social forces inspiring American education from the 1600s to the present. Analysis of the relation between the forces and the curriculum, structural organization, and functions of education. 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. Ellett

203. Educational Anthropology. Recommended prerequisite: Anthropology 22. Study of education through the research and method of the cultural anthropologist. Interdependence of culture and education, with emphasis on cross-cultural studies of enculturation, schooling, values, cognition, language, and cultural change.

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 theory and practice in both developed and developing nations.

Mr. Hawkins, Mr. Nakanishi

204B. Introduction to Comparative Education. An examination of conceptual and methodological questions underlying comparative education. Particular attention will be devoted to the field of educational policy and practice in less developed and underdeveloped countries.

Mr. Hawkins, Mr. Nakanishi

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 problems and issues 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 are intended 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 regular school systems. 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. Ellett, Mr. Ericson, 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 evaluation.

Mr. Ellett, Mr. Ericson

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 educational policy and practice, including desegregation, decentralization, equality of educational opportunity, teacher-student relationships, reform in education at the elementary, secondary, postsecondary levels.

Mr. O'Shea, Ms. Wrigley

208B. Issues in Education: Sociological Perspectives. Prerequisite: course 208A or equivalent. Exploration of education and the social 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. Blumenthal, 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. Astin, Mr. A. Cohen

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. Astin

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 (faculties, student bodies, finances, outputs) of different types of institutions.

Mr. Astin, 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, variance. Introduction to the computer. Lecture, three hours; discussion, one hour.

Mr. Levine, Mr. Skaggs, and the Staff

210B. Experimental Design in Educational Research. Prerequisite: knowledge of research designs and univariate descriptive statistics. Regression, correlation, inference, normal curve tests, t-tests, simple and factorial analysis of variance, and selected nonparametric tests.

Mr. Shavelson, Mr. Skaggs, Ms. Webb

210C. Experimental Design: Advanced Topics. Prerequisite: course 210B or equivalent. Completely 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 influences on the development and immeasurable factors of validity and reliability.

Mr. Popham, Mr. Skaggs

211B. Measurement in Education: Underlying Theory. Prerequisite: course 211A. Measurement theory as applied to testing; focusing primarily on classical test theory; implications of theory for test construction and selection; current status of validity and reliability theory.

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, Mr. Shavelson, Ms. Webb

212A. Learning and Education. Models of learning, modeling, reinforcement, motivation, encoding, memory, transfer, individual differences, and instruction.

Mr. Witrock

212B. Motivation and Affect in the Educational Process. Prerequisites: courses 210A, 212A. A review of the theoretical and empirical literature on educational processes in school learning, including concept learning, problem solving, learning to learn, and creativity.

Mr. Witrock

213A. Fundamentals of Student Personnel Work. Prerequisite graduate standing or consent of instructor. Analysis and in-class application of student and pupil personnel service methods, with emphasis on task groups and evaluation.

Mr. Healy, Mr. Skaggs, 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. Healy, Mr. Skaggs, Mr. Sorenson

214A. Counseling Theory and Practice. Application of concepts drawn from cognitive psychology to the nonacademic problems which people encounter in everyday life, such as finding suitable employment, achieving satisfying interpersonal relationships, and making productive use of one's time.

Mr. Healy, Mr. Sorenson, Ms. Timwell

214B. Advanced Counseling Theory and Practice. Limited to advanced degree candidates whose major interest is counseling and to selected high school and college counselors. Counseling procedures, educational planning, and methods for helping students handle personal problems that interfere with school progress; critical evaluation of procedures.

Mr. Healy, Mr. Sorenson

214C. Principles of Career Planning. Examination of the nature of careers across ages and ethnic and sexual groups in order to determine implications for career planning in postindustrial society.

Mr. Healy


Mr. Healy


Mr. Skaggs

M215. Personality, Motivation, and Attribution. (Same as Psychology M235.) Current research and theory relating personality variables (e.g., attribution styles, self-esteem) to motivational concerns such as persistence and intensity of behavior. Perception and evaluation of outcomes in achievement and affiliative domains.

Ms. Saxe, Ms. Stipek

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 empirical literature 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: graduate standing. A review of theoretical approaches to research and research in cognitive development, focusing on the work of Piaget and Vygotsky, and the relation of this work to issues in educational practice.

Mr. Saxe, Ms. Stipek

217C. Personality Development and Education. (Same as Psychology M245.) A 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 primary and secondary 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 quantitative data; multiple regression models, 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 218A or equivalent, consent of instructor. Quasi-experimental research designs, longitudinal models, introduction to causal models, path analysis, recursive and nonrecursive model estimation. Emphasis on conceptual and methodological foundations, assumptions, applications, and limitations.

Mr. Burstein, Mr. Muthen

218C. Structural Equation Modeling. Prerequisites: courses 210C, 211B, or equivalent. Extends principles of 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. Muthen
219. Laboratory: Advanced Topics in Research Methodology. Problems related to the design of research and interpretation of data to advanced students from other specializations. Coverage of special topics not included in other courses on research methods. Ms. Burstein, Ms. Shavetson, Ms. Webb

220A. Inquiry into Schooling: Organization and Change. Critical analysis of issues in the reconstruction of schooling; concepts of function and structure of schooling; organization theory; systems approaches in the analysis of organization development and change. Ms. Crabtree, Ms. Kouritsky, Ms. Tyler


221. Computer Analyses of Empirical Data in Education. Lecture, two hours; laboratory, two hours. Prerequisites: courses 209C (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. Mr. Leesin

M222A. A Laboratory for Naturalistic Observations: Developing Skills and Techniques. (Same as Anthropology M236Q and Psychiatry M235.) Lecture, three hours. Prerequisite: consent of instructor. The skill of observing and recording behavior in natural settings, data analysis, and the application of models 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. 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 to ethnographic studies. Mr. Levine

222C. Qualitative Data Reduction and Analysis. Lecture, two hours; discussion, two hours. Prerequisite: course M222B or consent of instructor. Theory of and practice in qualitative data reduction and analysis. Discussion of data storage and retrieval systems, data manipulation techniques such as typologies and attribute spaces, and specific analytic perspectives. Interfacing qualitative and quantitative data. Mr. Levine

223. Aesthetics and the Curriculum. Lecture, two hours; discussion, two hours. An examination of various ideas and theories in aesthetics and the application of these ideas to educational practice. Mr. Jernberg

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 definitions of bilingualism and multiculturism. Ms. Valadez

225A. Issues in the Education of Exceptional Individuals. Prerequisite: graduate standing. Analysis of 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 theory relevant to the education 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 225A or consent of instructor. Research on the educational characteristics of individuals with learning handicaps, with emphasis on assessment and instructional modifications. Mr. Astin

227A. Research on the Learning Characteristics of Exceptional Individuals. Prerequisite: course 225A. An overview of research and theory regarding learning characteristics of exceptional individuals and discussion of the application of this work to educational practice. Mr. Webb

227B. Research on the Cognitive and Language Characteristics of Exceptional Individuals. Prerequisite: course 227A. Review of the empirical and theoretical literature regarding the 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. Mr. Hewett

228. Observation Methods and Longitudinal Studies. Lecture, two hours; discussion, two hours. Prerequisite: course 210A or equivalent, consent of instructor. Design, implementation, and evaluation of 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. Burston Jones


230. Criterion-Referenced and Norm-Referenced Test Construction. Prerequisite: course 211A. Construction of criterion- and norm-referenced assessment instruments. Appropriateness of different selection devices in relation to their intended psychometric, field, 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 occupations. Mr. O'Shea, Ms. Wrigley

233. Institutional Incentives and Social Values in the Design of Educational Incentives. An examination of 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 components of social stratification, including occupations and earnings. Competing theories used in studying education and social stratification; relevant research. Conclusions regarding individual career decisions, social policies, and theories of society. Mr. O'Shea, Ms. Wrigley

235. Education and Work. A review of the theoretical and empirical literature on issues concerning the interface of education and work. A review of alternatives in the school-to-work transition of youth and an appraisal of present vocational training and manpower development programs. Mr. Silberman

236. Social Problems Related to Education. Prerequisite: course 210B or equivalent. The nature, development, and measurement of social problems related to education. 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. Elucidation of theoretical principles underlying effective media content and media utilization. Consideration of particular differences among print, computer, and audiovisual media, as well as their roles in the school. Mr. Clark

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. Mr. Clark

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. Mr. Clark

240. Educational Management 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. Mr. 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 IV). Mr. Bruno, Mr. Smith

244. Economics of Education. An introductory course in microeconomic and macroeconomic techniques applied to education. Methodologies such as marginal analysis, linear programming, Leontief-O model, and Lorenz curve analysis, with application to school finance, underdeveloped countries, equality of educational opportunity, and credentialing. Mr. Bruno, Mr. Solmon

245. Seminar: Cost-Benefit Analysis in Education. Conceptual and theoretical underpinnings of cost-benefit analysis; critical analysis of current cost-benefit studies, and procedures for the conduct of cost-benefit studies. Mr. Akin, Mr. Solmon

246A. Seminar: Mathematical Modeling in Educational Policy Analysis. Prerequisite: course 242 or consent of instructor. Stochastic and deterministic modeling techniques as applied to educational policy and planning issues. A mathematics review and instruction in the use of the MPS (Mathematical Programming System) and development of software for Monte Carlo computer simulation studies in education. Mr. Bruno

246B. Seminar: Operations Research - Systems Analysis in Education. Prerequisite: course 242 or consent of instructor. Application of advanced mathematical modeling techniques of operations research to educational 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 trainees' learning, training methods, and evaluating training programs. Mr. Silberman

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. Mr. Astin

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 programs; emphasis on the design, methodology, and interpretation of large-scale evaluation studies. Mr. Astin

249B. Seminar: Institutional Research and Program Evaluation. Critical review of institutional 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. Elett, Mr. Ericson

252A. Seminar: Philosophy of Education, Problems in Ethics and Values. Prerequisite: course 206D or consent of instructor. Mr. Elett, Mr. Ericson


252A. Seminar: Educational Organizations. Prerequisite: course 206A or consent of instructor. Mr. O'Shea, Ms. Wrigley

252B. Seminar: Education and Social Change. Prerequisite: course 206A 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 others. The implementation of this theory in specific case studies, along with comparative assessments of noncapitalist nations. Mr. Hawkins, Mr. Rust

253G. Seminar: The Asian American and Education. Basic issues and topics related to Asian American culture and education. Examples of the issues and topics include Asian Americans and the community, socioeconomic status, the education-to-work transition, the language and culture question.

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, high school, postsecondary). Mr. Mikashish

253I. 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, high school, postsecondary). Mr. Mikashish

254. 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. Tidewell

258A. Seminar: Problems in Instructional Research. Mr. Levine, Mr. Wittrock

258B. Seminar: Problems in Instructional Development. Ms. Baker, Ms. Dorf, 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, Mr. Silberman

261A. Seminar: Early Childhood Education. Prerequisite: course 421A

261C. Seminar: Secondary Education. Mr. McNeil, Mr. Silberman

261D. Seminar: The Community College.

261E. Seminar: Education and Work. Mr. Silberman and the Staff

261F. Seminar: Higher Education. Mr. Trent

262A. Seminar: The Social Studies.

262B. Seminar: Reading.

262F. Seminar: Research Topics in Bilingual/Multicultural Education. Prerequisite: consent of instructor. Ms. Valadez


262J. Seminar: Economic Education.

263. 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.


275. Seminar: School Desegregation. Prerequisite: consent of instructor. Analysis of the social/political response to desegregation programs in public and private school districts; the consequences of court decisions and legal policy on school desegregation. Consideration of effects of integration in school achievement and interracial attitudes. Ms. Wrigley

280A. Seminar: Selected Topics in Special Education (2 units). Prerequisite: consent of instructor.

280B. Seminar: Exceptional Individuals. Prerequisite: doctoral standing.

281A. Seminar: Human Behavioral Ecology. (Same as Anthropology M229A and Psychiatry M279A.) Lecture, one hour; discussion, three hours. Prerequisite: consent of instructor. Examination of predictive models from animal behavioral ecology used to study human diet and subsistence, settlement patterns and territoriality; sharing and helping; reproduction and mortality. Comparison with other ecological and ethological approaches in anthropology. Mr. Blanton Jones

281B. Seminar: Reproduction, Families, and Parenting. (Same as Anthropology M229B and Psychiatry M279B.) Prerequisite: consent of instructor. Guided forum for graduate students to discuss and broaden their studies of human reproduction and child rearing from various perspectives. Representation and debate of theories, questions, and methods from social and biological sciences. Mr. Blanton Jones

281C. Seminar: Selected Topics in Human Ethology. (Same as Anthropology M229C and Psychiatry M279C.) Lecture, one hour; discussion, three hours. Prerequisite: consent of instructor. Consideration of anthropological contributions to the study of behavior in nonhuman species. Analysis of descriptive and recording behavior: causation and development, especially longitudinal studies; adaptation; evolutionary origins. Mr. Blarton Jones 290A-290B-290C. Research Practicum in Education (4 to 8 units each). May be repeated for credit.

310. Professional Communication for Graduate Students in Education (2 units). Prerequisite: consent of instructor. Writing workshop on students' papers. Off-campus professional standards in writing, analysis, and group discussion of rhetorical and stylistic principles. May be repeated once. S/U grading.

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. Mr. Crabb, Mr. McBride, Mr. McNeil

313A-313B. Principles and Methods for Teaching Elementary Mathematics (6 to 12 units each). Limited to credentialed teachers. Course 313A is prerequisite to 313B. Problem-solving strategies and geometry for elementary teachers. Use of concrete materials, computers, cooperative learning, and content for elementary teachers. S/U grading.


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: 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. S/U grading.

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. S/U grading.

Mr. Lara
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. Kourisky
319. Principles and Methods for Teaching Compositional Skills — 1-12 (6 to 12 units). Limited to credentialed teachers. Drawing from current research and theory, participants are exposed to the developmental stages and teaching techniques for writing teaching. Emphasis on drawing on expertise of classroom teachers and becoming teacher-writers in addition to writing teachers. Mr. Graham
Mr. Lara
Mr. Lara
Mr. Lara
Mr. Lara
Mr. Lara
Mr. Lara
323. Teacher-Researcher: Principles of Classroom Research (6 to 12 units). Limited to credentialed teachers. Guidance of teachers conducting research in their language arts classroom, K through secondary schools. Emphasis on conducting research, search techniques, research relevant to proposed studies, research conducted by other teacher researchers, publication of findings. S/U grading.
Mr. Lara
324A. 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 multiple subjects are taught, normally in elementary schools. Preparation for supervised teaching. S/U grading. Ms. Kourisky
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. Kourisky
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. Kourisky
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 a single subject is taught, normally in a secondary school. S/U grading. Ms. Kourisky
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 school. S/U grading.
Mr. A. Cohen
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. Kourisky
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. Kourisky
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.
Mr. A. Cohen
331. Principles and Methods for Teaching Life Sciences — 3-4 (6 to 12 units). Prerequisite: consent of instructor. Focus on new elements of geography education written into the California curriculum in 1985. Lectures and demonstrations for teaching process skills, with examination exercises and exercises deriving from the language of the Model Curriculum Standards. S/U grading. Mr. Lara
332. The Immigrant Experience (6 to 12 units). Prerequisite: consent of instructor. Readings, films, interviews, and field trips to foster understanding of the composition, origins, landscape expression, and ambitions of Los Angeles' new populations, since this city is the destination of many immigrant groups entering the U.S. S/U grading.
Mr. Lara
333. Supervised Teaching: Higher Education (1-4 units).
Mr. A. Cohen
360. Teaching Clinical Practicum. Discussion, two hours; fieldwork, two hours. Prerequisite: consent of instructor and director of Teacher Education Laboratory. Seminar and directed field experience. Examination of development of the different methods of subject matter instruction. Ms. Kourisky
375. Teaching Apprentice Practicum (1 to 4 units). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprentice under the active direction and supervision of a regular faculty member responsible for the curriculum and instruction at 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 411C.) Assessment methods and approaches to problems in program evaluation, procedures for determining if and how to determine program effectiveness, and evaluation procedures, selecting appropriate evaluation design strategies, coping with ethical considerations in evaluation, preparing decision-making reports, and reporting evaluation results. Mr. Alkin, Mr. Burstein
413A-413B. 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 per-
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 practices of utilizing such tests in a multicultural society. Laboratory experience includes administration and interpretation of standardized instruments; case studies.

Ms. Healy, Ms. Midwell

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 applicability to problems found in the school setting. Research and theoretical issues concerned with appraisal.

Mr. Skager, Ms. Midwell

418. Instructional Analysis. Prerequisite: consent of instructor. Analysis of instructional variables as they relate to diverse types of instructional strategies. Students acquire skill in techniques of conducting instructional research.

Ms. Baker

419A. Experimentation on Media of Communication and Instruction. Prerequisite: course 210A. Analysis of basic methods used in experiments on the development of knowledge, skills, and attitudes through audiovisual communication media and other instructional programs.

Ms. Baker, Ms. Dorr

419B. Experimental Analysis of Instructional Program Variables. Lecture, two hours; laboratory, four hours. Prerequisites: courses 210A, 212A, 419A. Recommended: courses 210B, 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.

Ms. Baker, Ms. Dorr

420A. Principles of Curriculum. Critical examination of the basic concepts underlying the determination of objectives, the selection and organization of learning experiences, and the evaluation process.

Ms. Crabtree, Mr. McNeil, Ms. Tyler

420B. Curriculum: Principles and Practice. An examination and application of various curricular perspectives to questions of purpose, learning opportunities, and evaluation.

Mr. McNeil, Ms. Tyler

421A. Programs, Models, and Research in Early Childhood Education. Prerequisites: one course from the developmental sequence and 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.

Ms. Dorr, Ms. Stipek

421C. Research and Evaluation of Early Childhood Programs. Prerequisite: course 421A or equivalent or 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.


Mr. Weinberg

424A. The Social Studies in the Curriculum. Advanced study in social science as it develops in the schools: problems in defining objectives and organizing single and multidisciplinary programs; critical review of literature on cognitive and affective learning in social science, with emphasis on experimental study of instruction and program evaluation.

Mr. Crone

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 researlch concerning their effects.

Ms. McRae

424C. Language in the Curriculum. Advanced study in the school language curriculum; application to the improvement of the curriculum in the field.

424G. Curriculum Design for Bilingual Education. Prerequisite: consent of instructor. Advanced study of curriculum design for bilingual educational programs. Philosophical basis for bilingual programs; types of learning and instruction applied to the bilingual learner; language assessment; development of instructional component; program evaluation.

Ms. Valadez

425. Appraisal of Exceptional Individuals. Prerequisites: courses 225A, 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 higher education in 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. Solman

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.


Mr. 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 research concerning experimental instructional credit, evaluation by examination, and independent study.

Mr. 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 these procedures.

Ms. Baker, Ms. Dorr

433B. Technological Development in Educational Media. Lecture, two hours; laboratory, four hours. Prerequisite: course 433A. Recommended: courses 210A, 211A. Trends and anticipated instructional inventions which affect the field of educational media; exploration of methods to incorporate new technologies into educational technology.

Ms. Baker, Ms. Dorr

437. Principles of Curriculum in Economic Education. Theories, principles, and concepts relating to an understanding of the business and economic systems; their application to teaching in the secondary school.

Ms. Kourilsky

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 script-taping instructional episodes, planning teacher conferences through analysis of script-tapes, conducting and analyzing growth-evoking teacher conferences. Conceiving and providing instruction for effective teaching to other professionals.

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, planning and conducting teacher conferences; observation and analysis of classroom techniques; 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, the role of subordinates in the policy-making process).

Mr. Cattermole

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 school and community agencies that interact with the urban school leader.

448B. Urban Leadership 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 emphases included evaluation utilization and cost-effectiveness evaluation.

461A. Seminar: Adult Education.

461B. Seminar: Community Service and Development Programs in Postsecondary Education.

470A. Seminar: Large Systems and Individual Schools. Prerequisite: consent of instructor.

470B. 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.

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, interaction process analysis, and feedback instruments. Practical emphasis on social sciences and humanities instruction, K-12.

490A. 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 systematically to apply and evaluate alternative instructional strategies.

491A. Curricular Decision Making. Prerequisite: consent of instructor. Examination of alternative solutions for the practical problems that classroom teachers face in making curriculum decisions. Analysis of the influence of psychological, societal, and institutional factors in curricular decisions.

492. Evaluation of Teaching and Learning. Prerequisite: consent of instructor. Relationship between appraisal instruments and information required for making decisions about teachers, pupils, and materials. Recent developments in the evaluation of teaching and learning; the use of modern appraisal techniques in classroom settings.

498A-498B-498C. Directed Field Experience (4 to 8 units each). May be repeated for credit.

501. 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. 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). Individual study for master's comprehensive examinations or for Ph.D. or Ed.D. qualifying examinations. May be repeated for credit. S/U grading.


By any standard, the UCLA School of Law is recognized as one of the nation’s great law schools. This reputation is based on excellence in scholarship, a rigorous educational program, and the quality of the faculty which includes eminent authorities in all major fields of law.

The educational program at the UCLA School of Law is rigorous and competitive, but it takes place in a humane environment where there is a genuine spirit of community. The student body of the school is intellectually distinguished, interesting, and culturally diverse.

The school’s strong clinical program offers courses in lawyering skills such as interviewing, counseling, negotiation, and trial advocacy. UCLA students, alumni, and faculty have collaborated to pioneer clinical legal education. Students see more focus on the attorney/client relationship; they see more of what will ultimately face them as lawyers and policymakers.

An extensive and diversified student extern program, one of the most highly regarded moot court programs in the nation, and a basic philosophy that teaches law students to think clearly and analytically, but with compassion, all contribute to the distinction of the school.
School of Law

General Information: 1242 Law, (213) 825-4841

Admissions: 50 Dodd Hall, (213) 825-2080

Professors
Richard L. Abel, LL.B., Ph.D.
Norman Abrams, J.D.
William P. Alford, M.A., LL.B., J.D.
Reginald H. Alleyne, Jr., LL.B., LL.M.
Alison Grey Anderson, J.D.
Michal R. Asimow, J.D.
Paul B. Bergman, J.D.
David A. Binder, LL.B.
Grace C. Blumberg, J.D., LL.M.
Kimberle Crenshaw, J.D., LL.M., Acting
David Dolinko, J.D., Ph.D., Acting
Joe D. Dukekemier, J.D.
Julian N. Eule, J.D., LL.M.
William E. Forbath, LL.B., Acting
Robert Garcia, J.D., Acting
Wesley J. Liebeler, J.D.
Admissions: 50 Dodd Hall, (213) 825-412
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William P. Alford, M.A., LL.B., J.D.
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Robert Garcia, J.D., Acting
Wesley J. Liebeler, J.D.
Admissions: 50 Dodd Hall, (213) 825-412 / SCHOOL OF LAW

Adjunct and Visiting Professors
Daniel Brenner, M.A., J.D., Adjunct
Albert J. Moore, J.D., Visiting

The School of Law, one of two academic units at UCLA which operate on a semester (rather than quarter) system, offers a three-year curriculum leading to the J.D. degree. The school is accredited by the California Committee of Bar Examiners, is a member of the Association of American Law Schools, and is on the approved list of the American Bar Association. Graduates of the school are qualified to apply for admission to practice in any state 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 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 90024-1476.

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 pursue resident law school study for six semesters and successfully complete 87 units. The residence requirements may be satisfied as follows: (1) six semesters in regular session in this school or (2) two semesters in regular session (or equivalent) in a school which is accredited by the American Bar Association, coupled with four semesters in regular session (or equivalent) in this school.

Every first-year student is required to take the full schedule of required courses; second- and third-year students are required to take a minimum of 12 hours and may not take more than 16 hours each semester. The second- and third-year curriculum is elective, except for a required course in professional responsibility. In addition to the courses in the regular law school curriculum, students may take two courses for credit in other disciplines within the University. Graduate students may enroll in upper division law courses on a limited basis. Law courses are not open to non-UCLA students.

Attendance and Grades: The right to take examinations and the privilege of continuing as a student in the school are conditioned on regular classroom attendance. Information on the grading system, which is based on a numerical scale of 50 to 100, may be obtained from the Office of the Assistant Dean for Students. Standards for satisfactory performance and for graduation are prescribed by the faculty and are published separately. They may also be obtained from the above office.

Curriculum

The school offers courses of instruction within the school and supervised educational experiences outside it in an effort to enable its students to think intelligently and to prepare them for careers of practice and public service. To this end the school employs several instructional techniques in a variety of subject areas.
In the first year of their legal education students are exposed to an intensive study of 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.

**Concurrent Degree Programs**

The School of Law offers three concurrent degree programs which allow you to fulfill the requirements of the J.D. and another graduate degree simultaneously.

**M.A.-Architecture/Urban Planning/J.D.**

The School of Law and the Graduate School of Architecture and Urban Planning offer a concurrent plan of study providing an integrated curriculum for students planning to specialize in the legal aspects of urban problems. Education in planning offers an overview of theories and methods that permit identification and treatment of urban problems; education in law offers insight into the institutional causes and possibilities for treatment of these problems. Students pursue studies in both 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.

**Education Program/J.D.**

The School of Law and the Graduate School of Education offer a concurrent plan which allows students to design a program of study leading to the J.D. and any advanced degree in education (M.Ed., M.A., Ed.D., or Ph.D.). If the program meets the degree requirements in both schools, students are awarded both degrees on its completion. (This program will not be offered in 1897-88.)

**M.B.A./J.D.**

The School of Law and the John E. Anderson Graduate School of Management offer a concurrent program which enables students to prepare for careers where law and management overlap and where understanding of both fields is necessary. Examples of such areas would include public service, international trade, industrial relations, corporate law, and specialized areas of management consulting. The program makes it possible to earn the J.D. and M.B.A. in four academic years. Students interested in such a program should apply to both schools simultaneously.

**Master of Laws Degree**

The school offers a graduate law program leading to the Master of Laws (LL.M.) degree to outstanding American and international students interested in pursuing graduate studies. Law school graduates with outstanding records who may be interested in this program should contact the Admissions Office for further information.

**Other Programs**

**Clinical Program**

The school permits students to participate in clinical training. These activities consist of fieldwork in a variety of federal and state agencies accompanied by seminars in the school which seek to analyze and expand the agency experience.

**Extern Program**

The school offers an extern program which gives students the opportunity to work 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. Mr. Asimow, Ms. Littleton, Mr. McGovern, Mr. Rosett, Mr. Sumner

110. Legal Research and Writing (5 units). The one-year-long course teaches first-year students how to find the law, how to analyze it, and how to communicate their conclusions in writing. Focus on the skills of analyzing legal authority, developing arguments to solve specific problems in exercise of authority, and structuring legal 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. Emphasis on the basic theory of criminal law and the relationship between the doctrines of criminal law and the various justifications for imposition of punishment. Mr. Abrams, Ms. Crenshaw, Mr. Dolinko, Mr. McGee, Mr. M. Schwartz

121. Criminal Law II (3 units). The criminal process and its relationship to constitutional and statutory prescriptions and proscriptions. The restraints on law enforcement officers, including such police activities as arrest, stop-and-frisk, inspection and detention of variances, taking of evidence; the modern techniques of electronic surveillance; and seizure of property with and without a warrant. Emphasis on the judicial resolution of the tension between constitutional imperatives and the techniques used to prevent crime and apprehend and convict those who commit it.

Mr. Abrams, Mr. Dolinko, Mr. Goldstein, Mr. McGee, Mr. M. Schwartz

130. Property (6 units). An analysis of property as a social institution and particularly of the dynamics of the system for recognizing and protecting competing claims to resources. Major problem areas include the historical development of various kinds of interests in property, sale and financing of real estate, housing, landlord and tenant, and public and private land-use planning and development.

Ms. Blumberg, Mr. Dukeminier, Mr. Lowenstein, Mr. Munzer

140. Torts (5 units). Personal injury law as it has developed within the Anglo-American legal tradition. The concept of negligence, the refinement of negligence, and the doctrine of intentional torts. Contemporary rules of strict liability. Effort to identify the basic purposes which our tort law system achieves or should achieve. Mr. Abel, Ms. Anderson, Ms. Olsen, Mr. G. Schwartz

145. Civil Procedure (5 units). The processes that courts follow in deciding disputes in noncriminal cases. The way in which conflicts are framed for courts, the stages through which litigation goes, the division of power among the various decision makers in the legal system and between the state and federal courts, the territorial limitations on the exercise of judicial power, the principles that define the consequences of a decision once a court has finished with a case, the types and problems of litigations involving multiple disputants.

Mr. Forbath, Ms. Goldberg-Ambrose, Mr. Graham, Mr. Letwin, Mr. Yeazell

**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.

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, zealouy representation, ineffective assistance of counsel, representational activity both in the courtroom and 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 political, social, and moral consequences of lawyering activity, and the meaning of both individual and professional responsibility.

Ms. Menkel-Meadow, Mr. M. Schwartz
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 (legislative, executive, and judicial) of the national government. Civil War Amendments (13th, 14th, and 15th) as limits on the states and as sources of congressional power. The powers of the federal government in limiting the action of other branches of government. Mr. Eule, Mr. Karst, Mr. Varat

201. Constitutional Law II. The First Amendment's guarantees of the freedoms of speech, press, and assembly, and the First Amendment's prohibition of the establishment of religion and its guarantee of the free exercise of religion. Jurisdictional limitations on the federal courts' exercise of the power of judicial review. Mr. Karst, Mr. Varat

205. Wills and Trusts. The law of wills, trusts, and future interests. The wealth transmission process from the perspectives of social critics and estate planners. The substantive law of wills and trusts. The administration of decedents' estates and of trusts. Mr. Dukeminier, Mr. McGovern, Mr. Stomper

207. Community Property. Detailed examination of the California community property system which regulates property relations between husband and wife during marriage and at its termination by divorce or death. Community property raises many questions about the nature of the marriage and the various forms of joint economic activity. Ms. Blumberg, Ms. Prager

208. Real Property Secured Transactions. The use of land as security for debts, with the California cases and statutes that represent an example of an emerging 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 certain persons and institutions to refuse to disclose information, the special status of expert witnesses and the problems 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 constitutionality of the Federal Court; federal habeas corpus; the federal-question jurisdiction of the federal district courts; intervention by federal courts in state court proceedings; and choice of law in federal federal law. Ms. Goldberg-Ambrose, Mr. Karst, Mr. Varat

214. Civil Rights (Section 1). In-depth study of U.S.C. § 1983. This provision, creating a cause of action for the deprivation of constitutional and federal statutory rights by state actors (i.e., state and local officials and municipalities), is one of the most litigated actions in the federal courts. A historical review of the origins of § 1983 and its relation to other Reconstruction civil rights legislation and the 14th Amendment. The elements of action, defenses to action, and partner/partnership and/or host/motor inn need, and the multiplicity of recent reforms that speak to this problem. Satisfies the professional responsibility requirement. Mr. Abel

215. Civil Rights (Section 2). A survey course intended to review both the casual and remedial relationship of law to racial discrimination. A brief review of the historic development of race as a legal concept; past and current developments in housing, voting, employment, and education with special attention to competing policies of controlling government abuse and allowing government to operate, and to the tensions in the judicial interpretation of § 1983 that arise from the use of federal power, especially the federal courts' role as both fact-finders and decision-makers. 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. Goldston, 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 error or abuse. The individual's rights to procedural due process in the individual's interactions with public agencies. Mr. Asimow, Mr. Dukeminier, M. B. Katz

217. Topics in Legal Philosophy. (Same as Philosophy 2526.) 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 income belongs, income and loss, deductions, and credits available in computing tax liability, the year in which income is properly reported and deductions properly taken, and characterization of income as ordinary income or capital gain. Issues of tax policy and reform and the provisions of the Internal Revenue Code and Income Tax Regulations. Mr. Asimow, Mr. Klein, Mr. Zolt

221. Federal Taxation II. Prerequisite: course 220. Course 230 may be taken concurrently. An application and extension of the principles of course 220 to the practice of federal income tax practice. Mr. Asimow, Mr. Zolt

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 trust administration, among others. Ms. Goldberg-Ambrose, Mr. Jordan, Mr. Warren

223. Partnership Planning. Prerequisites: courses 220, 230. An intensive, intensive, advanced problem-oriented course that examines the organization, structuring, operation, and dissolution of partnerships. Detailed substantive study of the statutory and common law of partnerships, partnership taxation, and the economic considerations relating to partnership structure and operations. Discussion of problems involving real estate, oil and gas, motion picture, and other contemporary partnerships. Mr. Dukeminier, Mr. McGovern

224. Law and Accounting. Prerequisite: consent of instructor (for students with more than two undergraduate accounting courses). Recommended for students with no prior accounting training. Basic concepts of financial reporting by business enterprise. Bookkeeping; underlying principles of accounting. The relevance of accounting data to legal decision making, including the implications of financial accounting on planning and structuring businesses, compliance with both tax laws and accounting standards, and reporting for federal income tax purposes. Provides the potential lawyer with understanding and background to read, comprehend, and interpret financial statements. Mr. Asimow, Mr. Zolt

225. Business Planning. Prerequisites: courses 220, 230. Course 221 may be taken concurrently. An advanced course on the establishment, structuring, and restructing of business enterprises, primarily in the corporate form. Analysis of four or five realistically complex problems, examining the state and federal corporate laws, the federal income tax implications, and the financial and accounting aspects of each problem, in order to prepare specific and comprehensive plans for dealing with each problem, considering all realistic alternatives and justifying the choices made.

226. Securities Regulation. Prerequisite: course 230 or consent of instructor. Federal and state regulation of the issuance of new securities and trading in outstanding securities. The Securities Act of 1933; the disclosure process as administered by the Securities and Exchange Commission; and exemptions from the prospectus requirements. Disclosure provisions of the Securities Exchange Act of 1934. Mr. Dukeminier, Mr. McGovern

240. Antitrust I. Basic understanding of the federal antitrust law: the Sherman, Clayton, and Robinson-Patman Acts. Monopoly, cartels (price fixing, market division, boycotts), vertical restrictions (resale price maintenance, territorial), and horizontal agreements (collusion), mergers, price discrimination, joint ventures, ties—in arrangements, reciprocity, requirements contracts, etc. The economic perspective used by modern antitrust analysis. Mr. Liebeler, Mr. Wiley
242. Insurance Law. Basic introduction to the general principles of insurance law, including the definition of persons and interests protected, formation of the contract of insurance, insurer interest, concealment, misrepresentation, warranties and conditions, limitations on coverage, waiver and estoppel, the measure of recovery, indemnity and subrogation. Obligations of the insurer and insured. To identify the current status 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 insured’s duty to cooperate, the insolvency 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 historic Sherman Act monopolization and merger cases. The economic underpinnings of oligopoly theory, which presumably forms the basis for current antitrust policy toward concentrated industries; the validity of the so-called “Market Concentration Doctrine.” Current antitrust efforts aimed at monopoly and “shared monopoly.” Mr. Liebeler

247. Law and Economics. Economics background not required. The basic theory of voluntary exchange (price); 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. Liebeler

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 transactions. Emphasis on the liquidation of the estates 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. Weiden

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, inventory, 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. Commercial law relating to the perfection of security interests (Article 3 of the Code), bank collection process (Article 4), documents of title (Article 5), and aspects of sales law (Article 2) that bear on secured transactions and commercial paper. Mr. Jordan, Mr. Weiden

251. Commercial Law: Sales. The law governing the sale of goods. Acceptance and rejection, contract cancellations, installment contracts, warranty, risk of loss, documentary sales, remedies for breach of contract, the seller’s remedies in 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 letters of credit (Article 5). Mr. Jordan

252. Unfair Competition. Survey of four aspects of intellectual property and competitive regulation, covering a range of doctrine that is useful to a general practitioner, business adviser, or litigator. The strands of moral and economic policy that unite these apparently diverse theories. Emphasis, 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 understanding of economics and at least a minimal understanding of basic college microeconomics. Exploration 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

258. Labor Arbitration. The practice 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 by 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. Allynne

260. Labor Law I. Basic information concerning the laws and decisions which provide the framework for national labor law in the private sector. The National Labor Relations Act, the Labor Management Relations Act, the Railway Labor Act, and the Norris-LaGuardia Anti-Injunction Act. Areas include collective bargaining, unfair labor practices, strikes and lockouts, and determination of bargaining units; unfair labor practices; federal-state jurisdiction; application of antitrust laws; and grievance and arbitration procedures. Mr. Allynne, Mr. Jones

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 and state legislators and of the courts to the special problems of collective bargaining in the public sector. Mr. Allynne

262. Law of the Collective Agreement. Prerequisite: course 260. Limited to 10 students. Enhancement of understanding of labor arbitration by 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 a research assistant to 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. Jordan

263. Employment Discrimination. Title VII of the 1964 Civil Rights Act and similar statutes prohibit discrimination based on race, sex, national origin, religion, age, and handicap. Examination of the 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, state 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 raise. Workers’ compensation considered both as a compensation program and as a tort-like rule of strict liability. Mr. G. Schwartz

267. Indian Law. The special legal status of American Indians and Indian tribes and the tension between moral, legal and political forces. The sources and scope of federal, state, and tribal law on Indian reservations; property law concepts unique to Indian tribes and Indians; rights to American Indians in relation to federal, state, and tribal governments and the federal trust; and Indian law as it relates to Indians. Ms. Goldberg-Ambrose

268. Labor Law III. The rights and obligations of individual employees in collective bargaining units, especially of those who choose not to belong to a union. The legal basis for the present role of the employment law: the 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 affairs. Mr. Aaron

269. Law, Foreign Policy, and National Security. Various legal considerations and restraints, both national and international, on 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 affairs decision making, especially of those who choose not to belong to a union. Some legal and political questions concerning foreign law from an economic perspective: to assess and profit from its strengths and to consider its limitations. Mr. Leopold

270. International Law. The role of law and legal institutions in international relations and in government foreign affairs decision making, primarily on the national level. Introduction to the study of international law and how it is applied in the relations of states. The allocation of responsibility for decision making within the international system and how conflicts in the assertion of jurisdiction are resolved. Major legal issues on the basis of authority by states. The use of force by states, paramilitary groups, and international organizations. Mr. Trimm

271. International Business Transactions. The fundamental legal issues that arise in international trade and investment. The development and application of the essential 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 international law of the Labor-Management Reporting and Disclosure Act of 1959, insofar as it relates to the regulations of internal affairs. Mr. Richgott

272. International Economic Law and Organization. Public international law affecting private economic activity, principally 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. Trimm

273. International Human Rights. Examination of the theoretical issues behind the achievements and limitations of the international human rights movement. How did the notion originate and develop into its present form and content? Is the concept of rights necessary or useful to achieving the objectives of protecting human rights and promoting human dignity and the political integrity throughout the world? Ought there be a dichotomy between civil and political rights as opposed to economic, social, and cultural rights? Is it possible to evolve "new generations of human rights," and the new human rights movements? What is the relationship of the right to peace, and fit them into preexisting schemes, or would these "rights" operate better under separate arrangements? Emphasis on the developments, content, and enforcement machinery of what is known as the International Bill of Human Rights. Particular attention to the question of how national sovereignty and interests influence a country’s position regarding the formulation and enforcement of human rights standards. Ms. Gunnigle

278. Comparative Law: Japanese Law. Designed to introduce the nonspecialist law student to major features of the Japanese legal system, the product of a different historical and cultural experience which has influenced and was influenced from other countries and over generations has assimilated these experiences into a unique legal system. Relation of the structures, processes, and personnel of Japanese law to other features of Japanese society and history. The organization, recruitment, and training of legal professionals and the processes of dispute resolution within and outside the courts.

Mr. Ramseyer, Mr. Rosset

278. Comparative Law: Japanese Law, Selected Readings (Durham). Mr. McGee

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 concerning the relationship between the federal courts, the rules of practice applicable to maritime liens, the special procedures for liens, and the sources and nature of law governing maritime torts, contracts, and property. The applicability of traditional maritime doctrines to 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 hijacking 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 liability for damage caused by aircraft and for damage to the aircraft or to any other property by the aircraft in flight.

Mr. Margo

M285. Governance: State, Regional, and Local (2 to 3 units). (Same as Architecture and Urban Planning M285B.) Legal problems involving local governmental entities; sources and extent of powers and duties with respect to personnel, finance, public works, community development, and related topics.

Mr. McGee

M286. Public Control of Land Development (2 to 4 units). (Same as Architecture and Urban Planning M286A.) Analysis 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, tax controls, and urban development.

Mr. McGee

M287. Urban Housing and Community Development (2 to 3 units). (Same as Architecture and Urban Planning M287.) Comprehensive consideration of the legal aspects of planning and development of American cities, with major emphasis on the "housing process" — the way in which shelter and related facilities are created by the institutions which direct housing activities in urban areas. Students are encouraged to undertake research projects, with emphasis on field research, in lieu of a substantial portion of the final examination.

Mr. McGee

M290. Environmental Law and Policy (2 to 3 units). Mr. Leman, Mr. Trimble

278. Comparative Law: Japanese Law. Designed to introduce the nonspecialist law student to major features of the Japanese legal system, the product of a different historical and cultural experience which has influenced and was influenced from other countries and over generations has assimilated these experiences into a unique legal system. Relation of the structures, processes, and personnel of Japanese law to other features of Japanese society and history. The organization, recruitment, and training of legal professionals and the processes of dispute resolution within and outside the courts.
332. Children and the Law. Judicial and legislative allocation of power and responsibility between parents and the state; the child's economic situation with the family; child custody; adoption; medical treatment of minors; parental right to discipline children; neglect and abuse; state-enforced limitations on the liberty of minors and juvenile delinquency.

Ms. Blumberg

Religion and the State. The nature and institutions of a religious legal system. Offered from time to time by different instructors in Canon law, Islamic law, and the Rabbinic legal tradition. Content varies depending on the particular tradition under study, emphasizing on concerns common to a legal system based on divine authority. The extent of human authority to interpret and modify the received law to meet new circumstances, the relation between law and morality, and the interaction between religious and secular law.

Mr. Rosset

336. English Legal History. The growth of the Common Law and Trial by Jury in the period from 1175 to 1765.

Mr. McGovern

337. American Legal History, 1776-1984. The history of legal and constitutional thought, together with the history of law's social, economic, and political change in everyday life. Consideration of a wide variety of texts and events, with emphasis on the "separation" of law and politics, law's relation to other normative orders in society, such as religion, science, and "equality," problems of interpretation in law and history. Revolution and constitution-making, the creation of judicial review, courts and the rise of industrial capitalism, black slavery and freedom and achievements and limitations of the American Revolution, a study of the relationship between women's labor, and civil rights movements), legal realism and the rise of the administrative state, history of lawyering.

Mr. Forbath

401. Pretrial Litigation Process: Civil (Clinical). Training and practical experience in all range of skills used by lawyers during the pretrial phases of the civil litigation process. The development of interviewing, case planning, fact-gathering, counseling, pleading, formal discovery, negotiation, and lawyer decision-making skills. Fieldwork offers an opportunity to employ lawyering skills in a law office setting under the supervision of experienced legal services attorneys.

Ms. Menkel-Meadow, Mr. Moore, Ms. White

404. Pretrial Litigation Process: Criminal (Clinical). Prerequisites or corequisites: courses 211, 255. Basic aspects of courtroom skills (e.g., cross-examination, direct examination, openings and closings), counseling in a real case, trial advocacy, preparation and trial strategy and preparation. Attorney-client relations and the ethical considerations involved, discovery and investigation, preliminary hearings and motions practice (the use of such fora for discovery and investigatory purposes), theory development and case building, plea bargaining and preparing the client to plead, and preparation for sentencing. Optional fieldwork component.

Ms. Gunning

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 prosecutor's and defense offices at the federal and state levels under the direct supervision of experienced appellate practitioners.

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 work on various aspects of discovery in major pieces of litigation under the supervision of an experienced litigator.

Mr. Binder, Ms. Gillig

403. Interviewing, Counseling, and Negotiation (Clinical). Basic interview, counseling, and negotiation concepts in the areas of litigation 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 simulated interviews.

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-plays are either 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 instructors.

Mr. Bergman, Mr. Moore

405. Simulated Trial Advocacy (Clinical). Prerequisite or corequisite: course 211. Enrollment priority to third-year students. The first half of the year-long course. Theoretical and practical aspects of the trial experience: training directed toward litigating clients in pretrial and trial litigation. The principal function of trials — the resolution of disputed questions of fact — and the trial lawyer's role in presenting persuasive evidence to the judges and jurors who perform that function. The development of specific skills in such tasks as interviewing, fact investigation and analysis, conducting direct and cross-examinations, making opening statements and closing arguments, using exhibits, and making and responding to evidentiary objections, presented through a combination of lecture, discussion, demonstration, and simulated role-play exercises. Presentation of a videotaped mock trial at the end of the semester (fieldwork component).

Mr. Bergman, Mr. Moore

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 adjudication, arbitration, mediation, med-arb, mini-trials, and community dispute centers. Some of the difficulties with alternative dispute resolution: focusing on the party's consent, conflict, motivations, and effects of alternative dispute resolution.

Mr. Bergman, Ms. White


Mr. Karst, Mr. Varat


Mr. Zolt

502. Seminar in Copyright Law. Each student is assigned a specific topic relating to some aspect of copyright law, which is the subject of study. The student first makes an oral presentation of the topic to the seminar and then submits a fully researched paper dealing with the topic.

503. Seminar in Criminal Law: Death Penalty. Limited to 15 students. The death penalty moratorium: impermissible? Is it immoral even if it has a deterrent effect? Are there circumstances in which it is morally improper not to apply the death penalty (even if it has no extra deterrent effect)? Exploration of these questions, with emphasis on such topics as the allegedly arbitrary and discriminatory manner in which death sentences are carried out, the risk of executing the innocent, and whether retention or abolition 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 rape statutes, and the sentences provided for offenses of rape. Determining the law and critically evaluating the empirical and moral responsibilities of prosecutors and defense attorneys, rape cases are also examined, as are civil alternatives to rape prosecution.

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 suicide), and the relation of property to privacy and human nature. Readings from classical and contemporary writers, including Locke and Marx, and from instructor's work in progress.

Mr. Munzer

506. Seminar in Comparative Company Law. Prerequisite: course 230. A comparative analysis of the company laws of the United States, the principal nations of the Commonwealth and, if feasible, several eastern nations. An evaluation of the divergent trends of developing company law in the nations of the world, with particular reference to the differences between United States law and the company laws of other nations and institutions of the Common Market. Topics include capital structure and finance, disclosure, regulation of securities trading, dividends and distributions, and management and control of companies.

Mr. Alayne

445. Planning and Drafting Small Estates (Clinical). The substantive law of wills, trusts, and taxes; planning and drafting documents for 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 judge 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. Karst, Mr. Varat
512. Seminar on Selected Problems in Social Welfare and Health. Prerequisite: consent of instructor. Limited enrollment. A year-long research seminar on topics selected by students with consent of instructor, with emphasis on empirical-policy research outside the School of Law and preferably in the community. Students discuss topics, methods of approach, and preliminary findings. Further 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 issues. Issues both of public international law and the law of international trade and investment. The nature and sources of international law, the role 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 international 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 M257.) 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. Prerequisite: course 327. Students select specific topics in communications law, 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 in ongoing litigation or in current legislation or regulations. Mr. Firestone

526. Seminar: Urban Affairs (2 to 4 units). (Same as Architecture and Urban Planning M202C.) Exploration in a concrete case setting 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 for each semester and the students may choose ones which directly interest 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 class 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 and in a problem-solving format. Students expected to research and brief complex issues of reorganization law and to advocate their positions during class. Mr. Klee

536. Seminar in Appellate Advocacy. Appellate practice and skills necessary for effective appellate advocacy. Special focus on the techniques 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 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, theology and law and the practical effects the legal theories and discussion on the practical effects theory. These theoretical formulations have on a variety of legal issues of importance to men and women. Ms. Olsen

564. Seminar in Evidence. Prerequisite: course 211. Selected topics include the plain error doctrine, elements raised by the testimony of young children, the relationship between scientific conclusions of experts and character evidence, problems in relation to "other evidence," and expert testimony under the federal rules. Mr. Letwin

565. Seminar in Legal History: Black Slavery and Freedom, 1630-1968. 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. Race and class figured in the legal oppression of blacks, and how blacks and others have sought to use law to extend their freedom. Introduction to a variety of ways of doing legal history and administration of law, politics, and society. Topics include genesis of the slave codes, history of the law of slavery, abolition, jurisprudence and legal activism, the Constitution, the legal theory of citizenship, emancipation, and Reconstruction: ex-hamsters and ex-slaves; in the context of the new freedom, life of former slaves in California, and the role of the American judiciary in defining and preserving freedom in the North and South. Mr. Fordham

566. Seminar in American Legal History, 1776-1984. Recommended prerequisite: course 418. 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.

566. Seminar in Administration of Criminal Justice. Recent American decisions in criminal procedure concerning the rights of persons suspected or accused of criminal offenses, contrasted with the administration of justice in civil 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 confronted with implementing the nation’s new刑法, as well as the reaction of Spanish courts to suppressing politically motivated violence. The gap between theory and practice, particularly in Mexico and Latin America. Mr. McGee

576. Seminar in Antitrust Law. Mr. Liebeler, Mr. Wiley

578. 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 particular law or governmental action is or is not violative of the constitution? (2) In what sense are government institutions "representative"? While some earlier writers such as Edmund Burke and James Madison may be considered to have approached that problem only indirectly, the work of David Truman, Anthony Downs, Richard Musgrave, Buchanan and Tullock, Moncur Olson, and Brian Barry may be considered more directly relevant. Mr. Lowenstein

579. Seminar in American Legal Education. Prerequisite: course 333. Emphasis on three substantive areas of immigration-related law that are legally and politically salient: citizenship and naturalization; the rights of aliens; and immigration law. Introduction to the fundamental law in the topics covered, while simultaneously developing an understanding of the theories of migration, drawing crucial distinctions between the various legal phenomena involved, and understanding the role and the rule of law, and the function of citizenship within our legal and political structures. Mr. Bergman, Mr. Graham

582. Seminar: Teaching Assistants. Limited to teaching assistants. Ways to make teaching assistants work more effectively and interesting. The structure 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 useful for teaching assistants. Consideration of the topics that our history of race relations, foreign policy, and the rule of law in restraining military buildups and in achieving other national security objectives.

583. 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 expansion by constitutional means. Mr. Trimble

584. Seminar in American Legal Education. 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 business, the operation of employee compensation, employer taxation, and stock redemptions, acquisitions, and corporate divisions. Mr. Asimov

586. Seminar in Arms Control and Legal 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,rieben, campaign finance, incumbency, ballot propositions, lobbying and conflict of interest. Mr. Lowenstein

597. 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; the rights of aliens; and immigration law. 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 the law are considered in terms of three broad areas: the relationship between the status of an alien and the particular provisions of the immigration law. Mr. Liebeler
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

Professors
Harold Borko, 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.I.S., Emeritus
Robert L. Coffis, B.A., F.I.A., Emeritus
Seymour Lubetzky, M.A., LL.D., Emeritus
Lawrence Clark Powell, Ph.D., Litt.D., L.H.D., Emeritus
Robert Vesper, M.A., LL.D., Emeritus
Raymond F. Wood, Ph.D., Emeritus

Associate Professors
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Christine L. Borgman, Ph.D.
Mary Niles Maack, M.L.S.
John V. Richardson, Ph.D.
Daniel Schiller, Ph.D.
Diana M. Thomas, Ph.D.

Assistant Professors
Donald O. Case, Ph.D.
William H. Fisher, Ph.D.
Stephen Stern, Ph.D.

Lecturers
Celine Alvey, D.P.A., M.S.L.S.
Jennifer Abramson, M.L.S.
Ann Bein, M.L.S.
John Bidwell, M.L.S.
Ronda Breitbard, M.L.S.
Alison Bunting, M.L.S.
Richard Chabran, M.L.S.
Patricia Chittenden, M.L.S.
Susan C. Curzon, Ph.D.
Elizabeth R. Eisenbach, M.L.S., Senior
Miki Goral, M.L.S.
Esther S. Grassian, M.L.S.
Mary Greco, Ph.D.
Dorothy Ingebretsen, M.L.S.
Teresa L. Jacobsen, M.S.L.S.
Joan Kaplowitz, M.L.S.
Julie Kwan, M.L.S.
Linda Maisner, M.L.S.
Holly Millard, M.L.S.
Gail Nelson, M.L.S.
Shirley Nordhaus, M.L.S.
Constance W. Nyhan, M.L.S.
Christina Olson, M.L.S.
Mary I. Purucker, M.L.S.
Myra Saunders, M.L.S.
Cindy Shelton, M.L.S.
Oscar Sims, M.L.S.
Frank H. Spearman III, M.B.A.
Karín Wittenborg, M.L.S.
David Zeidberg, M.I., S.
Elizabeth R. Baughman, M.L.S., M.A., Emeritus
Betty Rosenberg, M.A., Emeritus

Adjunct and Visiting Assistant Professors
J. Denny Haythorn, J.D., M.L.S., Adjunct
Joseph J. Lauer, Ph.D., Adjunct
Cheryl Metoyer-Duran, Ph.D., Visiting
Barbara Tillett, Ph.D., Adjunct

Academic Administrator
Dorothy J. Anderson, Ph.D.

Applicants may write to the Graduate School of Library and Information Science, 120 Powell Library Building, UCLA, Los Angeles, CA 90024-1520, 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 General Test of the Graduate Record Examination (GRE) taken within the past five years. Applicants must achieve a minimum combined score (verbal and quantitative) of 900.
5. Three letters of recommendation.
6. Satisfaction 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; (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 competency.

Basic Professional Competence: The requirement is met by completing nine core courses: 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. 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 John E. Anderson Graduate School of Management, this specialization is designed to provide an integrated set of courses for students who seek careers which draw on general and specialized skills in the two professional fields. Students should request all application materials from the M.B.A. Admissions Office, John E. Anderson 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 is not 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 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 the Graduate School of 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 qualifications for pursuing a doctoral program.

(5) A total score of 1,200 or better on the General Test of the Graduate Record Examination (GRE), 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 candidates.
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 relevant research methodology, 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-M111E. Ethnic Groups and Their Bibliographies. Introduction to bibliographic 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; M111E. 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. Introduction to computer programming and data base management in the library information center environment. Concepts of data organization and record and file structure, with emphasis on data description. Students required to create and execute a variety of programs on microcomputer and/or mainframe systems for bibliographic, administrative, and management information applications.

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 also must 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 alternative data indexing, storage, 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.

206. Seminar on Library History. Prerequisite: consent of instructor. Special studies in biographical history and history of librarianism. Relationships to contemporaneous social, cultural, and intellectual history. Research papers on topics identified in course 205.

M207. Seminar on International and Comparative Librarianship. Library development and service patterns in European and other countries; comparisons of these with librarianship in the United States. International library organizations and programs.

M210. Seminar in Descriptive and Bibliographical Cataloging. Prerequisites: courses 410, 411, or equivalent. Specialized studies in selected areas of descriptive and bibliographical cataloging (e.g., purposes, principles, functional development, potentials of automation). May be repeated once.

M211. Seminar in Subject Control of Library Materials. Prerequisites: courses 410, 411, or equivalent. Study of selected problems in the design and use of verbal headings and classification systems. Manual and mechanized systems. May be repeated once.


M221. 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.

M222. Bibliography of the Health and Life Sciences. Prerequisites: courses 420, 421. Literature of the medical and life sciences: reference and bibliographic works; periodicals and other serials; abstracting and indexing services; audiovisuals; notable books in the history of the biomedical sciences; organization of the literature; patterns of publication; applications of technological developments in the control of the biomedical literature.

M223. Literature of the Social Sciences. Prerequisites: courses 420, 421. Seminars on the literature of the social sciences, including a review of the classics in the various fields, comparisons of editions, periodicals, bibliographical apparatus, and reviewing media. Trends in scholarly and popular writing. Interdisciplinary nature of the literature.

M224. 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, periodicals, bibliographical apparatus, and reviewing media. Trends in scholarly and popular writing.

M225. Latin American Research Resources. (Same as History M265 and Latin American Studies M200.) Seminar, three hours. General and specialized materials in fields represented in young Latin American studies. Library research techniques provide the experience and competency required for future bibliographic and research sophistication as the basis for enhanced research results.

M226. Legal Bibliography. An introduction to the sources and tools of the law, with emphasis on primary authority, but covering as well secondary authority and the indexes and finding aids which the lawyer and professional law librarian use to gain access to legal information.

M229A. Afro-American Bibliography. Prerequisite: consent of instructor. Resources for the study of Afro-American history, culture, and literature. Problems of identification, description, subject analysis, bibliographic and reference apparatus.


241. Principles of Information Systems Analysis and Design. Theories and principles of special systems development, including determination of requirements, technical design and evaluation, and internal organization.

242. Measurement and Evaluation of Information Systems and Services. Prerequisite: a course in research methods. Recommended: a course in library automation. Information systems and services from the points of view of their cost and effectiveness in meeting identified user needs. Review of principles of costing. Study of the literature in which measures have been developed to evaluate the effectiveness of document collections, reference and information retrieval services, document delivery systems, networking, and technical services, including circulation, acquisitions, and document description.


243. Human/Computer Communication. Survey of issues related to human/computer communication. The role of the computer in society, psychological aspects of user behavior, and applications of interaction to computer systems and their significance to systems design and user training. Students perform several on-line assignments and write a term paper on one of the topics covered in the course.

245. Data Base Management Systems. Theories, principles, and practicalities of data base systems, including data models, retrieval mechanisms, evaluation methods, and storage, efficiency, and security considerations.


249. Seminar on Special Topics in Information Science. Prerequisites 240 and one from 240, 242, 243, or 405, or consent of instructor. Content varies from quarter to quarter to allow emphasis on specialized topics in information science, such as vocabulary development, file organization, searching procedures, indexing methods, computer graphics and linguistic text processing, and measures of relevance and system effectiveness. May be repeated for credit with consent of instructor.

251. Reading and Reading Interests. Interests of the common reader as expressed in selected reading of children's special reference to types of library patrons. Fiction and subject categories, popular and standard; philosophy, religion, social sciences, art, music, literature, history, science, influence of paperbacks, best sellers, and current interest books on reading habits.

253. Reading Interests of Children. Reading interests and correlative types of literature surveyed with 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 individualization of services.


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 period 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 seminar. Topics vary according to interests, with emphasis on certain specific areas, such as constitutional bases; civil liberties and civil rights; censorship and other restraints on freedom of speech, the press, the arts, and access to ideas and information.

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. S/U grading.

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. An introduction to the information needs of the business world. Evaluation of business sources, including data bases, manuals, and other sources of business literature.

282. Records Management (2 units). Principles of records control from creation to disposition. Design and implementation of records 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 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 an instructor which prepares an individual responsible for the instruction and administration at the University. May be repeated for credit. S/U grading.

400. The Information Professions. A historical and comparative overview of the information professions and their functions in 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 text processing, and the automation of various library processes.

420. Fundamentals of Bibliography. The development and fundamentals of the several branches of bibliography: historical, physical (analytical or critical, descriptive), enumerative, or systematic; and the organization, control, and elements of bibliographic apparatus, indexes, and tools, theory, methods, and trends in bibliographical research in relationship to librarianship.

425. Computer-Based Information Resources. Prerequisites: courses 420, 421. Emphasis on the use of computer databases and information retrieval services. File structure and hardware requirements. Analyses of the information needs of librarians and business/industry, coupled with investigations into specific data bases addressing those needs.


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. Evaluation and selection techniques. Cooperative collecting — regional, national, and international. Stor- age centers; subject specialization. Special format materials: films, maps, sound recordings, etc. Copying methods; facsimile and reprinting; changing character of research collections.


433. Serials (2 units). Prerequisites: courses 410, 420. Examination of this form of publication, including problems of recognition, acquisition, cataloging, analysis, and corporate entry. Language barriers, subject analysis, and corporate entry. 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.

444. 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.

446. Library Services and Literature for Youth. An overview of the literature and programs which are of interest to young adults (seventh grade and 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.

461. College, University, and Research Libraries. Organization, administration, collections, facilities, finances, and problems of college and university libraries and the relationships within the institutions of which they are a part. Functions of research libraries and work of their staffs in serving scholars.

463. Public Libraries. The government, organization, and administration of municipal, county, and regional public libraries; developments in the changing patterns of public library service.


465. Library Services and Programs for Children. Philosophy and objectives of children's services in public and school libraries. Emphasis on services to groups and techniques of program planning which incorporate storytelling, puppetry, nonprint media, etc.

466. Storytelling to Children and Adults, Oral Interpretation of Literature. Practical storytelling to children and adults in various situations, with emphasis on the folklore, 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 required to choose, learn, and tell stories in class and in a library or community setting and to read stories aloud.

467. Seminar on Current Topics in Public Library Administration. Prerequisite: course 463 or consent of instructor. Special studies in public librarianship, with strong emphasis on techniques and problems of public library administration. Cooperation and coordination — interlibrary services; relationship to the management of human as well as technical 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 library; assistance to the lawyer in his activities; the character and distribution of law libraries throughout the United States; the distinctive characteristics of law libraries 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.

485. American Archives and Manuscripts. Prerequisite: consent of instructor. Identification, description, subject analysis, and organization of records contained in archives and manuscript collections. Administration. User requirements. Problems of acquisition, legal title, literary property, preservation, accessibility, and use.

486. Issues and Problems in Preservation of Library Materials (2 units). 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 standards; collection processing and handling; rare book curatorship; microfilming; cooperative conservation programs; conservation ethics; disaster preparedness and recovery.

487A-487Z. Special Studies in Library and Information Science (2 to 4 units each). Examination of specialized topics of professional interest. Topics and units vary according to subject and may include conservation of materials, business information sources, problems in library management, current issues in cataloging, etc.

487C. Advanced Legal Bibliography. Examination of legal materials and research techniques not covered in course 228, 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.

487F. 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.
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 John E. Anderson Graduate School of Management (AGSM), 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.

AGSM'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 AGSM 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.
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Jason L. Frand, Ph.D. (Information Systems)
Ernest J. Scaberg, Ph.D., Assistant Dean
The UCLA John E. Anderson 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 120A, 120B, 122, 124, 130, 133, and 140 is open only to students in the Economics/Business program.
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 08542. 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 AGSM by March 15.

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 90024-1448.

Areas of Study

Accounting: behavioral and organizational science; business economics; finance; human resource management and industrial relations; information systems; management science; marketing; organization and strategic studies; production and operations management; urban land economics. Interdisciplinary studies are offered in arts management, entertainment management, entrepreneurial studies, international and comparative management, and public/not-for-profit management.

Course Requirements

The three required elements of the M.B.A. program are the management core, the advanced electives totaling at least 24 courses (96 units), and the management field study. Management core subjects cover the fundamentals of disciplines which underlie the practice of management. Advanced electives provide specialized knowledge and skills for a particular field of management work.

Management Core: The management core consists of 11 courses on subjects basic to the practice of management, including Management 402, 403, 405, 408, 410, 411, 412, 420, one course from 409, 414, and two courses from 404, 406, 407.

Advanced Electives: These focus on one or more fields of specialization within the broad realm of management. Students design programs of study to meet their specific academic needs and professional goals. Eight electives must be selected from regular AGSM courses, and you are encouraged to emphasize two or more areas of study.

You must also select at least three additional free electives, subject only to general University regulations. These electives normally must be taken while enrolled in the program. They may support or complement the remainder of your program of study.

A maximum of two four-unit 596 courses may be applied toward the 96-unit requirement.

Management Field Study: The two-quarter management field study project (courses 444A-444B) consists of teams of four or five students who serve as management consultants to business firms or other organizations. Conclusions are summarized in a report which serves in lieu of a thesis or comprehensive final examination for the members of the team. The field study is judged by standards applicable to professional management consulting.

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 AGSM, and all students are encouraged to participate.

Concurrent Degree Programs

J.D./M.B.A.

The John E. Anderson Graduate School of Management and the School of Law offer a concurrent program which enables students to prepare for careers where law and management overlap and where understanding of both fields is necessary. Examples of such areas would include public service, international trade, industrial relations, corporate law, and specialized areas of management consulting. The program makes it possible to earn the J.D. and M.B.A. in four academic years. Students interested in such a program should apply to both schools simultaneously.

M.S.-Computer Science/M.B.A.

The John E. Anderson 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, John E. Anderson Graduate School of Management.

M.L.S./M.B.A.

A concurrent degree program jointly sponsored by the John E. Anderson 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, John E. Anderson Graduate School of Management.

M.P.H./M.B.A.

The John E. Anderson 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 apply to both schools simultaneously as admissions decisions are made jointly within both schools. Application materials are available from the M.B.A. Admissions Office, John E. Anderson Graduate School of Management.

M.A.-Latin American Studies/ M.B.A.

The John E. Anderson Graduate School of Management and the Latin American Studies Program jointly sponsor a three-year concurrent degree program designed for individuals preparing for careers in international management with a special focus on the Latin American region. Establishment of the program was predicated on the belief that individuals employed in the area of international business and management are better equipped to meet the challenges of their employment with complementary preparation in language and regional studies. Students should request application materials from the M.B.A. Admissions Office and the Latin American Studies Program.


The John E. Anderson 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, John E. Anderson 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 Fridays and Saturdays every other week, 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 90024-1464.

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 2 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 90024-1481.

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 in 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.

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.

3. (3) Master's Thesis (one course): Four units of Management 598.

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 203A, 210A, 210B, 210C, 210A.
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; behavioral and organizational science; business economics; finance; human resources management and industrial relations; information systems; 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 I A is prerequisite to 1 B. 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.

Upper Division Courses
120A. Intermediate Financial Accounting I. (Formerly numbered 120.) Prerequisite: course 1B. An intermediate-level course in the theory and practice of financial accounting. The underlying concepts of asset valuation and income measurement. The measurement and reporting of current and long-term assets, including cash and marketable securities, inventories, plant assets and depreciation, and intangibles.
120B. Intermediate Financial Accounting II. (Formerly numbered 120.) Prerequisite: course 120A. An intermediate-level course in the theory and practice of financial accounting. The underlying concepts of liability recognition, income, including leases, bonds, and pensions. Shareholder's equity, including earnings per share. Accounting for changing prices.
122. Cost Accounting. Prerequisites: course 1B, Economics 40, or equivalent. The nature, objectives, and measurement of cost accounting and control; job costing and process costing; accounting for manufacturing overhead; cost budgeting; cost reports; joint-product costing; distribution costs; standard costs; differential cost analysis; profit-volume relationships and break-even analysis.
123. Auditing. Prerequisite: course 120B. Concepts and problems in the verification of financial and related information, including ethical, legal, and other professional issues. Historical developments and current concepts.
124. Advanced Accounting. Prerequisites: courses 120A, 120B. Partnerships and joint ventures; installment sales and consignment sales; home office and branch relationships; corporate combinations; the preparation of consolidated statements; foreign branches and subsidiaries; receiverships; estates and trusts; governmental units; actuarial science.

127. Federal Income Taxation. Prerequisite: course 1B. Recommended: course 120A. Basic concepts of federal income taxation pertaining to individuals; income and deductions, areas of special tax procedures pertaining to gains and losses from sales and exchanges. Tax considerations in business and investment decisions.
130. Business Finance. Lecture, three hours; discussion, one hour. Prerequisites: course 120A or 120B, 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 developing judgment in formulating decisions on financial problems. Financial problems considered in their social, legal, and economic effects.
133. Investment Principles and Policies. Prerequisites: course 130. Principles underlying investment analysis and policy; salient characteristics of governmental and corporate securities; policies of investment companies and investing institutions; relation of investment policy to money markets and business fluctuations; security 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.

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. Advanced Microeconomics. Seminar, three hours. Prerequisite: course 405 or consent of instructor. An economist's approach to organization and competitive interaction. Topics include game theory, threat credibility, incentive contracts, information advantages, and entry deterrence.
209. Techniques of Business Economic Analysis: Econometrics. Prerequisite: consent of instructor. Standard topics in applied econometric modeling. The assumptions underlying the classical normal linear regression model, special problems in application, and interpretation of results. Practical applications extensively developed in student projects.

Mr. Kimbell


Mr. Lippman

210B. Comparative Market Structure and Competition. Prerequisite: course 205A or consent of instructor. Basic theory of market structure and behavior. Analysis of market structure, market behavior, and government intervention in theory and practice. The effects of regulation on business. How regulation and deregulation occur. Areas include public utilities, banking, pollution, and the political process.

Mr. Rasmussen

210C. 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 mechanism with limited cognitive and information processing capabilities.

210D. Analytics of Competitive Strategy. Discussion, three hours. Prerequisite: course 405 or consent of instructor. Research into the effects of government policies and regulations on economic theory and practice. The effects of regulation on business. How regulation and deregulation occur. Areas include public utilities, banking, pollution, and the political process.

Mr. Weston

210E. Empirical Studies in Industrial Organization. Prerequisite: course 201B. Empirical studies of industrial decisions and the behavior of managers in the profit vs. not-for-profit sectors to determine the critical variables that explain the observed differences in behavior. Use of the methodology of microeconomics, particularly utility maximization.

Mr. Granfield

210F. Public Services and Private Functions. Prerequisites: courses 405 and 406, or consent of instructor. Sources and uses of federal, state, and local revenues and their impacts on public and private resource allocations. Examination of the proper role of government and the private sector in the financing and provision of public goods and services.

210G. Selected Topics in Business Economics. Prerequisite: consent of instructor. Special topics in business economics. Emphasis on the application of mathematical models in the behavioral sciences. Emphasis on stochastic process models applied to business economics. May be repeated for credit.

Mr. Nering

210H. Mathematical Programming. Discussion, three hours. Prerequisite: linear algebra. A comprehensive treatment of linear and computational methods of linear programming, with applications to business and related disciplinary areas.

Mr. Graves

210I. 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; applications to inventory, queuing, maintenance, reliability, and replacement problems.

Mr. Lippman, Mr. Mamer


Mr. Lippman, Mr. Mamer

210K. 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

210L. Time-Series Analysis. Prerequisite: course 213B or consent of instructor. Univariate Box-Jenkins analysis, transfer functions, and intervention analysis. Relationship between econometric and time-series models. Granger causality, multiple time-series analysis. Numerous computer applications in modeling and forecasting.

Mr. H. B. Elton, Mr. Harris

210M. Statistical Design of Surveys. Prerequisite: course 213B or equivalent. Mathematical theory and practical applications of sampling theory and analysis of sample surveys.

Mr. Congdon

210N. Simulation of Operational Systems. Discussion, three hours. Prerequisite: background in FORTRAN, PL/1, P/L, or other batch computing language available on campus and in basic statistics (courses 402 or equivalent) and computer programming courses (courses 205A or equivalent). Computer simulation methodology, including design, validation, operating procedures, and analysis of results of simulation applications. Applications of simulation to management problems.

Mr. Nelson
216B. Advanced Computer Simulation. Prerequisite: course 216A. Advanced study of 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.

217A. Statistical Decision Theory. Prerequisite: course 213A or equivalent. Relationships among statistical decision theory, game theory, and classical statistical inference, with emphasis on sequential analysis and dynamic programming techniques. Bayes' and minimax solutions, applications to selected models of dynamic decision problems in business. 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 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 vary, including reliability and optimal maintenance theory, large-scale distribution systems, and Markov renewal 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. 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.


220C. Advanced Financial Accounting. Prerequisites: courses 220A and 220B, or consent of instructor. A continuation of courses 220A and 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 bankruptcy.

221. Current Issues in Accounting Information Systems. Prerequisite: consent of instructor. A forum for the discussion of contemporary issues in accounting and information systems, in a colloquium format. Depending on prominent speakers in the field, Mr. course requires students to formulate a position paper on each topic presented.

222. Cost Accounting. Prerequisite: course 403. The nature and dynamics of cost accounting and control; joint product costing, standard costs; theories of cost allocation and absorption; uses of cost accounting data for management decision making.

223. Auditing. Prerequisite: course 403. Theory and procedures in systems analysis and reporting on financial statements, including professional ethics, internal control, and the selection and application of auditing procedures, with emphasis on generally accepted auditing standards. Mr. Miller

226. International Accounting. Prerequisite: graduation. Core course in 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.

227A. Taxation Principles and Policy. Discussion. Three hours. Prerequisite: course 403. Study of the tax issues arising in the formation, operation, and termination of a corporation. Specific emphasis on structuring shareholders' transactions involving dividends, mergers, reorganizations, liquidations, acquisitions, and capital structure.

228. Evaluating Financial Statement Information. Lecture, three hours. Prerequisites: courses 220A or 220B, 230, 402. Issues of accounting information evaluation, with special emphasis on uses of financial statements by decision makers. Analysis of alternatives (e.g., investors, creditors). Topics include load decisions, bankruptcy prediction, and interpreting earnings.

229A. Accounting Theory. Prerequisite: course 229B. A survey of major economic factors of the development of basic accounting concepts. Contemporary practice as it has evolved in accordance with basic theory and expanding demands for accountability.

229B. Research Methodology in Accounting. Prerequisite: doctoral standing 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 of social science. Mr. Farrell

229C. Special Topics in Accounting. Prerequisite: doctoral standing or consent of instructor. An examination in depth of problems or issues of current concern in accounting. Emphasis on recent contributions to the field, and preparedness of the student for the Ph.D. dissertation. Mr. Farrell

229X-229Y-229Z. Accounting Workshop (1 unit, 1 unit, 1 unit each). Discussion, two hours. Prerequisite: doctoral standing. Designed to develop an ability to critically evaluate research in fields relevant to the study of accounting. Papers presented in a colloquium format by leading scholars in accounting. 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.

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 application to fundamental issues in corporate financial management and capital budgeting, capital structure, and dividend policy.

231A. Profit Sector Financial Policy. Prerequisite: course 230. Identifying and solving financial problems using the tools of financial theory and financial techniques to business problems, using written reports and classroom discussion.

231B. Nonprofit Sector Financial Policy. Discussion, three hours. Prerequisite: course 408. Identifying and solving financial problems using the tools of financial theory and financial techniques to nonprofit organizations, with attention to funds accounting, budgeting and control, investment decision making when market valuation cannot be used as a criterion, and sources of funds for nonprofit organizations. Cases are used.


232A. Security Analysis. Prerequisite: course 230. Primarily a course in stock market investing, but approach applicable to all investment assets. Techniques of security analysis and security valuation based on financial statements of the organization.

232B. Portfolio Management. Prerequisite: course 230. Focus on entire portfolios rather than individual assets. Review portfolio theory as applied to portfolio decision making and the evaluation of achieved portfolio performance. Case studies of portfolio construction.

232D. Option Markets. Prerequisite: course 230. The development and analyzed put and call markets, arbitrage and hedging relationships, the valuation of options, the implementation of option trading strategies, the perspective of corporate securities as options, the function of options in securities markets, and innovations in option markets. Students learn fundamentals of hedging and spreading by playing an option trading game and writing a term paper analyzing their trading strategies.

233A. Money and Capital Markets. Prerequisite: course 230. Application of interest theory and flow 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.

233B. Financial Institutions. Prerequisites: courses 230, 233A. Study of the financial policies and practices of commercial banks, savings and loan associations, and investment companies, as well as federal and other major financial institutions. Review of current major problems facing senior managers of these financial institutions.

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.

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 venture and the multinational liabilities for the daily operating activities of a multinational firm.

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 theoretical 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.
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 measuring risk and uncertainty; the scope and limits of insurable risk. Emphasis on the economics of insurance. Mr. Hofflander

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 Exchange 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. Mr. Mayers

239C. Empirical Research in Finance. Prerequisites: course 230, framing in econometrics, consent of instructor. In-depth study of empirical research in the field of finance, with emphasis on market efficiency, 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. Ph.D. Seminar in Finance. Prerequisites: 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.

239X-239Y-239Z. Finance Workshop (1 unit, 1 unit, 2 units). Discussion, 90 minutes. Prerequisite: doctoral standing. Designed to develop an ability to critically evaluate finance research. Papers presented in a colloquium format by leading scholars in finance. 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.

240A. The Operating Manager. Definition and analysis of problems of production planning, inventory management, quality control, system design, and implementation from the operating manager's perspective, primarily through case studies. Course is integrative in nature, rather than one of developing new methodologies and techniques. Mr. Buffa, Mr. Chambers

240B. Operations Planning, Scheduling, and Control. Prerequisite: course 407 or consent of instructor. Forecasting, inventory planning, aggregate planning, job-shop scheduling models, and automated manufacturing systems, with emphasis on managerial relevance and usefulness of the models in solving or providing insight into real-world problems. Mr. Chambers, Mr. Nelson

240C. Design of Operational Systems. Prerequisite: course 407. Issues, concepts, objectives, and criteria in the determination of the capabilities, characteristics, and configurations of manufacturing and service systems. Examination of analysis and sizing methodologies for the selection of capacity, location, technology, processes, material movement and storage systems, facilities, work group structures, and jobs. Mr. Andrews

240D. Operations Strategy and Policy. (Formerly numbered 244.) Discussion, three hours. Definition and scope of operations strategy and its relation to corporate strategy, importance of productivity and its implication in global competition, positioning the firm to match market requirements, capacity decisions, process and product technology, the work force and job design, strategic implications of operating decisions, suppliers and systems integration. Case analysis of strategic issues in manufacturing and nonmanufacturing situations. Mr. Buffa

241A. Managing Technology for Competitive Advantage. (Formerly numbered 241.) Advanced technologies such as robotics, computer-integrated manufacturing, computer-aided design and manufacturing (CAD/CAM), and flexible manufacturing systems. Effects of technological innovation on operations managers at both the strategic and operational levels. Course is integrative in nature.

241B. Project Management. (Formerly numbered 243A.) Prerequisite: course 407 or equivalent. Management of development projects. Decision-making environment, economic analysis, network analysis, scheduling, and control of development process. Project evaluation and control. Sequential and aggregate development decisions. Mr. Andrews

242A. Models for Operations Planning, Scheduling, and Control. (Not the same as course 242A prior to 1974.) Prerequisite: consent of instructor. Survey of research studies and recent literature in operations planning, scheduling, and control. Emphasis throughout on formal models and their applications. Aggregate planning, work force scheduling, inventory management, and detailed operations scheduling and control. Mr. Andrews, Mr. Erlenkotter

242B. Models for Operations Systems Design. Prerequisite: doctoral standing. Survey of research literature and methodological models of manufacturing, distribution, and service systems, including long-range forecasting, operational economies, capacity, location, facilities, processes/technology, work, and work structures. Mr. Erlenkotter

243A. Planning for Facilities Systems. (Formerly numbered 242A.) Prerequisite: course 212A or equivalent. Planning of location, expansion, and replacement for interdependent systems of facilities. Examination of spatial and dynamic economic considerations. Applications in selected industries and public sectors. Mr. Erlenkotter

243B. Inventory Theory. Prerequisite: course 210B or consent of instructor. General discussion of inventory models, with emphasis on characterizing the form of optimal policies and efficient computational methods. Consideration of deterministic, stochastic, discrete-, and continuous-time models. Mr. Erlenkotter

243C. Scheduling Models for Intermittent 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 interaction of computer models, and man-machine interaction. Mr. Erlenkotter

243X-243Y-243Z. Production and Operations Management Seminar (1 unit, 1 unit, 2 units). (Formerly numbered 245X-245Y-245Z.) Discussion, 90 minutes to three hours. Prerequisite: doctoral standing. Required of all students in the production and operations management concentration during the first two years of their Ph.D. work. Student and faculty presentations of ongoing research. May be repeated for credit.

244. Research in Production and Operations Management. (Formerly numbered 245B-245C.) Prerequisite: doctoral standing. Normally taken in the first and second years of doctoral study. Survey of the research literature in production and operations management. Seminar reports dealing with special topics. May be repeated for credit with topic change. Mr. Andrews, Mr. Nelson, Mr. Sarin

245. Special Topics in Operations Management. (Formerly numbered 245A.) 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 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, risk/benefit analysis, and social experimentation. Limitations of methodologies examined and concepts illustrated through current applications and case studies.

248. Budgeting and Resource Allocations in the Public Sector. Prerequisites: 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 allocational decision making, financial control mechanism, and interface with political process. Prerequisite: consent of instructor has yielded some insight into staff functions performed by those responsible for resource allocation.

249A. Environment of the Art World. (Formerly numbered 270.) Prerequisite: consent of instructor. Course examines the role of the art world in the political, social, economic, and environmental forces in American society as they affect the existence and development of arts institutions in the U.S. Exploration of present political and social trends and potential future developments.

247B. The Role of Management in Artistic Decision Making. (Formerly numbered 272.) Prerequisite: consent of instructor. A descriptive study of the criteria for decision making in artistic institutions, including the role of public and private non-profit sectors. Emphasis on public sector, the economic environment of the arts, and the artistic values of arts organizations.

247C. Legal Environment of Arts Management. (Formerly numbered 271.) Prerequisite: consent of instructor. 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 management, organizational considerations, evaluation, control, ethical use of public funds, and public relations.

248A. Special Topics in Public and Private Nonprofit Management. (Formerly numbered 248.) Prerequisite: consent of instructor. Studies of advanced subjects of current interest in public/not-for-profit management. Emphasis on recent developments and their implications. Intended for Ph.D. students. Topics vary each quarter. May be repeated for credit with topic change.

249. Special Topics in Arts Management. (Formerly numbered 274.) Prerequisite: consent of instructor. Examination of current issues in the management of artistic organizations. Relevant combinations of lectures, discussions, case studies, and team research projects.

250A. Labor Relations: Process and Law. Lecture, three hours. Prerequisite: consent of instructor. Collective bargaining. Consideration, at an advanced level, of the collective bargaining process, the 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
25B. Human Resource Management: Process and Law. Lecture, three hours. Prerequisite: course 250A. A systematic exposure to the theoretical and empirical 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.

Ms. Broderick, Mr. Fogel, Mr. Jacoby

250C. Behavioral Foundations of Human Resource Management. 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. Massarik

251. Managing Human Resources. Lecture, three hours. The management of people in organizations, including HR strategies, the role of HR professionals, and HR functions. Emphasis on HR management and institutional effectiveness. Emphasis on understanding, predicting, and influencing human behavior in organizations.

Mr. Flamholtz

252. Systems of Employee-Management Participation. Lecture, three hours. Prerequisite: consent of instructor. Designed to provide an understanding of the systems of employee-management participation plans that are used around the world (apart from traditional collective bargaining systems). Specific concepts as worker participation in decision making, industrial democracy, joint consultation, workers' councils, profit sharing, and design of corporate culture.

Mr. Kleingartner

253. Employee Discipline, Discharge, and Grievance-Appeal Settlement. Lecture, three hours. Prerequisite: graduate standing. Analysis of conflict in the employment relationship; the personal and empirical findings. Principles and philosophies that underlie the 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. An examination of the employed labor relations at the national and international levels, historical and contemporary analytical comparison of industrial relations systems within their political, social, and economic environments. The institutions, philosophies, and ideologies of labor, management, and government, and the interaction of their power relations; the substance and manner of determinants of "web of rules" governing the rights and obligations of the parties; and the resolution of conflicts.

Mr. Cooper, Mr. Currim, Mr. Meyer

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. An introduction to 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 personnel administration.

Mr. Kleingartner

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 concern to the study of industrial relations, with emphasis on recent contributions to theory, research, and methodology. Of special interest to advanced Ph.D. candidates, academic staff, or distinguished visiting faculty. May be repeated for credit.

259A. Employment Planning and Evaluation. Lecture, three hours. Prerequisite: course 254. Development of programs and practices to meet the human resource needs of organizations, including staffing, training, management development, career progression, and evaluation.

Mr. Jacoby, Mr. Mitchell

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, media, and decision-making 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 strategies and methodologies for formulating the marketing plan. Analysis of a few, yet powerful, conceptual frameworks which have broad application. 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 trends toward a greater concentration of power and a decreased number of channels. Understanding the forces which shape distribution, and the processes by which these decisions can be made in an optimal manner.

Mr. Currim, Mr. Meyer

261B. International Marketing Management. Prerequisite: course 260A or consent of instructor. Opportunities, distinctive characteristics, and emerging trends in foreign markets, involving an exploration of alternative international perspectives, strategies for planning and control; impact of social, cultural, economic, and political differences; and problems of adapting American marketing concepts and methods.

Ms. Hanssens

262. Price Policies. Prerequisite: course 260A or consent of instructor. Consideration 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, and warehousing pricing 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 consumer behavior. Mr. Kasarjian, Ms. Meyers-Levy, Mr. Nakamoto

263B. Theory of Marketing Stimulation. Prerequisite: course 263A. Analysis of factors influencing consumer demand. Techniques for stimulating demand evaluated in relation to specific marketing objectives. Material from economics, psychology, sociology, anthropology, and marketing research.

Mr. Nakamoto

264A. Marketing Research: Design and Evaluation. Prerequisite: course 411 or consent of instructor. The planning and execution of research efforts affecting marketing, including quantitative aspects of demand, consumer reaction to product characteristics, effectiveness of advertising and other promotional services, influence on rewards and organization systems on sales efficiency, and effectiveness of competitors' strategies.

Mr. Cooper, Mr. Currim, Mr. Meyer

264B. Mathematical Models in Marketing. Prerequisite: course 260A or consent of instructor. A study of the utilization of models for the solution of marketing problems. Discussion on models concerned with such problems as brand switching, media selection, pricing, competitive strategy, scheduling, allocation problems, and waiting time.

Ms. Gupta, Mr. Hanssens, Mr. Meyer

264C. Seminar in Multidimensional Scaling. Prerequisite: consent of instructor. A seminar providing for the study of recent developments in metric and nonmetric multidimensional scaling.

Mr. Jacoby

265A. Marketing and the Law. Prerequisite: course 260A or consent of instructor. A detailed study of the legal regulations (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. Kasarjian

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.

265C. Product Management. Prerequisite: course 260A. Development of a framework for identifying and reinvesting appropriate growth strategies of the firm. Product addition, modification, and deletion decisions, and the processes by which these decisions can be made in an optimal manner.

Ms. Currim, Mr. Meyer

266B. Advertising Policy. Prerequisites: courses 260A and 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, strategies, and alternative policies, media selection, evaluating advertising results, and the organization of the advertising function.

Mr. Nakamoto

266C. Sales Force Management. Prerequisite: course 411 or consent of instructor. Development of a logical, consistent, integrated set of procedures in the sales force management. The role of selling in the marketing mix, the selling interaction, and key problems in planning, organizing, evaluating, and controlling the sales force.

267. Macromethodological Issues in Research on People. Prerequisite: consent of instructor. A systematic approach to the special issues concerning research on people; criteria for evaluating macromethodologies; development of scientific concepts, models and theories, alternative growth strategies of the firm. Product addition, modification, and deletion decisions, and the processes by which these decisions can be made in an optimal manner.

Mr. Currim, Mr. Meyer

268. Selected Topics in Marketing. Prerequisite: course 260A or consent of instructor. A study of selected areas of marketing knowledge and thought. Specific subjects vary each quarter depending on the participating faculty. Emphasis on students' active participation and on the presentation of individual projects and reports. May be repeated for credit.

269A. Theory in Marketing. Prerequisite: consent of instructor. Serves as a mechanism to introduce students to the development of marketing thought. Topics include an examination of the current topical orientation of marketing theory and development and testing. Prepares students for conducting theoretically grounded research in marketing.

Mr. Nakamoto
269B. Research in Marketing Management. Prerequisite: consent of instructor. Intended for Ph.D. students. Study of research issues associated with marketing management decisions. Recent research in the field of marketing management, new theoretical frameworks, and new empirical research. Mr. Hanssens, Ms. Scott

269C. Quantitative Research in Marketing. Prerequisite: consent of instructor. Intended for Ph.D. students in marketing and related fields. Students are assumed to have a good background in marketing theory and methods, but basic knowledge of statistics is required. Applications of statistical methods to marketing problems. Mr. Hanssens, Ms. Scott

269D. Behavioral Research in Marketing. Prerequisite: consent of instructor. Empirical research in consumer behavior and evaluation by a panel of experts. Emphasis on the managerial use of research. Applications in the individual, strategic, managerial, and operational levels. Special consideration of accounting and budgeting methods. Mr. Frand, Mr. Lientz

269E. Special Research Topics in Marketing. Prerequisite: doctoral standing or consent of instructor. Emphasis on the presentation of selected topics in marketing, with emphasis on thorough examination of one or two topics in current research and theory. May be repeated for credit.

269X-269Y. Workshop in Marketing (1 unit, 1 unit, 2 units). Prerequisite: doctoral standing. Required of all students during the first two years of their Ph.D. work. Series consists of a number of leading scholars in marketing and related disciplines who will be conducting research in consumer behavior or related areas. Mr. Kassarjian, Ms. Meyers-Levy, Mr. Nakamoto, Ms. Scott

270A. Information Systems Applications. (Formerly numbered 225A.) Prerequisite: course 404. Basic concepts and uses of information systems in organizations. Use of information technology in support of individual and organizational information processing. Description of types of applications (e.g., functional, strategic). Evaluation of systems. Analysis of their impacts.

Mr. Greenberger, Mr. Markus, Mr. Swanson

270B. Information Systems for Planning and Control. (Formerly numbered 225B.) Prerequisites: courses 403 and 404, or consent of instructor. Design and implementation systems to support management planning and control. Approaches and techniques employed at the strategic, managerial, and operational levels. Special considerations of accounting and budgeting methods. Use of planning and control information on human behavior.

Mr. McDonough, Mr. Silver, Mr. Swanson

270C. Measurement in Information Systems. (Formerly numbered 225C.) Prerequisite: course 404. The role of measurement in management information and decision support systems. The logic and techniques of measurement. Applications in the individual, organizational, and societal performance. Mr. Swanson

270D. Simulation for Management. (Formerly numbered 224E.) Discussion, three hours. Prerequisites: knowledge of computer programming and basic statistics, consent of instructor. The design, implementation, and use of discrete-event simulation models using a general-purpose programming language (e.g., SIMSCRIPT). Emphasis on the management of simulation and the presentation of results (e.g., statistical analysis, graphics, animation). Extensive programming assignments.

271A. Information Systems Technology. (Formerly numbered 224A.) Discussion, three hours. Prerequisite: course 404. A survey of computer hardware, software, telecommunications, and data base technology, including system configuration and the use of computer-based systems for management applications. Methods for cost analysis of software and hardware and for assessing computer performance. Trade-off analysis of comparative computer configurations.

Mr. Frand, Ms. Lientz

271B. On-Line and Network-Based Systems. (Formerly numbered 224F) Prerequisites: courses 271A and 272A, or consent of instructor. Distributed processing. Networked minicomputer systems. Data communication technology. Data security in computer networks. Network operating systems. Use of on-line and network computer systems. Applications to computer utilities, command and control systems, and commercial, medical, and government networks. Mr. Lientz

271C. Data Base Management Systems. (Formerly numbered 224D.) Discussion, three hours. Prerequisite: courses 271A and 272A, or consent of instructor. The features and capabilities of generalized data bases. Designing data base systems. Applications of data base systems to management decision making. Comparison, evaluation of software packages, and evaluation of specific system. Emphasis on management uses of such systems. A field study project may be required.

Mr. Silver, Mr. Sprolls


Mr. Frand, Mr. Sprolls

272A. Information Systems Management. (Formerly numbered 224B.) Discussion, three hours. Prerequisite: course 404. Managing information systems in organizations. Role of chief information officer. Frameworks for understanding the information systems function. Issues of planning, project management, computer operations, security, and user computing, distributed and departmental computing, managing information systems professionals, costing of services, organizational structures.

Mr. McLean

274A. Special Topics in Information Systems. (Formerly numbered 224G.) Prerequisite: consent of instructor. An examination in depth of issues or problems concerned with the theory and practice of computer and artificial intelligence systems. Course may have a single theme or may deal with a number of topics. May be repeated for credit.

274B. Frontiers in Information Systems. (Formerly numbered 225G.) Prerequisite: doctoral standing or consent of instructor. An examination in depth of problems or issues of current concern in information systems. Emphasis on recent contributions to theory, research, and methodology. May be repeated for credit.

Mr. Case, Mr. Mittelbach

274X-274Y. Current Research in Information Systems (1 unit, 1 unit, 2 units). (Formerly numbered 225X-225Y-225Z.) Discussion, two hours. Prerequisite: doctoral standing. A year-long sequence of colloquia. Colloquium Series. Regularly scheduled presentations of current research and state-of-the-art developments in the information systems field. Study and discussion of the research presented. May be repeated for credit.

Mr. Case, Mr. Mittelbach

275A. Urban Issues and Problems. Discussion, three hours. Prerequisite: course 405 or consent of instructor. Development and use of economic and management principles and methods to analyze and project urban land use and land values; study of demand for and supply of industrial, retail, residential, and commercial locations. Mr. Mittelbach

275B. Urban Land Markets. Discussion, three hours. Prerequisite: course 405 or consent of instructor. Development and use of economic and management principles and methods to analyze and project urban land use and land values; study of demand for and supply of industrial, retail, residential, and commercial locations. Mr. Mittelbach

275C. Alternative Urban Futures. Discussion, three hours. Prerequisite: completion of first-year M.B.A. requirements, consent of instructor. Intended primarily for students seeking a course which specifically relates real estate analysis to the array of management courses taught at AGSM. Use of case studies to examine various urban strategies for creating or acquiring and managing private real estate property intended to respond to anticipated alternative urban futures. Use of business techniques and economic principles to define new areas of potential growth and to prepare financial, marketing, and management plans for realizing these potentials through private residential, commercial, or industrial development. Emphasis on forecasting, spreadsheets, and financial analysis.

Mr. Case, Mr. Mittelbach

276A. Theory of Urban Property Valuation. Discussion, three hours. Prerequisite: course 408 or equivalent. Use of a systems approach to prepare feasibility and valuation studies which systematically analyze the factors which create value in private or public properties. Emphasis on the particular urban, economic, political, and physical forces which can influence property values. Students encouraged to use computer-based analysis.

Mr. Case, Mr. Mittelbach

276B. Comparative and International Urban Land Studies. Discussion, three hours. Analysis of private and public decisions shaping urban growth and change in developed and developing nations. Emphasis on economic, social, and institutional forces influencing urban structure, land-use patterns, growth and distribution of jobs and people in the built environment.

Mr. Case, Mr. Mittelbach

276C. Urban Dynamics: Degeneration and Regeneration. Discussion, three hours. Prerequisite: consent of instructor. Use of the local urban area as a laboratory to identify the forces which have caused changes — good and bad — in the area and to prepare market and financial feasibility studies of private development opportunities in areas. Fieldwork is an integral part of the course, with students encouraged to organize into development teams.

Mr. Case, Mr. Mittelbach

277A. Housing Market Structures. Discussion, three hours. Prerequisite: consent of instructor. Concepts, models, and methods to study and forecast local, regional, and national housing markets; consumer and investor behavior; residential land development and building; primary and secondary residential mortgage markets; private and public forces influencing housing costs and prices.

Mr. Case, Mr. Mittelbach

277B. Housing Policy. Discussion, three hours. Prerequisite: consent of instructor. Alternate housing strategies, policies, and programs; housing for low and moderate income groups; urban renewal; community services to improve housing environment; stimulating innovation and efficiency in production, distribution, and delivery of residential capital and housing services; the roles of private enterprise.

Mr. Case, Mr. Mittelbach

278A. Urban Real Estate Financing and Investing. Discussion, three hours. Prerequisite: consent of instructor. An investor-oriented course in which real estate and business trends are evaluated to determine alternative real estate investment opportunities. Use of current financial, economic, and investment theories and techniques to real estate investment opportunities. Use of current financial, economic, and investment theories and techniques to real estate investment opportunities. Use of current financial, economic, and investment theories and techniques to real estate investment opportunities.
278B. Sources, Uses, and Flows of Real Estate Capital. Discussion, three hours. Analysis of money, capital, and mortgage markets to determine the potential availability or costs of mortgage money from alternative sources. Evaluation of various sources of funds to determine factors influencing the decisions to make mortgage loans. Examination of all types of lending instruments, particularly mortgage instruments, and mortgage-based securities for their impacts on real estate investment decisions.

Mr. Case, Mr. Mittelbach

279A. Special Studies in Urban Land Economics. I. Designed to meet the needs 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: 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. Urban Research and Development (2 to 4 units each). Prerequisite: graduate standing or consent of instructor. An introduction to the study of urban planning, urban and its problems: prospects and prescriptions for the delivery of a quality life. Macroscopic and microscopic exploration as related to problems of a selected urban area.

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 current status of the field. Review of such topics as the cognitive, motivation, group, and intergroup behavior, systems theory, and organizational design and development.

Mr. Massarik

280B. Survey of Research Philosophies and Methods. Prerequisite: doctoral standing or consent of instructor. A critical evaluation of 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; interpretive, participatory, and cognitive models. Development of specific methods ranging from the microscopic to the macroscopic of organizational theories and methods, including bureaucratic, participative, and cognitive models. Development of specific methods ranging from the micro- to the macro-level of organizational processes, and their interrelationships, and their relations to technology. Organizational responses to various environments.

Mr. Davis

280C. Environmental Settings of Sociotechnical Systems. Prerequisite: course 281A or consent of instructor. The complexity and uncertainty of organizational environments. Analysis of environments along dimensions of competitiveness, complexity, and differentiation/integration models. Mr. Davis

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 environment. Focus on developing the sociotechnical systems analytic approach and understanding the advantages of this approach for designing and managing organizational understanding. Mr. Davis

281B. People in Organizations. Prerequisite: graduate standing. Introduction to different philosophical perspectives for understanding human behavior. Theories and concepts important for understanding human behavior in organizations, as well as 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 contingency, 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 way of thinking that is fundamental to managerial effectiveness in diverse organizational situations.

282. Task Group Processes. Prerequisite: course 281A or 281B or consent of instructor. The structures, problem-solving processes, and decision-making processes in sociotechnical systems. Emphasis on understanding of how group activities interrelate with the physical/technical environment. Imparts a practical knowledge of task group functioning through class exercises and field observations.

Mr. Culbert

283A. Environmental Settings of Sociotechnical Systems. Prerequisite: course 281A or consent of instructor. The complexity and uncertainty of organizational environments. Analysis of environments along dimensions of competitiveness, complexity, and differentiation/integration models.

Mr. Davis

284A. Organization Design. Prerequisite: course 281A or consent of instructor. Survey of organizational design theories and methods, including bureaucratic, participative, and cognitive models. Development of specific methods ranging from the micro- to the macro-level of organizational processes, and their interrelationships, and their relations to technology. Organizational responses to various environments.

Mr. Davis

284B. Organization Development. Prerequisite: course 281B or consent of instructor. Effects of managerial practices on individual self-fulfillment and organizational effectiveness. Instruction on organization development approaches to diagnosis and action research of organizational development practitioners. Theory merged with practice through seminar discussions of field observations.

Mr. Culbert

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 motivation theories, and power bases; sources of leadership and power. Special emphasis on professional meetings.

Mr. Culbert

285B. Managerial Interpersonal Communication. Prerequisite: course 281B or consent of instructor. The interdependence of organizational, interpersonal, and personality factors affecting managerial communications. Styles and modes of communication in one-to-one, group, and indirect communication settings. Opportunities offered for understanding understanding of one's own influence styles.

Mr. Culbert

286. 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 inputs into practice.

Mr. McDonough

288A. Special Studies in Managing Organization Behavior. Prerequisite: M.B.A. standing or consent of instructor. An examination in depth of problems or issues related to the management of 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. Massarik

288B. Selected Topics in Behavioral Science. Prerequisite: doctoral standing or consent of instructor. Philosophies and theories of human behavior fundamental to the study of individual, group, organizational, and cultural behavior. Exploration in depth of selected theoretic positions, extending and consolidating behavioral science knowledge and applications.

May be repeated for credit.

Mr. Tannenbaum

289. Current Issues in Sociotechnical Systems and Organization Design. Prerequisite: doctoral standing or consent of instructor. Current topics in the analysis and design of organizations as sociotechnical systems engaged with various technologies and environments, emphasizing design approaches emanating primarily from Europe and the United States. In-depth comparisons of selected job and organizational design approaches. May be repeated for credit.

289D. Current Issues in Human Systems Change and Development through Consulting. Prerequisite: doctoral standing or consent of instructor. Current topics in philosophy, art, and technology of improving organizations and increasing managerial effectiveness through consulting interventions. In-depth treatment of consultant entry and leaving, diagnosing, process consultation, consciousness-raising, team building, values, etc., depending on student and faculty preferences. May be repeated for credit.

289E. Selected Topics in Organization Theory. Prerequisite: doctoral standing or consent of instructor. In-depth treatment of organizations as units of analysis. Emphasis on recent theoretical and empirical development, methodological issues in organizational research, and concepts of organization structure, process, and effectiveness. May be repeated for credit.

289F. Selected Topics in Organizational Behavior. Prerequisite: doctoral standing or consent of instructor. Psychological and social psychological aspects of human behavior in organizations. Theoretical models, empirical findings, and applications of such topics as attitudes and values, cognitive and perceptual processes, behavioral conflict, and individual change processes. May be repeated for credit.

289G. Current Issues in Human Systems Studies. Prerequisite: doctoral standing or consent of instructor. In-depth study of theory and research pertaining to a particular subject matter or such topics as cross-cultural, organization change, action, and multi-attribute research, depending on student and faculty interest. May be repeated for credit.

289X-288Y-288Z. Behavioral and Organizational Sciences Workshop (1 unit, 1 unit, 2 units). Discussion, laboratory, and fieldwork. Designed to expose Ph.D. students to the research within the field while at the same time requiring that each Ph.D. student develop a critical framework for evaluating and integrating recent research. May be repeated for credit. S/U grading.

Mr. Massarik

290. Organization Theory. Prerequisite: course 423 or consent of instructor. Analysis of the theory and practice of the managerial function of organizing through study of the literature, case analyses, and seminar discussion. Individual projects and reports.

Mr. McKelvey

291. Planning and Control. Prerequisite: course 423 or consent of instructor. Analysis of the theory and practice of the managerial function of planning and control. The implementation of objectives through policy formulation, decision making, and control. Individual projects and reports.

Mr. Carrabino, Mr. Steiner
292A. Research and Development Policy. Examination of growth and development as a process and as an element of a goal-oriented organization. Factors affecting invention and innovation; transfer of technology; organizational and behavioral considerations; coupling of science, technology, and organizational goals; assessing of forecasting of technological futures. Mr. Goodman

292B. Models of Organization Behavior. Prerequisite: consent of instructor. Theoretical frameworks for developing explanatory and predictive models of complex organizational processes. Development of formal models, usually in mathematical or stochastic form and, where appropriate, using materials from field studies to develop empirical tests. These models may be used to discover implications for the systems changes recommended in the sociotechnical field study.

292C. Comprehensive Planning in the Public Sector. Prerequisite: consent of instructor. Evolving modes of planning under complexity, with particular emphasis on the public sector. Development of policy through standard setting, bargaining, and regulating governing relationships; reality and value judgments; social and technical dimensions of alternatives; and social and technological forecasting.

293A. Comparative International Management. 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 mistakes involved in managing total enterprises. Students are confronted with complex company situations to develop ideas essential to overall managerial direction.

295A. Entrepreneurship and Venture Initiation. Prerequisite: consent of instructor. An exploration in entrepreneurship particularly concerned with the formation and business initiation. Significan 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 managing small business enterprises focusing 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 the multinational corporation, with emphasis on problems of adaptation to different sociological, cultural, legal, political, and economic environmental characteristics on planning, the structuring of organizational relationships, coordination and control in multinational firms.

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. Impacts knowledge on the design and the conduct of international/comparative management research. Mr. Mason

297A. Comparative and International Management. Prerequisite: 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. Prerequisites: course 205A, consent of instructor. Analysis of key managerial problems encountered in a multinational corporation. Concepts and theories acquired in other courses in international business and comparative management, application to complex cases and simulations of international business operation.

297C. International Business Law. Prerequisites: courses 205A, 296A. Legal environments in which international business operates; overseas business relationships and organizations; antitrust, taxation, transfer of capital, and technology regulations; patent, trademark, and copyright safeguards; arbitration of international business disputes; expropriation of foreign investments; international business and government relations.

297D. International Business Negotiations. Prerequisite: course 296A. Exploration of international business negotiations of multinational enterprises with foreign governments and business entities 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: 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.

299A. Comparative and International Management. Prerequisite: consent of instructor. Development of policy through standard setting, bargaining, and regulating governing relationships; reality and value judgments; social and technical dimensions of alternatives; and social and technological forecasting.

299B. Small Business Management. Prerequisite: consent of instructor. Exploration of crucial aspects managing small business enterprises focusing 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

299C. Entrepreneurship and Venture Initiation. Prerequisite: consent of instructor. An exploration in entrepreneurship particularly concerned with the formation and business initiation. Significant and crucial aspects of exploring new business opportunities and starting a business. Mr. Schöllhammer

299D. 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 the multinational corporation, with emphasis on problems of adaptation to different sociological, cultural, legal, political, and economic environmental characteristics on planning, the structuring of organizational relationships, coordination and control in multinational firms.

299E. 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. Impacts knowledge on the design and the conduct of international/comparative management research. Mr. Mason

299F. 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 final 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 John E. Anderson 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, marginal analysis, standard and direct costing, provides a firm understanding of how to read and interpret published financial statements. Mr. Buckley, Mr. Landsman, Mr. Trueman

404. Information Systems. Prerequisite: graduate standing. An introduction to information systems in organizations from the perspective of the general management manager and strategic uses of information system, the information technology that underlies these systems, and the ways such systems are developed and managed.

405. Managerial Economics: The Organization. Analysis of decision making in the firm, competitive policies and market structure, revenue and cost behavior. Mr. Granfield, Mr. Nicols, Mr. Osborne

406. Managerial Economics: Forecasting. Prerequisite: graduate standing. Sales, costs, and profit forecasting as an introduction to general business forecasting and statistical methods. 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 model types and formulations, and use of solutions obtained from computer routines. Applications include finance, marketing, production, and public systems.

408. Managerial Finance. Analysis of main decision areas of managerial financial management, primarily in small and medium-sized business, and principles generally applicable to all types of organizations. Emphasis on financial planning and control, sources of funds, developing objectives and standards which lead to effective allocation and use of the organization's resources. Mr. Copeland, Mr. Hofflander, Mr. Weston

410. Production and Operations Management. Principles and decision analysis related to the effective utilization of the factors of production in manufacturing and nonmanufacturing activities for both intermittent and continuous systems. Production organizations, analytical models and methods, facilities design, and the control of systems for production operations. Mr. Andrews, Mr. Dufty, Mr. Sann


412. Management of Organizations. Prerequisite: graduate standing. Integrative approach to theory and practice of management in complex organizations, emphasizing managerial roles in designing organizational structures, planning, controlling, information, incentive systems, different patterns of human interaction such as matrices and systems tend to produce. Mr. Barney, Mr. McKeelley, Mr. Spender

413A. Business Computer Programming. Programming management applications in a general purpose programming language. Language used (e.g., PASCAL) may vary each quarter. Issues of programming project: input, output, and editing considerations; data and file structures; and characteristics of commercial data processing. Extensive programming assignments.

413B. Interactive Computer Programming. Use of interactive computer programming (e.g., in APL) to foster problem solving. Emphasis on problem structuring and the development of algorithms. Several computing environments (i.e., large central computers, minicomputers, and microcomputers) feasible. Extensive programming assignments.

414. Managerial Problem Solving. Individual. (Formerly numbered 440.) Prerequisite: graduate standing. Study and practice of individual decision making and problem solving, including the impacts of personality, experience, education, expertise, and planning. Organization of projects in which problem solving is experienced at various levels of complexity.

444A-444B. Field Management 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 external client consultations, 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 6 units). Prerequisites: course 287, consent of instructor. Supervised practical fieldwork in all phases of laboratory education for management development, such as training laboratories, creativity and personal growth laboratories, simulated managerial behavior laboratories, etc.

451. Fieldwork in Organizational Development (2 to 12 units). Prerequisite: course 264B or 450 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: successful 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 or other related fields. May not be repeated for credit.

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 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. May be applied toward the M.B.A., M.S., or Ph.D. degree requirements. Mr. Frand

455. Preparation for Teaching Business and Management. Prerequisites: graduate standing, consent of instructor. Study of methods and techniques used in the teaching of 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.

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.

462. Economic Analysis for Managers. Policy-oriented problems in antitrust, tax, securities, and environmental regulation. Concepts of microeconomic theory illustrated. Topics include traditional antitrust regulations, new trends in antitrust, private versus government antitrust, securities regulation, environmental regulations, and a business firm's optimal response to regulation. Mr. Granfield

463. Data Analysis and Management Decisions under Uncertainty. Survey of statistical model building and emphasis on one or more statistical interpretations of the statistical summary of data. Classical statistical methods covered through multiple regression to support the courses in finance and marketing that follow. The fundamental approaches to decision making under uncertainty. Mr. Hanssens

464. Managerial Accounting. Familiarizes the manager 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.

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. Geoffrion

466A-466B. Financial Policy for Managers (4 units, 2 units). Modern financial management deals with decision making under uncertainty for corporate financial management, for portfolio investment decisions, for financial institutions, and for international financial management. Focus on learning sound theoretical tools and applying them in casework.

501. Cooperative Program (2 to 8 units). Prerequisite: consent of UCLA AGSM graduate adviser and assistant dean. May be used to enroll the student in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596A-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 comprehensive examination or Ph.D. qualifying examinations.

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.

462. Economic Analysis for Managers. Policy-oriented problems in antitrust, tax, securities, and environmental regulation. Concepts of microeconomic theory illustrated. Topics include traditional antitrust regulations, new trends in antitrust, private versus government antitrust, securities regulation, environmental regulations, and a business firm's optimal response to regulation. Mr. Granfield

463. Data Analysis and Management Decisions under Uncertainty. Survey of statistical model building and emphasis on one or more statistical interpretations of the statistical summary of data. Classical statistical methods covered through multiple regression to support the courses in finance and marketing that follow. The fundamental approaches to decision making under uncertainty. Mr. Hanssens

464. Managerial Accounting. Familiarizes the manager 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.

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. Geoffrion

466A-466B. Financial Policy for Managers (4 units, 2 units). Modern financial management deals with decision making under uncertainty for corporate financial management, for portfolio investment decisions, for financial institutions, and for international financial management. Focus on learning sound theoretical tools and applying them in casework.

Mr. Copeland, Mr. Cornell

467. Management Issues in Information Systems (2 units). The growing role of information systems in the corporation and how they change ways of doing business. Examples from the airlines, health, computer communications, distribution, and publishing industries. Strategic, organizational, and societal implications. Mr. Greenberger
468. Economic Forecasting (2 units). Macroeconomic theory and its application to business forecasting. Major economic indicators and their historical description of the U.S. economy; theoretical tools that business economists use to analyze 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 — accomplished 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.

Mr. Goodman, Mr. Raia

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. Sarin


Mr. Schöllhammer

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.

Mr. Rumelt

477. The Manager and Business/Society Relationships. While organizations may, to some extent, choose their immediate environments, there are broad environmental factors and trends that affect most, if not all, organizations. Examination of emerging trends in key areas of government regulation, labor relations, international trade, 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.
The UCLA School of Social Welfare is one of the nation's great professional schools of social work. Its mission is to contribute to the understanding of the social, economic, and political forces which are shaping our individual and communal lives and to use that knowledge to help in developing appropriate social policy and social work practice responses — whether under public, voluntary, occupational, or proprietary auspices.

Social workers are employed as planners, policy analysts, administrators, and direct service providers in all of the human services, including health, family and child welfare, mental health, services to the aged, manpower development and training, etc. Social workers are concerned with the causes, treatment, and prevention of personal and social ills and with the broader trends in the society which impact on the well-being of individuals, families, and communities. The school's objective is to prepare its graduates not only for practice as it is but for imaginative leadership in creating the social work practice of the future.
School of Social Welfare

247 Dodd Hall, (213) 825-2892

Professors
Rosina Becerra, Ph.D., Associate Dean
Jerome Cohen, Ph.D.
Jeanne M. Giovannoni, Ph.D.
Yehske1 Hasenfeld, 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

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.

Academic Coordinators
Terence J. Roberts, Ph.D., Assistant Dean of Student Services
Gloria Waldinger, D.S.W., Director of Postgraduate Education and Development

Fieldwork Consultants
Joy Sigmund Felice, M.S.W.
Katherine M. Kolodziejczyk, Ph.D., Director
Jane E. Kurohara, M.S.W.
Winfred E. Smith, M.S.W., Emeritus

Degrees Offered
Master of Social Welfare (M.S.W.)
Doctor of Social Welfare (D.S.W.)

The UCLA School of Social Welfare offers an M.S.W. program in Social Welfare and a doctoral program of study leading to the 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 graduate admission 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 potential for successful social work practice, a satisfactory state of health, and an adequate financial and personal plan to permit completion of degree requirements.

The General Test of the Graduate Record Examination (GRE) is required, as are official transcripts from every school attended since high school. GRE results must be submitted prior to any evaluation of the application for admission. GRE scores must be less than five years old and may be repeated to achieve a higher score, if desired. The highest GRE General Test score achieved is 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.

Five letters of recommendation are required. In addition, an autobiographical statement and a professional concepts 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 90024-1452, 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, four courses in social welfare research, plus five 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 ful-
fill specified requirements in the M.S.W. pro-
gram in addition to the normal doctoral re-
m Boulder 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 General Test of the GRE is required, as are official transcripts from every school attended since high school. In addition, international students whose native language is other than English and whose higher education was not obtained in an English-speaking institution are required to take the Test of English as a Foreign Language (TOEFL). Refer to "Proficiency in English" under "Graduate Admission" in Chapter 3 for further information. The school may request that you take specified additional examinations to assist in the assessment of candidacy for admission.

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, 247 Dodd Hall, UCLA, Los Angeles, CA 90024-1452.

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 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) social work practice theory
(3) research and scientific inquiry

The written qualifying examinations are graded on a pass/fail basis. If you fail one or two of the three examinations, you may be granted permission to retake those examinations only with the approval of the doctoral committee. You ordinarily are required to take the examinations in September of your second year in the program; any retaking of examinations ordinarily takes place at a later date, at the discretion of the doctoral committee.

The University Oral Qualifying Examination for advancement to candidacy covers the dissertation proposal and related areas and is administered by a committee, which consists of faculty members from within and outside the school. The written qualifying examinations must be successfully completed prior to the oral examination.

Final Oral Examination

A final oral examination may be required at the option of the doctoral committee.

Graduate Courses

Check with the school for curriculum updates.

201A-201B. Dynamics of Human Behavior (3 units each).


203. Integrative Theory and Research in Human and Social Behavior (2 units).

An integrative course which brings together the preceding courses in the human behavior and social environment series by examination at an advanced level of the major theoretical strands and the identification of problem areas requiring further research.

204A. Social Systems in Social Welfare (2 units).

The application of social system theory to the problems of social welfare and social work. Analysis of the network of community relationships, values, stratification, institutions, and subcultures as related to the premises and services of social work.

204B. Small Groups in Social Welfare (2 units).

Application of theory and knowledge of small group functioning to problems of working with groups in social welfare settings. Analysis of group formation, structure of interaction and communication patterns, and leadership and morale problems. Application to family, peer, and special-purpose groups.

205A. Cross-Cultural Awareness (2 units).

Designed to aid students in the development of professional perspectives that will allow them to work effectively with members of myriad cultural groups, to discuss with clarity alternative concepts of culture in the determination of individual behavior responses, and to identify their own personal cultural values and assumptions. S/U grading.

205B. Group Conflict and Change (2 units).

Study of the phenomena of group conflict and change as they appear in the social welfare matrix of groups, communities, and social institutions. Examination of conflict and social and cultural change; major research contributions in understanding of these phenomena. S/U grading.

210A-210B-210C. Social Ecology. Lecture, two hours. 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.

220. History and Philosophy of Social Welfare (2 units).

The history of social work as a field: body of knowledge, method and process, and point of view among professional, theoretical, institutional, policy, political, social, philosophical, and scientific climate of the period.

221A. Social Welfare Policy and Services I (2 units).

Nature, role, and history of welfare institutions. Analysis of differences; application of systems theory with special reference to values as seen by different components of the welfare system; theory and research about needs met and not met, about various welfare policies and organizational forms, and about social change to prevent needs.

221B. Social Welfare Policy and Services II (2 units).

Understanding of the significant theoretical constructs and reliable empirical evidence dealing with how organizations develop and maintain their internal structures. Development of beginning skill in organizational analysis. Special attention to organizational analysis of social welfare services.


Improvement and development of beginning skill in organizational analysis. Special attention to organizational analysis of social welfare services.
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 later will interact 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, the Downtown Los Angeles Children's 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 directed by UCLA faculty members provides a variety of short courses for members of the dental profession and their auxiliaries.
School of Dentistry

Degrees Offered
Doctor of Dental Surgery (D.D.S.)
Master of Science in Oral Biology

D.D.S. Degree Program
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.

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 90024-1668.

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. (Gnatology)
Andrew D. Dixon, D.D.S., M.D.S., Ph.D., D.Sc. (Orthodontics)
Colin K. Franker, 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. Kraochvil, D.D.S. (Removable Prosthodontics)
Carol M. Newton, M.D., Ph.D. (Biometrics)
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)
Robert P. Thye, D.M.D., M.S., Clinical (Restorative Dentistry)
Stuart C. White, D.D.S., Ph.D. (Oral 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. Duperon, 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. Torbener, 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, physiology, 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 thesis 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 is 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 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 90024-1668, 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 either Biomathematics 160 or 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 (Sp)

- **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 peri-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 Mikulicz-Sjögren 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. Secretary and Gastrointestinal Immunity (2 units). (Same as Microbiology and Immunology M206.) 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 secretary 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 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)

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 teeth 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 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. Yagiela (W)

260. Oral Biology Seminar (1 unit). Research seminar to discuss faculty and student research of oral biology and related disciplines. Discussion of basic sciences related to oral biology, involving participants in important areas of investigation. S/U grading.

Mr. Junge

M293. Major Concepts in Oncology. (Same as Microbiology and Immunology M293 and Pathology M293.) Lecture, three hours. Prerequisite: graduate standing or consent of instructor. Designed for graduate students contemplating research in oncology. Topics include cancer pathophysiology, genetics, membranes, macromolecular synthesis and control, cell cycle, growth control; physical, chemical, and viral oncogenesis, epidemiology of cancer; tumor immunology; principles of cancer surgery, radiation therapy, and chemotherapy. S/U or letter grading.

Mr. Hankinson (W)

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.
School of Medicine

12-109 Center for the Health Sciences, (213) 825-6081

The UCLA School of Medicine offers an M.D. degree program, several allied health programs in affiliation with other hospitals and universities, and a number of postgraduate medical training programs. In addition to specialties in medicine, neurology, obstetrics and gynecology, ophthalmology, 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 90024-1720. You are also referred to Chapter 5 of this catalog for details on the four-year premedical studies program offered by the College of Letters and Science.

Graduate Programs

Master’s and/or doctoral degrees are offered through the 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 (818) 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 worker, 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 regarding 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 affiliated institutions broaden the scope of the teaching programs by providing extensive clinical facilities, special population settings, and diverse practice modes. Information about these programs is available from the 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.</td>
</tr>
<tr>
<td>Biological Chemistry</td>
<td>M.S., Ph.D.</td>
</tr>
<tr>
<td>Biostatistics</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>M.S.*, 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>Physiology</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>M.S.P.**</td>
</tr>
<tr>
<td>Clinical Psychology Internship</td>
<td>Certificate</td>
</tr>
<tr>
<td>Radiological Sciences (Biomedical Physics)</td>
<td>M.S., Ph.D.</td>
</tr>
</tbody>
</table>

*The department admits only applicants whose objective is the Ph.D.
**Not admitting new students at this time.
Anatomy

73-235 Center for the Health Sciences, (213) 825-9555

Professors

George W. Bernard, D.D.S., Ph.D.
P. Dean Bok, Ph.D. (Dolly Green Professor of Ophthalmology)

Nathaniel A. Buchwald, Ph.D., in Residence
Carmine D. Clemente, Ph.D.

Edwin L. Cooper, Ph.D.
Jean S. de Vellis, Ph.D., in Residence
Ellen R. Dirksen, Ph.D.
Earl Eldred, M.D., Vice Chair

Jerome Engel, M.D., Ph.D.
Louis J. Goldberg, D.D.S., Ph.D.

Rogers G. Gaskill, Ph.D., Chair
Ronald M. Harper, Ph.D.

Lawrence Kruger, Ph.D.

Richard N. Loiley, Ph.D., in Residence

David S. Maxweil, Ph.D.
Arnold B. Scheibel, M.D.

John D. Schlag, M.D.

José P. Segundo, M.D.

M.B. Sterman, Ph.D., in Residence

Anna N. Taylor, Ph.D., in Residence

Bernard Towers, M.B., Ch.B., M.R.C.S., L.R.C.P.

Jaime R. Villablanca, M.D., in Residence

Charles D. Woody, M.D., in Residence

Richard W. Young, Ph.D.

Guido A. Zampighi, D.D.S., Ph.D.

Mary A. Brazier, Ph.D., Emeritus, in Residence

John D. French, M.D., Emeritus

H.W. Magoun, Ph.D., Emeritus

Richard E. Otto, M.D., Emeritus

Daniel C. Pease, Ph.D., Emeritus

Charles H. Sawyer, Ph.D., Emeritus

Associate Professors

Anthony M. Adroiff, Ph.D.

Nicholas C. Brecha, Ph.D., in Residence

John H. Campbell, Ph.D.

John K. Lu, Ph.D.

Emery G. Zimmermann, M.D., Ph.D.

Assistant Professors

Robin S. Fisher, Ph.D., in Residence

Carolyn R. Hauser, Ph.D., in Residence

Stanley R. Klein, M.D., in Residence

Paul E. Micevych, Ph.D.

Adjunct and Visiting Professors

Stanley J. Gross, M.D., Adjunct

Frances S. Grover, Ph.D., Adjunct

Raymond J. Last, M.D., F.R.C.S., Visiting

Adjunct and Clinical Associate Professors

Earle E. Crandall, M.D., Ph.D., F.A.C.S., Clinical

Carlos A. Lemmy, Ph.D., Adjunct

James F. McGinnis, Ph.D., Adjunct

Anselmo R. Pineda, M.D., Clinical

Gary C. Sieck, Ph.D., Adjunct

Adjunct Assistant Professor

Margaret N. Shouse, Ph.D.

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 90024-1763.

Requirements for Graduate Degrees

Admission

Applicants must have a bachelor's degree in a physical or biological science or in a premedical curriculum. Introductory courses in zoology, one year of general and organic chemistry, and one year of college physics are required. Courses in comparative anatomy, embryology, cell biology, genetics, 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 Subject 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 an 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 101 (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 adaptable to the program.

**Candidate in Philosophy Degree**

You are eligible to receive the C.Phil. degree on advancement to candidacy for the Ph.D.

**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

1. **Microscopic Anatomy and Cell Biology (8 units).** Lecture/laboratory, four-three-hour sessions (12 weeks). Prerequisite: medical student standing or consent of instructor. Review of microscopic study of the structure and function of tissues and cells, with special reference to the human body. Ms. Dirksen, Mr. Young, and the Staff (F).

2. **Gross Anatomy of the Human Body (8 units).** (Formerly numbered 102A-102B.) Lecture, four: hours; laboratory, 12 hours. Prerequisite: dental student standing or consent of instructor. Systemic and topographical human anatomy, with dissection of the human cadaver. Emphasis on head and neck. P/NP grading. Mr. Segundo and the Staff (Sp).

3. **Basic Neurology (1 unit, 3 units).** Lecture/laboratory, one four-hour and two one-hour sessions (Winter — last six weeks); one two-hour, one three-hour, and two one-hour sessions (Spring). Prerequisite: medical student standing or consent of instructor. Courses: Physiology 103A-103B. Lecture, conferences, demonstrations, and laboratory procedures necessary for an understanding of the functional components of the human nervous system. In Progress grading. Mr. Segundo and the Staff (Sp).

4. **Mammalian Histology (6 units).** Lecture/laboratory, three-three-hour sessions. Prerequisite: dental student standing or consent of instructor. Lectures, demonstrations, and laboratories dealing with the structural organization of tissues and organs at the microscopic level. Mr. Campbell and the Staff (F).

5. **Gross and Developmental Anatomy for Medical Students (8 units, 4 units).** Lecture/laboratory, four-four-hour sessions (Fall — 12 weeks): one one-hour, four one-hour sessions (total of 20 hours) on an irregular schedule (Winter — first four weeks). Prerequisite: medical student standing. Gross anatomy, embryology, and radiological anatomy of the human body as taught by lectures, demonstrations, and discussions. Each course may be taken independently for credit. Mr. Maxwell and the Staff (F,W).

6. **Electronics for Neuroscientists.** Lecture, two hours; laboratory, four hours. Prerequisite: consent of instructor. Development of an understanding of electronic methods used in neuroscience. Basic principles of passive networks, operational amplifiers, semiconductor theory, digital logic, waveform generation, signal conditioning, data acquisition methods, and neurophysiological instrumentation systems. S/U or letter grading. Mr. Segundo and the Staff (Sp).

7. **Cellular Bases of Learned Behavior (2 units).** Lecture/discussion, one one-hour session; laboratory, to be arranged. Prerequisites: microscopic anatomy, mammalian physiology. Anatomy and physiology of cerebral processes in alerting, learning, focusing attention, and memory. Mr. Maxwell and the Staff (F,W).

8. **Multigene Families (2 to 4 units).** (Formerly numbered M213.) Lecture, one to two hours; discussion, one to two hours. Prerequisite: consent of instructor. Analysis of the molecular structure, developmental regulation, and evolution of multigene families. Topics include: transmission genetics, immunoglobulins, histones, ribosomal RNAs, satellite DNAs, and histocompatibility antigens. S/U or letter grading. Mr. Campbell (W).

9. **Individual Special Studies (2 to 8 units).** Prerequisite: consent of instructor. Studies in anatomy and related subject matter for individual students, particularly those of particular students, which may include reading assignments or laboratory work leading to a final oral or written report. S/U or letter grading.

**Graduate Courses**

1. **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 grading.

2. **Oral Embryology.** (Same as Oral Biology 205.) Lecture and laboratory instruction in the development and histological structure of the facial region and the oral and peri-oral organs and tissues. Mr. Bernard and the Staff (Sp).

3. **Neurosciences: The Introductory Course for Graduate Students (5 units).** (Same as Neuroscience M206A.) Lecture, four hours; laboratory, three hours. Prerequisites: a college-level course in biology or zoology, some familiarity with the subjects of electronics and electricity, consent of instructor. This 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. Scheibel, Mr. Segundo (W).

4. **Neurosciences: The Intermediate Course for Graduate Students (7 units).** (Same as Neuroscience 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. Scheibel, Mr. Segundo (Sp).

5. **Gross and Developmental Anatomy for Graduate Students (8 units, 4 units).** Lecture/laboratory, four-four-hour sessions (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. Ms. Mr. Cheeky and the Staff (Sp).

6. **Electronics for Neuroscientists.** Lecture, two hours; laboratory, four hours. Prerequisite: consent of instructor. Development of an understanding of electronic methods used in neuroscience. Basic principles of passive networks, operational amplifiers, semiconductor theory, digital logic, waveform generation, signal conditioning, data acquisition methods, and neurophysiological instrumentation systems. S/U or letter grading. Mr. Maxwell and the Staff (F,W).

7. **Cellular Bases of Learned Behavior (2 units).** Lecture/discussion, one one-hour session; laboratory, to be arranged. Prerequisites: microscopic anatomy, mammalian physiology. Anatomy and physiology of cerebral processes in alerting, learning, focusing attention, and memory. Mr. Maxwell and the Staff (F,W).

8. **Multigene Families (2 to 4 units).** (Formerly numbered M213.) Lecture, one to two hours; discussion, one to two hours. Prerequisite: consent of instructor. Analysis of the molecular structure, developmental regulation, and evolution of multigene families. Topics include: transmission genetics, immunoglobulins, histones, ribosomal RNAs, satellite DNAs, and histocompatibility antigens. S/U or letter grading. Mr. Campbell (W).

9. **Cellular and Molecular Neurochemistry.** (Same as Biological Chemistry M221A-221B. Prerequisites: course M221A or 221B, and Psychology M221A-M221B.) Lecture, three hours. Prerequisites: Biological Chemistry 101A-101B or equivalent. Contemporary neurochemistry for students with a general background in biochemistry. The biochemical and structural properties of the nervous system in relation to its development and functions; introduction 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 Villis (W,Sp).

10. **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 (W).

11. **Biological Movement.** (Same as Oral Biology M214.) Lecture, two hours; discussion, one hour. Prerequisite: consent of instructor. Embryology of body function; bone growth and development, repair of specific bones, biochemistry and physiology of bone; remodeling of bone; crystallography of hydroxapatite; pathological calculations; pathology of bone; mechanisms and lineage of calcification; clinical correlations. Mr. Bernard (W).

12. **Brainstem Control of Rhythmic Movements.** (Same as Kinesiology M243; lecture is the same as Oral Biology 207, which is two units only.) Lecture, two hours; discussion, two hours. 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. Chandler, Mr. Goldberg.

13. **Gut and Brain Peptides (2 units).** (Same as Medicine M235, Neuroscience M235, and Physiology M235.) Prerequisite: consent of instructor. Presentations of current 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 each of the major gut hormones. S/U or letter grading. Mr. Brecha, Mr. Reeve, Ms. Tache (W).

14. **Problems in Developmental and Comparative Immunology (2 units).** Prerequisite: consent of instructor. Review of current literature emphasizing early development and evolution of immune mechanisms. Mr. Cooper (W).

15. **Seminar on Basic and Quantitated Neurophysiology (2 units).** Lecture, 90 minutes; discussion, 90 minutes. Prerequisite: consent of instructor. Lecture series on basic neurophysiology. Early lectures 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).

16. **Communication and Coding in Nervous Systems.** Lecture/discussion, one two-hour and two 90-minute sessions. Prerequisite: consent of instructor. Presentation, discussion, and critique of efforts to quantify neuronal function where the essence of the nervous system is preserved (e.g., stability, neurons as analyzers of spike trains, identification of synaptic physiology). Mr. Segundo (Sp, odd years).
599. Dissertation Research for Ph.D. Candidates (2 to 12 units).

Medical History Division

**Professors**
Ynez V. O'Neil, Ph.D., in Residence
L.R.C. Agnew, M.D., Emeritus
Mary A.B. Brazier, Ph.D., Emeritus, in Residence
Franklin D. Murphy, M.D., Sc.D., Emeritus

**Associate Professor**
Robert G. Frank, Jr., Ph.D., Division Chief

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 medical and medical personalities from early times to the present. 107A. The 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'Neil (W)


Mr. Frank (F, 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.

Mr. Cooper (W)

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.

Mr. Schlag (W)

242. History of Pathology (1 unit). Survey of the history of pathology and related sciences from antiquity through the 20th century, tracing the development of pathological theory, practice, organization, and education and comparing them to current practice.

Mr. Cooper (W)


(McDonald)

244. History of American Medicine (1 unit). Survey of the history of medicine in the United States from the Colonial period to the present.

Mr. Cooper (W)

246. History of Neurophysiology: Its Impact on Psychology and Medicine. (2 to 4 units). Lecture, one hour; seminar, two hours. The development of experimental neuropsychology from its scientific roots in the 17th century through the recognition of the excitability of the nervous system, to the use of this characteristic in revealing the functions of the central nervous system. Discussion of the interaction of neuropsychological concepts with contemporary philosophy and medicine. Lectures may be taken independently.

Ms. Brazier, Ms. Lomax, Ms. O'Neil (Sp)

250. History of Medical Psychology (2 units). Lecture, one hour. An examination of the themes underlying modern mental health theories. Beginning with a review of contemporary thinking, lectures focus on the various factors shaping present concepts of mental disorders and provide a framework for the understanding of current issues.

Ms. Lomax, Ms. O'Neil (W)

SCHOOL OF MEDICINE / Anesthesiology / 451

596. Directed Individual Studies in Medical History (2 to 12 units). Investigation of subjects in medical history selected by students with the advice and direction of the instructor. Individual reports and conferences.

(2 to 12 units).

**Professors**
Gerald D. Allen, M.D.
Robert O. Bauer, M.D.
Werner E. Flacke, M.D., in Residence, Vice Chair
Ronald L. Katz, M.D., Chair
Lawrence Kruger, Ph.D.
Chingmuh Lee, M.D., Vice Chair
John C. Liebeskind, Ph.D.
Richard Patterson, M.D.
Edward K. Rubinstein, M.D., Ph.D.
Stuart F. Sullivan, M.D., Executive Vice Chair
Leonard F. Waits, M.D.
Donald Wiberg, Ph.D.
John Yagelia, D.D.S.
Verne L. Brechner, M.D., Emeritus
Mary Carter, Ph.D., Emeritus
John B. Dillon, M.D., Emeritus

**Associate Professors**
Richard Y. Chen, M.D., in Residence
Kenneth A. Conklin, M.D.
Nicholas Durant, Ph.D.
Gail Goldstein, M.D.
Patricia Kapur, M.D.
Jordan D. Miller, M.D.
Robert C. Reynolds, M.D.
Denham S. Ward, M.D., Ph.D.
Susan A. Ward, Ph.D.

**Assistant Professors**
Judith H. Wilf, M.D., in Residence
Steven B. Graff-Radford, D.D.S., in Residence
Thomas Grove, M.D., in Residence
Donald Kroll, M.D.
Marie Kuffner, M.D., in Residence
James Lee, M.D., in Residence
Paul M. Oleen, M.D., in Residence
Imad H. Rasool, M.D., in Residence
Harvey Rosenbaum, M.D., in Residence
Joel A. Saltzman, M.D., in Residence
Stanley Stead, M.D.
Ronald Wender, M.D., in Residence
Fahmieh Ziadourad, M.D., in Residence

**Adjunct Professors**
Edward C. DeLand, Ph.D.
Theresa Ferrer-Brechner, Ph.D.
Joan W. Flacke, M.D.
Atsuo F. Fukunaga, M.D.

**Adjunct and Clinical Associate Professors**
Byron C. Bloch, Ph.D., Adjunct
John DeAngelis, M.D., Clinical
Carroll Dolan, M.D., Clinical
George P. Herr, M.D., Adjunct
Leah E. Katz, CRNA, Ed.D., Adjunct, Consultant
Robert D. Kaufman, M.D., Adjunct
Tai Shon Lee, M.D., Adjunct
Maurice Lippman, M.D., Adjunct
Martin Mok, M.D., Clinical
John Reeves, Ph.D., Adjunct, Clinical Psychologist
Stan Schneider, M.D., Clinical
Young Zin Sohn, M.D., Adjunct
Elaine C. Yang, M.D., Adjunct

56-125 Center for the Health Sciences, (213) 825-4123

M235A-M235D. Seminars in Neural and Behavioral Endocrinology (3 units, 2 units, 3 units, 2 units). (Formerly numbered 225A-225D.) (Same as Psychology M294-M294D.) Lecture, three hours. Topics include hormonal biochemistry and pharmacology, hypothalamic-hypophyseal interactions, both hormonal and neural, structure and function of the hypotalamus. 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.

Ms. Dinkin and the Staff (W,Sp)

256. Seminar in Cell Structure and Function (2 units). Lecture, one hour; discussion, one hour. Prerequisite: consent of instructor. Selected topics in cell biology emphasizing those areas which are of current interest. An analysis of the various techniques being used to study the cell.

(W, M255A, M255C; Sp, M255B, M255D)

258. Seminar in Neuroscience (2 units). Prerequisite: basic neurology. Topics of current interest or ongoing research projects; examination of both content and method of presentation. May be repeated for credit.

Mr. Scheibel (F, odd years; W, even years)

M261. Neuronal Circuit Analysis (2 units). (Same as Neuroscience M261.) Lecture/discussion, three hours. Prerequisites: courses M256A, M256B, or equivalent. A seminar with strong emphasis on specific 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)

265. Evolution of Cancer (2 units). Prerequisite: consent of instructor. Review of current literature emphasizing the appearance of tumors and neoplasms in representative invertebrates, fishes, amphibians, and reptiles. Theories of cancer development from the evolutionary viewpoint.

Mr. Cooper (W)

290. Tutorials in Anatomy (2 units). Tutorial, one hour. Prerequisite: consent of instructor. Individual study with a faculty member leading to submission of a scientific document (usually a review article) on a topic of mutual interest to the instructor and student. S/U grading.

Mr. Gorski (W,Sp, odd years)

405A-405B. Preparation for Teaching in the Anatomical Sciences (2 to 4 units each). Prerequisites: graduate standing, consent of vice chair and instructor. Observation and practice of the methods of teaching in anatomy, including preparation of material, participation in laboratory instruction, and presentation of review sessions, all with peer and faculty criticism. Gross anatomy, microscopic anatomy, and neuroanatomy subject fields included. A maximum of three 405 courses may be taken; none may be repeated. May not be applied toward degree requirements. S/U grading.

Mr. Cooper (W)

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. 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).
Adjunct and Clinical Assistant Professors
Joseph Cadranel, M.D., Adjunct
John Chaney, M.D., Adjunct
Francisco Chavez-Almanza, M.D., Adjunct
Rosamaria Durazo, M.D., Adjunct
George El-Khoury, M.D., Adjunct
Linda S. Finander, CRNA, M.S., Adjunct
Sandy Frye, CRNA, M.S., Adjunct
Peter Gesund, M.D., Adjunct
Charles A. Griffis, CRNA, M.S., Adjunct
Marshall Kaplan, M.D., Adjunct
Jill L'Armand, M.D., Adjunct
Robert Naruse, 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
Naomi Saucier, 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) General Test results submitted to the program.

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 study of the principles of chemistry and physics as applied specifically to the practice of anesthesia. Mr. Katz
210B. Chemistry and Physics of Nurse Anesthesia II (2 units). Lecture, two hours; discussion, one hour. Prerequisite: course 210A. A continuation of the study of the principles of chemistry and physics as applied specifically to the practice of anesthesia. Mr. Katz
210C. Chemistry and Physics of Nurse Anesthesia III (2 units). Lecture, two hours; discussion, two hours. Introduction to basic pharmacological principles as applied to administration of anesthesia. A study of uptake and distribution, mechanism of action, fate, and toxicology as related to anesthetic agents. Mr. Flacke and the Staff
215A. Pharmacology of Nurse Anesthesia I. Lecture, four hours; discussion, one hour. A study of pharmacology of drugs influencing anesthesia administration, including their uptake and distribution, mechanism of action, fate, and toxicology. Mr. Flacke and the Staff
215B. Pharmacology of Nurse Anesthesia II. Lecture/discussion. A study of the pharmacology of adjunct drugs influencing anesthesia administration, including their uptake and distribution, mechanism of action, fate, and toxicology. Mr. Flacke and the Staff
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. Mr. Ward
220B. Respiratory Anatomy and Physiology for Nurse Anesthetists II (2 units). Lecture, two hours; discussion, one hour. A continuation of the study of respiratory anatomy and physiology, with emphasis on the respiratory system as related to anesthesia administration and relevant problems. Mr. Ward
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. Mr. Ward
221. Cardiovascular Anatomy and Physiology for Nurse Anesthetists. Lecture, four hours; discussion, one hour. An integrated study of the anatomy and physiology of the cardiovascular system as related to the management of anesthesia administration. Mr. Ward
222. Biological Control Systems. (Same as Electrical Engineering 224.) Prerequisite: Electrical Engineering 1 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. Wiberg

223. Anatomy and Physiology of the Endocrine and Excretory Systems for Nurse Anesthetists. Lecture, four hours; discussion, one to two hours. An integrated study of the endocrine and excretory systems as related to the management of anesthesia administration. Mr. Katz

225A-225B. Anatomy and Physiology of the Nervous System for Nurse Anesthetists (2 units each). (Formerly numbered 225.) Lecture, two hours; discussion, one to two hours. An integrated study of the anatomy and physiology of the nervous system as related to the management of anesthesia administration. Mr. Rubinstein

268. Behavioral Management of Pain Problems (2 units). (Same as Psychiatry 268.) 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)

290. Anesthesia Seminar for Nurse Anesthetists (2 units). Discussion, two to three hours. Discussion of research methods, basic statistics, and critical scientific paper analyses in relation to anesthesia research and practice. Ms. Ward and the Staff

400A. Basic Clinical Anesthesia for Nurse Anesthetists I (2 units). Lecture, three hours; laboratory, 30 hours. Prerequisite: course 400. Correlation of techniques of anesthesia administration with basic science knowledge as applied in the clinical area with supervised practice. S/U grading. Ms. Frye and the Staff

400B. Basic Clinical Anesthesia for Nurse Anesthetists II (2 units). Lecture, two hours; laboratory, 30 hours. Prerequisite: course 400A. A continuation of the practice of techniques of anesthesia administration as applied in the clinical area with supervised practice. S/U grading. Ms. Frye and the Staff

400C. Basic Clinical Anesthesia for Nurse Anesthetists III (2 units). Lecture, two hours; laboratory, 30 hours. Prerequisite: course 400B. A continuation of techniques of anesthesia administration as applied in the clinical area with supervised practice. S/U grading. Ms. Frye and the Staff

400D. Clinical Anesthesia for Nurse Anesthetists IV (2 units). Lecture, two hours; laboratory, 30 hours. Prerequisite: course 400C. A practice of refinements of anesthesia techniques, with emphasis on specialized areas of anesthesia administration in supervised practice. S/U grading. Ms. Frye and the Staff

400E. Clinical Anesthesia for Nurse Anesthetists V (2 units). Lecture, two hours; laboratory, 30 hours. Prerequisite: course 400D. A practice of refinements of anesthesia techniques, with emphasis on specialized areas of anesthesia administration in supervised practice. S/U grading. Ms. Frye and the Staff

400F. Clinical Anesthesia for Nurse Anesthetists VI (2 units). Lecture, two hours; laboratory, 30 hours. Prerequisite: course 400E. A practice of refinements of anesthesia techniques, with emphasis on specialized areas of anesthesia administration in supervised practice. S/U grading. Ms. Frye and the Staff

400G. Clinical Anesthesia for Nurse Anesthetists VII (2 units). Lecture, two hours; laboratory, 30 hours. Prerequisite: course 400F. A practice of refinements of anesthesia techniques, with emphasis on specialized areas of anesthesia administration in supervised practice. S/U grading. Ms. Frye and the Staff

401. Legal Aspects and Bioethics (2 units). Lecture, two hours; discussion, 30 minutes to one hour. Prerequisite: consent of department. Introduction to the history of bioethics, and legal aspects of nurse anesthesia. Exploration of the psychology related to the patient undergoing surgery and anesthesia. Ms. Katz

402. Fundamentals of Anesthesia Practice for Nurse Anesthetists (6 units). Lecture, six hours; discussion, one to two hours. Introduction to basic principles of anesthesia administration, including pre-anesthetic assessment, physical examination, techniques and procedures, and anesthesia for specialized techniques and surgery. Mr. Katz and the Staff

597. Preparation for M.S. Oral Qualifying Examination (2 units). Prerequisite: consent of instructor. Opportunity to pursue comprehensive study in anesthesia 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 Anesthesia I (2 units). Prerequisite: consent of instructor. Opportunity to pursue anesthesia research outlets for 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

598B. Research in Anesthesia II (2 units). Prerequisite: course 598A. Opportunity to pursue anesthesia research outlets for 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 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 chemistry, organic chemistry (with laboratory), physical chemistry (with laboratory), general physics, mathematics through calculus, and general biology (or bacteriology, botany, zoology, or microbiology, or molecular biology). More advanced courses in these areas are also recommended where possible.

You are expected to take the Graduate Record Examination (GRE) General Test, preferably in October or before, but no later than December of the year prior to expected admission. It is strongly recommended that you also take the
try. In exceptional circumstances, the GRE test is optional. There is no separate application form required for admission. In the case of students approved for admission in exceptional situations, the GRE Subject Test in either Biology or Chemistry is required. If your native language is other than English, you are expected to take an appropriate examination which tests proficiency in English (e.g., TOEFL) prior to the time of application to this department.

There is no separate application form required for admission to the department, but at least three letters of recommendation are required. Have them sent directly to the Graduate Information Office at the address below.

Departmental brochures and information may be obtained by writing to the Graduate Information Office, Department of Biological Chemistry, 33-257 CHS, UCLA, Los Angeles, CA 90024-1737.

Course Requirements
All graduate students must take the four core courses (Biological Chemistry M253, M255, M263, and M267) unless excused by the graduate adviser. (See additional course requirements under each degree program.)

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.

Master of Science Degree

Course Requirements
In addition to the core course requirements described above for all students, elective courses may 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.

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 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 general 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 nonmedical students. (F, 101A; W, 101B; Sp, 101C)

101E. Biological Chemistry Laboratory. Laboratory, seven hours. Required in the medical curriculum; consent of instructor required for nonmedical students. Experiments illustrating some of the procedures employed in clinical chemistry, enzymology, and metabolic studies.

Mr. Edmond and the Staff (Sp)

102A-102B. Biological Chemistry Lecture (Dental Students). Lecture, three hours. Prerequisites: 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. (F, 102A; W, 102B)
102C. Biological Chemistry Seminar (Dental Students) (1 unit). Seminar, four hours (five weeks). Required in the dental curriculum; consent of instructor required for non-dental students. The seminars, given by the students to small discussion groups, involve presentation of material from current research dealing with biochemical studies. (W)

**Graduate Courses**

201A-201B. Biological Chemistry. Lecture, three hours. Prerequisites: organic chemistry, an undergraduate course in which it is other than a beginning survey course; consent of instructor required for nonmedical students. A graduate-level course in fundamentals of biochemistry, with emphasis on mammalian biochemistry, structure, function, and metabolism of major cell constituents.

Mr. Sigman, Mr. Wickner, and the Staff (F, 201A; W, 201B)

220A-220B-220C. Research Laboratory Rotations (2 to 8 units each). 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 fields. Calame and the staff (F) facilitates an informed decision on their part in the selection of a thesis/research adviser. S/U or letter grading.

Mr. Fuoco and the Staff (F, 220A; W, 220B; Sp, 220C)

M221A-M221B. Cellular and Molecular Neurochemistry. (Formerly numbered 221A.) (Same as Anatomy M221A-M221B, Neuroscience M221A-M221B, Pharmacology M221A-M221B, and Psychiatry M221A-M221B.) Lecture, three hours. Prerequisites: courses 101A-101B or equivalent. Contemporary techniques for investigating the neural basis of neural function and the biochemical and structural properties of the nervous system in relation to development and function; introduction 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 principle and the biological and clinical implications.

Mr. De Vellis and the Staff (W, Sp)

222. Biochemistry of the Synapse (2 units). Prerequisite: course M221A. Detailed analysis of the research literature dealing with biochemistry of the synapse. Metabolism, storage, and release of neurotransmitters; transmitter receptors and functions; neuronal plasticity.

Mr. Howard

M248. Molecular Genetics. (Formerly numbered 248.) (Same as Biology M248.) Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. Basic concepts and experimental examples from both eukaryotic and prokaryotic systems. Emphasis on the use of genetic techniques for addressing fundamental questions in biochemistry and molecular biology. Topics include mutagenesis, mutant selection, recombination, genetic mapping, complementation, transposable elements, gene organization, genetic regulation, and molecular evolution.

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 properties of proteins and nucleic acids. Structure cloning and analysis of DNA; biosynthesis and processing of RNA; biosynthesis, purification, structure, and analysis of proteins; correlation of structure and biological properties.

Ms. Calame, Mr. McEntee, Mr. Miller, Mr. Shapiro (Sp)

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 mechanisms in molecular biology; experimental approaches for the study of enzymes, including kinetics, isotopic labeling, stereochemistry, chemical 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.) Prerequisite: Chemistry 25 or 110A or consent of instructor. Theory of hydrodynamic, thermodynamic, and optical techniques used to study the structure and function of biological macromolecules.

M261. Advanced Chemistry, Biochemistry, and Nutrition of Lipids. (Same as Chemistry M261 and Public Health M260G.) Lecture, three hours; discussion, one hour. Prerequisites: courses 101A-101B or 201A-201B or Chemistry 157A and 157B, or equivalent, or consent of instructor. Comprehensive treatment of lipid nutrition and metabolic nutrient interactions.

M263. Metabolism and Its Regulation. (Formerly numbered 225B.) (Same as Chemistry M263.) Lecture, three hours. Prerequisites: course 101A or 101B or Chemistry 157A and 157B, or equivalent, or consent of instructor. Thermodynamic and kinetic aspects of metabolism; regulatory properties of enzymes; metabolic regulation; consideration of comparative aspects of metabolism in relation to physiological function.

Mr. Atkinson, Mr. Weiss (Sp)

M264A-M264B-M264C. Molecular Basis of Atherosclerosis: Selected Topics (2 units each). (Same as Chemistry M264A-M264B-M264C.) Prerequisite: consent of instructor. An advanced course in developmental genetics and biochemistry, with emphasis on early development. Intended mostly for students actively working or highly interested in embryology and/or S.U. grading.

Mr. de Vellis, Mr. Zipursky

M266A-M266B-M266C. Seminar in Molecular Embryology (2 units each). (Same as Biology M266A-M266B-M266C.) Prerequisite: consent of instructor. An advanced course in developmental genetics and biochemistry, with emphasis on early development. Intended mostly for students actively working or highly interested in embryology and/or S.U. grading.

Mr. de Vellis, Mr. Zipursky

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, or consent of instructor. Recommended: course M253. Cell cycle DNA replication and repair; structure and properties of cellular organelles; regulation of cell division; cell transformation; normal and aberrant expression of oncogenes, molecular aspects of development.

Mr. Herschman (W)

M299. Seminar on Current Topics in Molecular Biology (2 units). (Same as Biology M299, Chemistry M299, Microbiology M298, Microbiology and Immunology M298, Molecular Biology M298.) Prerequisite: consent of instructor and graduate adviser of interdepartmental Molecular Biology Ph.D. Program. Each student conducts or participates in discussions on assigned topics. May be repeated for credit.

F, W, Sp

596. Directed Individual Study and Research (2 to 12 units). Hours to be arranged. Prerequisite: consent of instructor. S/U or letter grading.

597. Preparation for Examinations (2 to 4 units). Prerequisite: consent of graduate adviser. Individual study for Ph.D. qualifying examinations or M.S. comprehensive examination. S/U grading.


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**Biometrics**

AV-617 Center for the Health Sciences, (213) 825-5018

**Professors**

Abdelnomor A. Ali, Ph.D.
Virginia A. Clark, Ph.D.
Robert M. Elashoff, Ph.D.
Harry Huang, D.Sc.
Donald J. Jenden, M.D., Ph.D. (h.c.)
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
Wilfrid J. Dixon, Ph.D., Emeritus

**Associate Professors**

Susan E. Hodge, D.Sc., in Residence
Edward Korn, Ph.D., in Residence
Eliot M. Landau, M.D., Ph.D.
Rodenck J.A. Little, Ph.D., Vice Chair

**Assistant Professor**

David Greenberg, Ph.D., in Residence

**Lecturer**

Noel Wheeler, Ph.D.

**Adjunct Professors**

Edward C. DeLand, Ph.D.
Janet D. Elashoff, Ph.D.
Alan B. Forsythe, Ph.D.
Arthur Peskoff, Ph.D.

**Adjunct Assistant Professors**

Eli Engel, M.D., Ph.D.
Daniel F. Hetjian, Ph.D.
Karim F. Hirji, Ph.D.

**Scope and Objectives**

As biology advances rapidly in quantitative research methods, both the need for and possibility of closely associated theoretical research increases. On numerous medical and medical science frontiers — such as human genetics, oncology, pharmacology, neurosciences, and physiology — biometrics 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 Biometrics welcomes both undergraduate and graduate students in other majors to its courses in biomedical computing, modeling, and statistics. Premedical majors with mathematical/computer interests can receive early guidance toward an M.D./Ph.D. program in Biomathematics. The department is responsible for statistical and biometric training in the medical curriculum.
The department's orientation is away from abstract modeling and toward theoretical research vital to the advancement of current biomedical research frontiers. The doctoral program reflects this in requirements for advanced training in a biomedical research specialty and for the mathematical and computing skills required to contend realistically with complex phenomena encountered in biology and medicine. The art of biomathematical research is developed individually from the first year on. The master's program adapts to the various needs of researchers desiring supplemental biomathematical training, people preparing to provide methodological support to researchers in biology or medicine, or students pursuing a stepwise approach to graduate training in biomathematics.

Requirements for Graduate Degrees

Admission
High academic achievement in one scientific or mathematical field is required. It is not necessary to be proficient in both mathematics and biology, though some prior preparation in both fields is desirable. Both the General and Subject Tests of the Graduate Record Examination (GRE) should be taken. At least three letters of recommendation are required from faculty members who can 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 Application form, you are required to complete a departmental application form, which should be sent directly to the department. All communications with the department, including requests for brochures and for the departmental forms, should be sent to the Chair, Graduate Admissions Committee, Department of Biomathematics, AV-617 CHS, UCLA, Los Angeles, CA 90024-1766.

You are admitted to either 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 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 or M207B (but not both), 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 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 doctoral committee-appointed by the dean of the Graduate Division, critically probes the quality, scope, and feasibility of your proposed dissertation work. It explores the integration and strength of biomathematical, mathematical, and biological expertise in your intended area of research. You advance to candidacy after passing this examination.
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 methodologies appropriate to answer such questions. Concurrently scheduled with course CM156. Independent research project required of graduate students.


M280. Computational Statistics. (Same as Mathematics M280 and Public Health M207J.) Lecture, three hours. Prerequisites: Mathematics 115A, 150C, or equivalent. Introduction to theory and design of statistical programs: predicting and other technologies used in stepwise regression, nonlinear regression algorithms, and design and balanced and unbalanced analysis of variance, including the mixed model, and random-effects models. Mr. Elashoff (F)

M281. Survival Analysis. (Same as Public Health M201K.) Lecture, three hours; discussion, one hour. Prerequisites: Public Health 100C and Mathematics 150C or 152B, or equivalent, consent of instructor. Statistical methods for the analysis of incomplete data, with an emphasis on parametric and nonparametric models. Mr. Korn (W)

M296A. Directed Individual Study or Research in Biomathematics. 1-8 units. Examination or Ph.D. Thesis. Independent research project required of graduate students. Mr. Landaw (W)

Scope and Objectives

The principal goal of the Department of Medicine is to educate students in the expert diagnosis and compassionate management of human illness. Building on the biochemical, physiological, and behavioral foundations of the preclinical experience, students are taught information acquisition through history taking, physical examination, and laboratory evaluation; information synthesis through achieving a differential diagnosis and evaluative plan; and medical decision making for continued evaluation and therapy. Students are encouraged and guided in developing a caring physician-patient relationship.

Instruction in the department is provided in 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 internal medicine, at all the major affiliated centers. For further details on the Department of Medicine and a listing of the courses offered, see the Announcement of the UCLA School of Medicine.
Assistant Professors
Ralf Ahmed, Ph.D. (Virology)
John Brannhill, Ph.D. (Immunology)
David A. Campbell, Ph.D. (Parasitology)
Lawrence T. Feldman, Ph.D. (Virology)
Mitchell Kronenberg, Ph.D. (Immunology)
Virginia L. Scofield, Ph.D. (Immunology)

Lecturers
Margery L. Cook, Ph.D. (Virology)
Nina Dabrowa, Ph.D. (Mycology)
Maurice L. White, Ph.D. (Bacteriology)

Adjunct Associate Professor
George C. Fareed, M.D. (Virology)

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 90024-1747.

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, M226A, M226B 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) Chemistry M253 and two courses in molecular biology (Microbiology and Immunology 250, 264) are required.
(4) Additional course requirements are determined by your major field and your preceptor.

Teaching Experience
Teaching 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 written tests in all three areas of study (immunology, microbiology, and virology). You select one area as your major and the other two as your minor areas. The examination in microbiology (major or minor) covers the fields of bacteriology, and either mycology or parasitology. The examinations require factual knowledge, the ability to analyze experimental work, and the capacity to design problem-solving experiments and are graded on a pass/fail basis. Each examination may be repeated once if not passed. The makeup examination is administered no earlier than three months and no later than six months after the failure, unless specified remedial work requires a longer period for proper preparation.

You must complete the University Oral Qualifying Examination within three years (nine quarters) after entering the program. Advancement to candidacy is awarded after successful completion of this examination. If inadequacies are encountered, you may be required to repeat the examination.

The topic of your research proposal must be in a different area and use a different approach from that of your thesis project and research, but within the fields of interest in the department. You must be able to explain the research and results and demonstrate general knowledge of microbiology and immunology.

The details of the dissertation requirement are supervised by your professor and doctoral committee. The dissertation must demonstrate an original and independent contribution to scientific knowledge acceptable for publication in a major scientific journal and be presented in the University-required format.

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 156. Introduction to experimental immunology and immunocommunicable disease; 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. Corequisite: 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.
202A. Fundamentals of Immunology (2 units). Prerequisite: consent of instructor. A study of the molecular and cellular basis of immunity and of related aspects of cellular and molecular immunity; cellular and molecular aspects of humoral and cell-mediated immune functions. (F)

202B. Medical Bacteriology (2 units). Prerequisite: consent of instructor. Characteristics of bacteria associated with infectious diseases of humans; host-pathogen interactions; identification and laboratory diagnosis; principles of prevention and treatment; introduction to microbial genetics and molecular biology. (F)

202C. Medical Virology (2 units). Prerequisite: consent of instructor. Biological properties of animal viruses; replication; methods of detection; interactions with host cells and multicellular hosts; introduction to tumor viruses. (F)

202D. Medical Mycology and Parasitology (2 units). Prerequisite: consent of instructor. Morphology, physiology, and pathogenicity of the fungi which cause human and animal diseases. Study of the morphology, biology, host-parasite relationship, public health problems, and control of protozoa, helminths, and arthropods parasitic in and on humans and animals. (F)

206. Secretory and Gastrointestinal Immunity (2 units). (Same as Oral Biology M206.) Review of the anatomy and physiology of the oral cavity, the tongue, 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 eater 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 for advanced undergraduate students who plan to pursue work in public health biology, or microbiology and for graduate students with an interest in any field of biology or chemistry. An overview of animal viruses, including viral structure, virus cell interactions, and viral oncogenesis. Special emphasis on understanding the molecular mechanism involved in the control and regulation of replication, transcription, and translation of viral genome and its complex interaction with host.

210. Medical Mycology (3 units). Lecture, four hours. Prerequisite: consent of instructor. A study of the morphology, physiology, and pathogenicity of fungi causing human and animal diseases.

210L. Medical Mycology (2 units). Laboratory, four hours. Prerequisite: consent of instructor. Required of undergraduate students. Laboratory application of principles discussed in course 210.

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. May be repeated for credit with topic change. S/U grading. (F, W, Sp)

215. Interdepartmental Course in Tropical Medical Microbiology. (Same as Microbiology M215 and Pediatrics M215.) Lecture, two and one-half hours; demonstrations. Prerequisites: Basic courses in microbiology and parasitology of infectious diseases in the School of Medicine or Public Health. Study of current knowledge on the role and control of infectious diseases in tropical areas of the world. 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 or letter grading.

222. Membrane Behavior. (Formerly numbered M222.) Lecture, two hours; discussion, two hours. Prerequisite: consent of instructor. Description and relation of membrane structure and biosynthesis to the 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 model systems. Mr. Bramhall

223. Membrane Research Seminar (2 units). (Same as Microbiology M223.) Prerequisite: consent of instructor. Critical discussions of the current literature on membrane functions and emphasis on the relationship between structure and function in lipid bilayers. May be repeated for credit.

226A. Principles of Microbial Pathogenesis. (Same as Biology M226A and Microbiology M226A.) Lecture, two hours; discussion, two hours. Prerequisites: courses 202A, 202B, 202C, and 202D, or equivalent, or consent of instructor. A lecture/discussion format designed to analyze the basic pathogenesis of bacterial and mycotic infections. Emphasis on molecular and cellular approaches to an understanding of host-microbial interaction. Mr. Miller and the Staff (W)

226B. Principles of Microbial Pathogenesis. (Same as Biology M226B and Microbiology M226B.) Lecture, two hours; discussion, two hours. Prerequisites: courses 202A, 202B, 202C, and 202D, or equivalent, or consent of instructor. A lecture/discussion format designed to analyze the basic pathogenesis of parasitic and viral infections. Emphasis on molecular and cellular approaches to an understanding of host-microbial interaction. Mr. Ahmed and the Staff (Sp)

250. Cell and Molecular Biology. Lectures and studio sections, five hours per week. Prerequisite: one of courses 211, 212, or 215, or consent of instructor. A broad range of current topics in cell biology, including cell structure, function, and viral oncogenesis. Special emphasis on understanding the molecular mechanism involved in the control and regulation of replication, transcription, and translation of viral genome and its complex interaction with host.

251. Seminar in Microbiology and Immunology (2 units). Consideration of the history of infectious diseases, their host-parasite relationships, etiology, pathogenesis, epidemiology, diagnosis, and immumty. S/U or letter grading. Mr. Howard (W)

254. Immunogenetics (2 units). Review of current literature in the field of immunogenetics, with emphasis on fundamental studies involving genetic and immunologic principles and techniques. Selected topics discussed and results interpreted; conclusions and experimental methods evaluated. Ms. S. Scofield (Sp)

255. Seminar in Medical Mycology (2 units). Corequisite: course 210. Review of current and recent literature in the field of medical immunology, with emphasis on the host-parasite relationships in the human and animal mycotic infections. Students are required to prepare reviews of selected subjects and to discuss contributions of various workers from the standpoint of experimental methods, results, their interpretation, and evaluation. S/U grading. Mr. Howard (Sp)

256. Seminar in Viral Oncology (2 units), (Same as Pathology M256.) An advanced research seminar designed to consider the current developments in the field. Selection of current subjects and publications dealing with tumor viruses, oncogenesis, development, and cellular regulation. Mr. Baluda

258A. Molecular Genetics of the Immune System (2 units). (Same as Biology M258A and Microbiology M258A.) Lecture, two hours; discussion, two hours. Prerequisite: course M185 or 202A or equivalent or consent of instructor. Reading and discussion of current research articles on immunoglobulin I and II, immunoglobulin receptors, antigen receptors, T cell activation and regulation, and loci affecting differentiation. S/U or letter grading.

Mr. W. and the Staff (W, Sp)

258B. T and B Cell Function (2 units). (Same as Biology M258B and Microbiology M258B.) Lecture, two hours; discussion, two hours. Prerequisite: course M185 or 202A or equivalent or consent of instructor. Reading and discussion of current research articles on oncogenesis, activation, and effector function of T and B cells. S/U or letter grading.

Mr. Bonavida and the Staff (W, Sp)

258C. Major Histocompatibility Complexes (2 units). (Same as Biology M258C and Microbiology M258C.) Lecture, two hours; discussion, two hours. Prerequisite: course M185 or consent of instructor. Required of graduate students. Reading and discussion of current research articles on the structure of human and murine MHC chromosomal regions and genes, MHC polymorphism, MHC-like systems, MHC-linked genes, MHC disease, and immune function of MHC. S/U or letter grading.

Mr. Clark, Ms. S. Scofield (Sp)

258D. Immunopathology (2 units). (Same as Bi- ology M258D and Microbiology M258D.) 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 basis, and natural and acquired immune deficiency disease. S/U or letter grading.

Mr. Porter (Sp)

258E. Immunoregulation (2 units). (Same as Biology M258E and Microbiology M258E.) Lecture, two hours; discussion, two hours. Prerequisite: course M185 or 202A or consent of instructor. Reading and discussion of current research articles on idiotype networks, suppressor T cells, tolerance at T and B cell levels, and Ig gene control. Prerequisite: course M185 or 202A or consent of instructor. Reading and discussion of current research articles on idiotype networks, suppressor T cells, tolerance at T and B cell levels, and Ig gene control. Mr. Sercarz (W)

Mr. Schumaker, Ms. Wisnieski (F or Sp, five weeks)

258F. Immunochromogen (2 units). (Same as Biology M258F 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 idiotype networks, suppressor T cells, tolerance at T and B cell levels, and Ig gene control. Mr. Sercarz (F, W, Sp)

260. 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 frontier level. A continuing UCLA-wide, general graduate-level seminar involving faculty, postdoctoral immunologists, and graduate students from diverse departments. S/U grading.

Mr. Sercarz, F, W, Sp


Mr. Golub, (Sp, alternate years)

262. Immunobiology of Cancer (2 units). Prerequisite: consent of instructor. Review of recent literature in the immunobiology, biology, and biochemistry of cancer, with emphasis on tumor antigens, the immune system, cell-mediated immunity, humoral response, tumor specific antigens, and new techniques. Discussion of reports on scientific meetings. May be repeated for credit. S/U grading.

Mr. Bonavida
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

Chair
Robert C. Collins, M.D.

Vice Chairs
Robert W. Baloh, M.D.
Mark A. Goldberg, M.D., Ph.D., in Residence (Harbor-UCLA)
Wallace W. Tourtellotte, 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. Butcher, Ph.D. (Psychology)
Jerome Engel, M.D., Ph.D. (Neurology)
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 Professor
Allan J. Tobin, Ph.D. (Biology)

Assistant Professor
S. Larry Zipursky, Ph.D.

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 CHS, UCLA, Los Angeles, CA 90024-1761.
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.

No student is advanced to candidacy who has not met this breadth requirement.

Course Requirements
Basic course requirements include Biology 171 (or Physiology 213, 214, or 215 with approval of the neuroscience committee), Bioinformatics 170A, 210. Neuroscience M201A-M201B, M206A, M260B, 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

(Odd 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 paradigms discussed in terms of 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 M204.) Prerequisite: consent of instructor. Current knowledge of the mammalian limbic system presented by surveying studies of its developmental anatomy, intrinsic synaptic organization, synaptic chemistry, afferent and efferent circuits, and dysfunctions in memory and cognition, association 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- and efferent-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
M206A. Neurosciences: The Introductory Course for Graduate Students (5 units). (Same as Anatomy M206A.) Lecture, four hours; laboratory/demonstration, three hours. Prerequisites: a college-level course in biology or zoology, some familiarity with the subjects of electronics and electricity, 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. 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. Neuroanatomical instrumentation and integration, sensory mechanisms, and motor control as related to behavior.

Mr. Scheibel, Mr. Segundo (Sp)
M216A-M216B-M216C. Functional Neuropsychology. (Same as Physiology M255A-M255B-M255C and Psychiatry M216A-M216B-M216C.) Seminar, three hours. Prerequisites: graduate standing, consent of instructor. The neurobiology of human infant speech and the neuropsychology of language memory. Topics include animal communication, phylogeny and ontogeny of language, cerebral processing of language and speech in normal and brain-damaged adults, and neural models of memory. S/U or letter grading.

Ms. Buchwald (F), Mr. Haldgren (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 with a general background in biochemistry. The biochemical and structural properties of the nervous system in relation to its development and functions; introduction to disorders that result from alterations in the fundamental biochemistry of the nervous system. Although the subject is treated in an interdisciplinary manner, courses progress 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, Medicine M235, and Physiology M235.) Prerequisite: consent of instructor. Presentation of current 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 each of the major gut and brain peptides. S/U or letter grading.

Mr. Brecha, Mr. Keeve, Ms. Tache (W)
254. Interdisciplinary Research Seminar (2 units). Lectures and discussions on many different disciplinary approaches to knowledge of brain function in order to broaden the experience of students studying in fields other than that of the lecturer; new information in depth from students in fields closely related to the subject discussed. S/U grading.

256A-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.

(Odd years)
259A-259B-259C. Neuropsychology 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 of rapid change in both.

Mr. Parmelee
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 specific 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. Scheibel
597. Preparation for Ph.D. Qualifying Examinations (2 to 12 units). Prerequisite: consent of instructor.

Mr. Scheibel
599. Dissertation Research for Ph.D. Candidates (4 to 12 units). Designed for students requiring special instruction or time to work on dissertation.

Mr. Scheibel
Obstetrics and Gynecology

22-150 Center for the Health Sciences, (213) 825-5808

Chair
Roy M. Pitkin, 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 E. Gunning, M.D., Acting (Harbor-UCLA)
Dominic Muzsnai, M.D. (Olive View)
Machyn 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 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 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., in Residence
Pasquale A. Cancilla, M.D., Chair
Alistair J. Cochran, M.D., in Residence
Arthur H. Cohen, M.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.
Hideo H. Itabashi, M.D., in Residence
Harrison Latta, M.D.
Klaus J. Lewin, M.D.
Joseph M. Mirra, M.D.
Robert J. Morin, M.D., in Residence
Byron A. Myhre, M.D., Ph.D., in Residence
Donald E. Paglia, M.D.
Lawrence D. Petz, M.D., in Residence
David D. Porter, M.D.
Denis O. Rodgerson, Ph.D., in Residence
Dorothy L. Rosenthal, M.D., in Residence
George S. Smith, M.D.
Julien L. Van Lancker, M.D.
M. Anthony Verity, M.D.
Roy L. Walford, M.D.
Luciano Zamboni, M.D., in Residence, Vice Chair
W. Jann Brown, M.D., Emeritus
Baldwin G. Lamson, M.D., Emeritus
Michael Howanitz, M.D., Ph.D., Emeritus
Sidney C. Madden, M.D., Emeritus

Associate Professors
Judith A. Berliner, Ph.D., in Residence
Oliver Hankinson, Ph.D., in Residence
Faramarz Naeim, M.D., in Residence
Shi-Kaung Peng, M.D., in Residence

Assistant Professors
Ali Ansari, M.D., in Residence
Sanford H. Barsky, M.D.
Jonathan Braun, M.D., Ph.D.
Daniel B. Brubaker, D.O., in Residence
Paul S. Dickman, M.D., in Residence
Thomas A. Drake, M.D., in Residence
James B. Hannah, M.D., in Residence
S. David Hudnall, M.D., in Residence
Lester J. Layfield, M.D., in Residence
William Lewis, M.D.
James H. McBride, Ph.D., in Residence
Ronald Nachman, Ph.D., in Residence
Cynthia C. Nast, M.D.
Harry V. Vinters, M.D.

Adjunct Professors
Michael C. Fishbein, M.D.
Sheldon I. Freedman, M.D.
Richard A. Gatti, M.D.
Stephen A. Geller, M.D.
Ruth Gussen, M.D.
Frank M. Hirose, M.D.
Richard Siegler, M.D.

Adjunct Associate Professors
David A. Bruckner, D.Sc.
Rita B. Effros, Ph.D.
Peter J. Howanitz, M.D.
Robert K. Neiberg, M.D.
Nora C.J. Sun, M.D.

Adjunct Assistant Professors
Sunita M. Bhuta, M.D.
Camilla J. Cobb, M.D.
Frank A. Salem, M.D.
Neil Sidell, Ph.D.

Scope and Objectives

Pathology is, by definition, the science of disease. Its main purpose is to unravel disease mechanisms. Without it, progress in 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) General 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 into the Fall Quarter only. For departmental brochures, write to the Chair, Department of Pathology, 13-327 CHS, UCLA, Los Angeles, CA 90024-1732.

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, 242A, 242B, 244, 250A-250B-250C, 251, 2593, 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.

Upper Division Course

199. Special Studies (2 units). Supervised laboratory research. 10 hours. Prerequisite: consent of instructor. Students select instructor among eligible research faculty and carry out independent laboratory research project under instructor supervision. P/NP or letter grading.

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.

200B. Pathophysiology of Disease (3 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 the area of general pathophysiology.

202A. Molecular Mechanisms in Disease (3 units). 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 the area of general pathology. In Progress grading.

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 the area of general pathology.

231B-231C. Pathophysiology of Disease (6 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 the area of general pathology. In Progress grading.

232. Topics in Vertebrate Neurobiology (2 units). An introduction to the cell biology of the vertebrate central nervous system, with special reference to its development, structure, and potential disease processes.

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, carcinogenic 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.

242B. Molecular Mechanisms in Disease (2 units). Prerequisites: consent of instructor. A description of molecular events resulting from administration of injurious chemical and physical agents (u.v., X rays, carcinogenic 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.

244. Electron Microscopy in Experimental Pathology. Lecture, six hours; discussion, four hours. Ultrastructural aspects of pathology, including introduction to various methods of electron microscopy in pathological studies, essentials of normal ultrastructure, and ultrastructural phenomena in general pathology.

245. Environmental Pathology. Prerequisites: graduate standing, consent of instructor. Designed to explore the interrelationships of man with his total environment. Presentation of a series of special topics to discuss the effect on man of changes in the compositions of air, water, soil, and other materials. S/U grading.

250A-250B-250C. Pathology Graduate Student Seminars (2 units each). Limited to and required of all students in experimental pathology. Review and discussion of current literature and research in special topics of experimental pathology.

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. Van Lancker and the Staff

Mr. Van Lancker and the Staff
**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.  
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  
Jeremy H. Thompson, M.D., F.R.C.P.I., Chair  
Peter Lomax, M.D., D.Sc., Associate Chair  
Richard W. Olsen, Ph.D., Vice Chair  
Dermott B. Taylor, M.D., Emeritus

**Associate Professors**

Don H. Catlin, M.D.  
Bernard K-K. Fung, Ph.D., in Residence

**Assistant Professors**

Cameron B. Gundersen, Ph.D., in Residence  
Sherril G. Howard, 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.S.S., Adjunct  
Yi-Han Chang, Ph.D., Adjunct  
Roger W. Russell, Ph.D., Visiting

**Adjunct Associate Professors**

M. David Fairchild, Ph.D.  
Stephen M. Stahl, Ph.D.  
Lary A. Wheeler, Ph.D.

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**Pediatrics**

22-401 Davies Children’s Center, (213) 206-6327

**Executive Chair**

William F. Friedman, M.D. (James H. Nicholson Professor of Pediatric Cardiology)

**Executive Vice Chair**

Solomon A. Kaplan, M.D.

**Chairs**

Delbert A. Fishet, M.D. (Harbor-UCLA)  
S. Douglas Frasier, M.D. (Olive View)  
David L. Rimoin, M.D., Ph.D. ( Cedars-Sinai)  
Robert J. Schlegel, M.D. (King/Drew)

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**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 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.

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**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 90024-1735.

**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.

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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 equivalents. 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, including either reading 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 of 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 modes of action, pharmacokinetics, and disposition to provide a scientific basis for their rational use in medicine. Mr. Ignaro 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, Biological Chemistry M221A-M221B, Neurobiology 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. The biochemical and structural properties of the nervous system in relation to its development and functions; introduction 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 physiology in precise manner and biological terms. Mr. de Vellis, Mr. Edidson, 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. Chang, 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 neurochemical transmission, 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 whole 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)

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)

250. Seminar in Pharmacology (2 units). Seminars presented by students, faculty and guest lecturers on a variety of topics. S/U grading. Mr. Fung, Mr. Olsen (F,W,Sp)

253. 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. Jenden (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. Fronek (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 toxic and the range of pathologic changes that occur in these tissues (liver, bladder, lung, kidney, nervous system, and vascular system). Mr. Berlin (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)

269. 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).
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) General Test is required as well as the Subject 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 90024-1751.

**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 demonstrations/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.
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.

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Graduate Courses

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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.

Graduate Commentary; Clinical Pharmacology (2 units each). Prerequisites: mammalian physiology, biochemistry. A supplementation of topics covered in course 202. Primarily for graduate students.

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.

221A-M221B. Cellular and Molecular Neurochemistry. (Same as Anatomy M221A-M221B, Biochemistry M221A-M221B, Neurology M221A-M221B, and Psychiatry M221A-M221B.) Lecture, three hours. Prerequisites: Biological Chemistry 101A-101B-101C or equivalent. Contemporary neurochemistry for students with a general background in biochemistry. The biochemical and structural properties of the nervous system in relation to its development and functions; introduction to disorders that result from alterations in the fundamental biochemical properties 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.

227A-227B-227C. 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.

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251. Seminar in Pharmacology (2 units). Seminars presented by students, faculty, and guest lecturers on a variety of topics. S/U grading.

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.

257. Introduction to Toxicology. (Same as Pathology M257.) Prerequisite: course 241 or consent of instructor. Biochemical and systemic toxicology, basic mechanisms of toxicology, and interaction of toxic agents with specific organ systems.

258. Pathologic Changes in Toxicology. (Same as Pathology M258.) Designed to give students experience in learning the normal and abnormal physiology of tissues which are major targets of toxin and the range of pathologic changes that occur in these tissues (liver, bladder, lung, kidney, nervous system, and vascular system).

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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.
Michael H. Chase, Ph.D., in Residence
Sergio Ciani, Ph.D.
Jared M. Diamond, Ph.D.
George Eisenman, M.D.
Alan D. Greenwell, Ph.D.

Susumu Hagiwara, M.D., Ph.D. (Eleanor I. Leslie
Professor of Neuroscience)
Earl Homsher, Ph.D., Vice Chair
Douglas Jungre, Ph.D.
Yoshiki Kadosako, M.D., Ph.D., in Residence
Glenn A. Langer, M.D. (Castera Professor of
Cardiology)

Arthur Peskoff, Ph.D. (Biomathematics)
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. Alpert, M.D. Professor of Medicine)
Mania W. Seraydarian, Ph.D. (Nursing)

Ralph R. Sonnenschein, M.D., Ph.D.
John McD. Tormey, M.D.
Julio Vergara, Ph.D.
Bernice M. Werzol, Ph.D.
Brian Whipp, Ph.D.

Ernest M. Wright, D.Sc., Chair
Mary A. B. Brazier, D.Sc., Eminent, in Residence
Donald B. Lindsay, Ph.D., Eminent

Wilfred H.M. Mommaerts, Ph.D., Eminent

Associate Professors  Joy Frank, Ph.D., in Residence
Sally Krasno, Ph.D.
Michael G. Letinsky, Ph.D.
Kenneth D. Phillipson, Ph.D., in Residence

Lecturer  Jessie O. Washington, D.V.M.

Adjunct Associate Professor  Oscar U. Screenin, M.D.

Adjunct Assistant Professor  Kenneth S. Leonard, 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) General Test is required as well as the Subject 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 90024-1751.

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 demonstrations/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.
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 physiology (7 units). Prerequisites: basic courses in chemistry, physics, and biology, at least one year each; organic chemistry; histology; gross anatomy; human physiology (7 units). Prerequisites: basic courses in chemistry, physics, and biology, at least one year each; organic chemistry; histology; gross anatomy; human physiology (7 units).

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. Lecture, one four-hour and two one-hour sessions (Winter — last six weeks); one two-hour, one three-hour, and two two-hour sessions (Spring). Prerequisite: medical student standing or consent of instructor. Corequisites: Anatomy 103A-103B. Lecture, one four-hour and two one-hour sessions (Winter — last six weeks); one two-hour, one three-hour, and two two-hour sessions (Spring). Prerequisite: medical student standing or consent of instructor. Corequisites: Anatomy 103A-103B.

103A-103B. Basic Neurology (1 unit, 3 units). Lecture/laboratory, one four-hour and two one-hour sessions (Winter — last six weeks); one two-hour, one three-hour, and two two-hour sessions (Spring). Prerequisite: medical student standing or consent of instructor. Corequisites: Anatomy 103A-103B. Lecture, conferences, demonstrations, and laboratory procedures necessary for an understanding of the functions of the human nervous system. In Progress grading.

105. Human Physiology. (Formerly numbered 105N.) (Same as Nursing 105N.) 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 correlation approach to anatomy and physiology of the human body.

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 of single cells and epithelia. Includes such topics as membrane structure, the passive permeabilities of membranes to ions and nonelectrolytes, active transport of sugars and amino acids, active ion transport, and the mechanisms of water transport. Experimental work involves the transport of ions across single cell membranes and epithelia using radioactive tracer and electrophysiological techniques.

202. Permeability of Biological Membranes to Ions (6 units). Prerequisites: Chemistry 110A, 110B, or equivalent, consent of instructor. Topics include ion permeation mechanisms, ion documentation, and physical basis of ion discrimination across cell membranes.

203. Transport across Biological Membranes. Prerequisite: consent of instructor. An in-depth study of transport ions, nonelectrolytes, and water across plasma membranes of single cells and epithelia. Includes such topics as membrane structure, the passive permeabilities of membranes to ions and nonelectrolytes, active transport of sugars and amino acids, active ion transport, and the mechanisms of water transport. Experimental work involves the transport of ions across single cell membranes and epithelia using radioactive tracer and electrophysiological techniques.

205. Physical Chemistry of Membranes and Cellular Systems. Prerequisite: consent of instructor. A mathematical and physical background for understanding the current approaches in cellular electro-physiology and transport across membranes. Ordinary differential equations, functions of many variables, Fourier series, and integrals. Prerequisite: consent of instructor. A mathematical and physical background for understanding the current approaches in cellular electro-physiology and transport across membranes. Ordinary differential equations, functions of many variables, Fourier series, and integrals.

210. Cellular 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.

212A-212B-212C. Critical Topics in Physiology (1 to 8 units each). Prerequisite: consent of instructor. Advanced treatment of critical topics in physiology by staff, guest lecturer, and postdoctoral students in the biomedical sciences.

213. Methods in Cell Physiology (6 units). Prerequisite: consent of instructor. Lectures and laboratory dealing with the integrated circuits and other solid-state devices employed in modern instruments, so that students learn to design and build many of the simpler circuits often required in their research. Emphasis on the particular circuits used in electrophysiology, RC analysis, and an introduction to cable theory.

214. Cell Physiology: Excitability (2 to 6 units). Prerequisites: course 213, consent of general. 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 macroscopic conductance and single channel properties.


216. Cellular Electrophysiology (6 units). Prerequisite: consent of instructor. Basic knowledge of the physics of electricity, integral and differential calculus, and biology (equivalent to Biology 5), consent of instructor. Basic 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-Percemeable 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.

217B. Transport Systems in Cell Membranes. Prerequisite: consent of instructor. Properties of pumps and transporters. Chemical dynamics of active transport in nonelectrolyte (sugar, amino acid, carboxylic acids) and ion (Na, K, H, and Ca) transport across plasma membranes of single cells and epithelia.

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.

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—contraction coupling, calcium ions, muscle contraction, regulation of contraction, myofilament interactions, energetics mechanics, and chemical kinetics of contraction in vertebrate muscle.

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 papers. Content varies according to the special interests of the students.

222. Graduate Commentary: Renal, Respiratory, and Gastrointestinal Physiology (2 units). Prerequisite: course 101. An advanced supplementation for graduate students of the topics presented in course 102.

223. Graduate Commentary: Physiology of the Nervous System (2 units). Prerequisites: basic courses in chemistry, physics, and biology, at least one year each; organic chemistry; histology; gross anatomy; human physiology (7 units). Prerequisite: consent of instructor. An advanced supplementation for graduate students of the topics presented in basic neurology.

225. Ionic Selectivity: The Role of Kinetic and Equilibrium Processes in Ion Permeation through Cell Membranes. Prerequisite: consent of instructor. In-depth study of the ion permeation in model peptide channels (e.g., gramicidin) and biological channels (e.g., acetylcholine receptor channel, K channel, and Na channel), particularly as these can be inferred from electrical measurements. Molecular aspects of ion permeation.

227. Theoretical Problems in Membrane Permeation (2 units). Prerequisite: consent of instructor. Tutorial directed to specific theoretical problems of interest to the students.

228. Epithelia: Structure and Function (2 units). Prerequisite: consent of instructor. Lectures and seminars on the physiology of epithelia cells, with particular emphasis on membrane transport. S/U grading.

229. Research Topics in Neurobiology (2 units). Prerequisite: consent of instructor. Discussion of recent literature covering research problems in neurobiology. S/U or letter grading.

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. S/U grading.

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. S-B-231C. The function and control of the cardiovascular system and its relation to the mechanics of respiration and cellular gas exchange. Critical reviews and discussion of selected articles in journals.

235. Gut and Brain Peptides (2 units). (Same as Anatomy 235; Medicine 235, and Neuroscience 235.) Prerequisite: consent of instructor. Presentation of current 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 each of the major gut and brain peptides. S/U or letter grading.

M. Brecha, M. Reeve, M.S. Tache (W)
## Psychiatry and Biobehavioral Sciences

### B7-349 NPI&H, (213) 825-0770

<table>
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<tr>
<th>Professors</th>
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<tr>
<td>Ransom J. Arthur, M.D., in Residence, Vice Chair</td>
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<td>D. Frank Benson, M.D.</td>
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<tr>
<td>Nicholas G. Burton Jones, D.Phil. (Biobehavioral Sciences)</td>
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<td>Nathaniel A. Buchwald, Ph.D., in Residence</td>
<td>(Biobehavioral Sciences)</td>
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<td>Anthony T. Campagnoni, Ph.D., in Residence</td>
<td>(Biobehavioral Sciences)</td>
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<td>Dennis P. Cantwell, M.D. (Joseph Campbell)</td>
<td>Professor of Child Psychiatry</td>
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<td>Stephen D. Cederbaum, M.D., in Residence</td>
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<td>Ching-piao Chien, M.D., in Residence</td>
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<td>Kenneth M. Colby, M.D.</td>
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<td>Barbara F. Crandall, Ph.D., in Residence</td>
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<td>Jeff S. Dellis, Ph.D., in Residence</td>
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<td>Wilfred J. Dixon, Ph.D. (Biobehavioral Sciences)</td>
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<td>Robert B. Edgerton, Ph.D., in Residence</td>
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<td>Samuel Eiduson, Ph.D., in Residence</td>
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<td>Barbara Fish, M.D.</td>
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<td>Arvan L. Flaherty, Ph.D., in Residence</td>
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<td>Steven R. Forness, Ed.D., in Residence</td>
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<td>Daniel X. Freedman, M.D. (Judson Braun Professor of Biological Psychiatry), Executive Vice Chair</td>
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<td>Joaquin M. Fuster, M.D., in Residence</td>
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<td>Rosslyn Gaines, Ph.D., in Residence</td>
<td>(Medical Psychology)</td>
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<td>Gary C. Galbraith, Ph.D., in Residence</td>
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<td>Ronald G. Gallimore, Ph.D., in Residence</td>
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<td>Richard Green, M.D., in Residence</td>
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<td>Donald Guthrie, Ph.D., in Residence</td>
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<td>Frank W. Hayes, M.D., in Residence</td>
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<td>Frank M. Hewett, Ph.D. (Biobehavioral Sciences)</td>
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<td>Chester D. Hull, Ph.D., in Residence</td>
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<td>Lissy F. Jarvik, Ph.D., M.D.</td>
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<td>Murray E. Jarvik, M.D., Ph.D.</td>
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<td>Joseph R. Jedruchowski, D.D.S. (Biobehavioral Sciences)</td>
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<td>Harry J. Jerison, Ph.D., in Residence</td>
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<td>Marvin Kano, M.D., in Residence</td>
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<td>John G. Kennedy, Ph.D., in Residence</td>
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<td>Lewis L. Langness, Ph.D., in Residence</td>
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<td>Michael S. Levine, Ph.D., in Residence</td>
<td>(Neuroanatomy)</td>
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<td>Robert P. Liberman, M.D., in Residence</td>
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<td>James T. Marsh, Ph.D. (Medical Psychology)</td>
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<td>David S. Maxwell, Ph.D. (Biobehavioral Sciences)</td>
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<td>Michael T. McGuire, M.D.</td>
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<td>Milton H. Miller, M.D., Vice Chair</td>
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<td>Jim Mintz, Ph.D., in Residence (Medical Psychology)</td>
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<td>Kazuo Nihira, Ph.D., in Residence (Medical Psychology)</td>
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<td>Ernest P. Noble, M.D., Ph.D. (Thomas P. and Katherine K. Pipe Professor of Alcohol Studies)</td>
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<td>William H. Oldendorf, M.D., in Residence</td>
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<td>Edward M. Ornitz, M.D., in Residence</td>
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<td>Alfonso Paredes, M.D., in Residence</td>
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<td>Robert O. Pasnau, M.D., in Residence</td>
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<td>Morris J. Paulson, Ph.D., in Residence (Medical Psychology)</td>
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<td>Douglass R. Price-Williams, Ph.D., in Residence (Biobehavioral Sciences)</td>
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<td>Edward R. Rito, M.D., in Residence</td>
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<td>Don A. Rockwell, M.D., Vice Chair</td>
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<td>Alexander C. Rosen, Ph.D., in Residence (Medical Psychology)</td>
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<td>Robert T. Rubin, M.D., in Residence</td>
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<td>Paul Satz, Ph.D., in Residence (Neuropsychology)</td>
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<td>Arnold B. Scheibel, M.D.</td>
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<td>Eustace A. Serafinides, M.D., Ph.D., in Residence</td>
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<td>David Shapiro, Ph.D. (Medical Psychology)</td>
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<td>Edwin S. Shneidman, Ph.D., in Residence (Thanatology)</td>
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<td>Arthur B. Silverstein, Ph.D., in Residence (Medical Psychology)</td>
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<td>James Q. Simmons, M.D., in Residence, Vice Chair</td>
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<td>George F. Solomon, M.D., in Residence</td>
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<td>S. Stefan Soltysik, M.D., Ph.D., in Residence (Neuropsychology)</td>
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<td>Robert S. Sparkes, M.D.</td>
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<td>M. Anne Spence, Ph.D., in Residence</td>
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<td>Maurice B. Sternman, Ph.D., in Residence</td>
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<td>Robert J. Stoller, M.D.</td>
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<td>George Tarijan, M.D.</td>
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<td>Claudewill S. Thomas, M.D., in Residence</td>
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<td>Bernard Towers, M.D.</td>
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<td>J. Thomas Ungerleider, M.D., in Residence</td>
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<td>Jaime R. Villablanca, M.D., in Residence</td>
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<td>Herbert Weiner, M.D., in Residence</td>
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<td>Thomas S. Weisner, Ph.D., in Residence</td>
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<td>Bernice M. Wenzel, Ph.D. (Biobehavioral Sciences)</td>
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<td>Louis Jolyon West, M.D., Chair</td>
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<td>Charles D. Woody, M.D., in Residence</td>
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<td>Joel Yager, M.D., in Residence</td>
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<td>Joe Yamamoto, M.D., in Residence</td>
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<td>Arthur Yuwiler, Ph.D., in Residence</td>
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<td>Emeritus Professors</td>
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<td>T. George Bidder, M.D.</td>
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<td>Norman Q. Brill, M.D.</td>
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<td>W. Jann Brown, M.D.</td>
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<td>John Garcia, Ph.D.</td>
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<td>Milton Greenblatt, M.D., Vice Chair</td>
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<td>Horace W. Magoun, Ph.D.</td>
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<td>Ivan N. Mensch, Ph.D.</td>
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<td>Fredrick C. Rodlich, M.D.</td>
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<td>Ralph E. Worden, M.D.</td>
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<td>Henry H. Work, M.D.</td>
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### Associate Professors

Robert F. Asarnow, Ph.D., in Residence (Medical Psychology)

Jeffrey L. Cummings, M.D., in Residence

Fawzy I. Fawzy, M.D., in Residence

Frederick D. 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)

Keith T. Kernan, Ph.D., in Residence (Biobehavioral Sciences)

Asenath A. LaRue, Ph.D., in Residence (Medical Psychology)

Stephen R. Marder, M.D., in Residence

Keith H. Neuchterlein, Ph.D., in Residence (Medical Psychology)
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 students is selected for the program which runs during the Winter/Spring Quarters. Students participate in courses, fieldwork, and research at selected community facilities serving the developmentally disabled. Students are required to take Psychology/Psychiatry M180A, M180B, M181A-181B, and selected coursework related to developmental disabilities. 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 goals of the internship are 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, psycholinguistics, 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 M1360.) 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 the uses of observations and their implications for research in the social sciences. Mr. Gallimore, Mr. Weisner (W)

M119. Evolution of Intelligence. (Same as Psychology M119.) Lecture, two hours; discussion, two hours. Prerequisites: Psychology 120A, 120B, and an introductory statistics course. Junior or senior standing, consent of instructor. The evolution of intelligence, the development of cognitive abilities, and the role of cultural, social, and biological factors in shaping human behavior. Mr. Jerison

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 psychopathology. Mr. Frankenfield

M142. Advanced Statistical Methods in Psychology. (Same as Psychology M142.) Lecture, two hours; discussion, two hours. Prerequisite: Psychology 141. Chi square, correlation methods, multiple regression, nonparametric analysis, etc. Mr. Nihira (W)

175. Women Physicians: Professional Socialization. The professional socialization or women in medicine. The development of medical training and practice (premed, medical school, internship, residency, and various specialty areas of private practice). Women trainees and physicians in various specialties participate in presentations. Research project required. Mr. Fluharty (F)

M180B. Contemporary Issues in Mental Retardation. (Same as Psychology M180B.) Prerequisite: course M180A. Limited to Immersion Program students. Study of the theories of mental retardation relating to ongoing field experiences through lectures, discussions, and media, and special seminars in psychology. Mr. Baker


M182A. Advanced Statistical Methods in Mental Retardation. (Same as Psychology M182A.) Prerequisite: course M182A. Limited to Immersion Program students. Introduction of statistical method and design in experimentation principles of statistical inference and appropriate testing methods. Introduction to the use of computers in various software packages. Mr. Olmstead

M182B. Advanced Design and Statistics. (Same as Psychology M182B.) Prerequisite: course M182A. Continuation of course M182A. Mr. Silverstein

M182C. Perception. (Same as Psychology M182C.) Limited to Immersion Program students. Human information processing, both physical and psychological, with special emphasis on pathologies in the mentally retarded. Mr. Gabraith

M183. Current Issues in Mental Retardation. (Same as Psychology M183D.) Limited to Immersion Program students. Advanced topics in mental retardation. May be repeated for credit with consent of instructor. Mr. Olmstead

M183A. Introduction to Neuroscience. (Same as Psychology M183A.) Limited to Immersion Program students. Gross anatomy of the human brain and spinal cord. Mr. Buchwald, Mr. Olsomte

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 cyto genetics, biochemical and population genetics, and family studies. Mr. Stein psychomotor development, learning, perception, cognition, and psychological perspectives on child development. Mr. Kernan, Mr. Price-Williams

M201B-M201C. The Functional Organization of Behavior (2 units each). (Same as Neurosci ence M201A-M201B.) 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.

For further information, contact Mr. Wood (F,W,Sp)

207A-207B-207C. Hypnosis Seminar (2 units each). (Formerly numbered 207.) Prerequisite: psychology intern, psychiatry resident, 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 applications, including didactics, demonstration, practice, and feedback. Following training in induction and development of classical hypnotherapeutic phenomena (e.g., age regression, hypnoanesthesia), focus on psychotherapeutic applications, including direct symptom removal, behavioral methods, and hypnoanalysis. Emphasis on developing skill for application in clinical practice. Mr. Holroyd (F,W,Sp)

208A-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 of the brain, analytic and synthetic activities of the brain, the effects of generalized and focal brain impairment on behavior, and an introduction to the use of neuropsychological test instruments. Mr. Marsh (F,W,Sp)

M210A-M210B. Seminar in Psychocultural Studies. (Same as Anthropology M234A-M234B.) Lecture, three hours. Prerequisite: consent of instructor. A historical and theoretical sequence dealing with the present state of research in psychocultural studies. Survey of work in child development and socialization, personality, psychobiology, transcultural psychiatry, deviance, learning, perception, cognition, and psychocultural perspectives on child development. Mr. Kernan, Mr. Price-Williams

M211. Sociocultural Perspectives on Mental Retardation. (Same as Anthropology M234.) Lecture, three hours. Prerequisite: consent of instructor. Exploration of a sociocultural approach to the study of mental retardation. Focus on the development and socialization, personality, psychobiology, transcultural psychiatry, deviance, learning, perception, cognition, and psychocultural perspectives on child development. Mr. Kernan, Mr. Price-Williams

M212. Cultural Modes of Thought. (Same as Anthropology M232P.) Lecture, three hours. Prerequisite: consent of instructor. A cross-cultural sequence designed to introduce students to the study of the phenomena of mental retardation. The development of behaviors within different species and the functional uses of behaviors; use of an evolutionary biological perspective as the framework. Mr. Price-Williams (W)

M213A-M213B. The Individual in Culture. (Same as Anthropology M235A-M235B.) Lecture, three hours. Prerequisite: course M213A is prerequisite to M213B. In personality, culture, and marriage. May be repeated for credit.

Mr. Edgerton (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 the study of behavior in its biobehavioral and biosocial contexts. A forum for pertinent interdisciplinary discussion. Speakers present information from their area of competence and express their ideas on the relevance of this material to the broader issues of behavior. Mr. West

M180A. Contemporary Problems in Mental Retardation. (Same as Psychology M180A.) Corequisites: Psychology 10, 41, and 127 or 130. Corequisites: courses M180A-M181B. Limited to Immersion Program students. A term paper on topics, issues, and research techniques in the area of mental retardation. Biological, psychological, and community concerns questioning the causes and treatment of development disabilities, as well as systems for the care and training of retarded individuals. Lectures, directed reading, and discussion. Mr. Fluharty and the Staff
M214A-M216B-M216C. Functional Neuropsychology. (Formerly numbered 216.) (Same as Neuroscience M217A-M217B-M217C and Psychology M255A-M255B-M255C.) Seminar, three hours. Prerequisites: graduate standing, consent of instructor. The neurobiology of human infant speech and the neuropsychology of language memory. Topics include animal communication, phylogeny and ontogeny of language, cerebral processing of language and speech in normal and brain-damaged adults, and neural models of functions of the left hemisphere. Ms. Buchwald (F), Mr. Halgren (Sp), Ms. Van Lancker (W)

M219A-M219B. Basic Core Courses in Mental Retardation Research (2 units each). (Same as Anthropology M224A-M224B.) Lecture, two hours; discussion, two hours. Prerequisite: consent of instructor. Required of all MRRC trainees. A systematic overview of mental retardation and the sciences basic to this field of study. The language, methods, aims, and contributions of the various disciplines that contribute to the field. The last two weeks of the second quarter are spent discussing and preparing multidisciplinary research designs with potential for the prevention or amelioration of mental retardation. S/U grading.

M220A-220B. Living Systems Theory and its Application (2 or 4 units each). Prerequisite: consent of instructor. Current status of basic and applied scientific research in systems science at the levels of the cell, the organism, the group, the corporation, the society, and the supranational systems. Present and potential future applications of systems science to psychodynamics, psychotherapy, group processes, community psychiatry, and organizational behavior. Possible applications to neuropsychiatric, artifical intelligence, instructional technology, and other fields. If taken for four units, additional class time and reading and a research paper (20-25 pages) required.

M221A-M221B. Cellular and Molecular Neurochemistry. (Same as Anatomy M221A-M221B, Biological Chemistry M221A-M221B, Neuroscience M221A-M221B, and Pharmacology M221A-M221B.) Lecture, three hours; required projects. Biologic chemistry of the nervous system and its disorders. Emphasis on the molecular mechanisms of the nervous system and their evaluation. Prerequisites: consent of instructor 101A-101B-101C or equivalent. Contemporary neurochemistry for students with a general background in biochemistry. The biochemical and structural properties of the nervous system in relation to its development and function. Neurotransmitter 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 chemistry through to function in precise manner and biological terms.

Ms. de Vellis, Mr. Eiduson, Mr. Olsen (W/Sp)

M222. Transcultural Psychiatry. (Same as Anthropology M234P.) Lecture, three hours. Prerequisite: consent of instructor. Consideration of psychiatric topics in cross-cultural perspective, such as studies of drug use, deviance, suicide, homicide, behavioral disorders, “culture specific” syndromes, non-Western psychiatry, and the questions of “sick” societys. May be repeated for credit. Cross-numbered with Psychiatry M233.

M231. MMPI Seminar and Case Conference (2 units). Seminar, one hour; discussion, one hour. Prerequisite: psychology intern, psychiatry resident, or consent of instructor. Seminar and case conference on the interpretation of the Minnesota Multiphasic Personality Inventory (MMPI). Theory, principles, and research into the personality types. Discussion of case data relating to the MMPI profile and treatment planning.

Mr. Caldwell

226A-226B. Childhood Psychopathology (2 units each). Seminar, one hour. Prerequisites: consent of instructor. Current research in the causes and behavioral manifestations 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 of physical health and illness and discussion of the application of this knowledge and these techniques to prevention, diagnosis, treatment, and psychosocial aspects of the care of patients with behavioral and biomedical approaches.

Mr. McCready, 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 issues and needs of Hispanics through seminars and videotapes dealing with historical comparison of psychiatry in Mexico and the United States, an analysis of the various theses of Mr. Gallegos, Mr. Hanes regarding biopsychosocial behavior; distinguishing psychodynamic from cultural factors in the treatment of Spanish-speaking patients; treatment of Hispanic families, couples, undocumented persons, and criminall justice system clientele.

Ms. Morales, Ms. Teilets (W)

232A-232B-232C. Human Sexual Dysfunction (2 units each). Prerequisite: consent of instructor. One-year training and research course in the direct behavior treatment of human sexual dysfunction. Combination of didactic material and supervised experience.

Mr. Golden (F, W/Sp)

M234A-M234B. Affective Disorders (2 or 4 units each). (Formerly numbered 234A-234B.) (Same as Psychology M230A-M230B.) Lecture, one hour; laboratory, one hour. Prerequisites: graduate standing, consent of instructor. General topics related to the primary affective disorders (depression, manic depressive illness), including diagnosis, pharmacology, epidemiology, psychology, phenomenology, biology, and treatment. Students enrolled for four units are assigned a more intensive reading list and required to make a presentation or prepare a research paper.

Ms. Golin, Mr. Haremen

235. A Laboratory for Naturalistic Observations: Developing Skills and Techniques. (Same as Anthropology M236O and Education M222A.) Lecture, three hours. Prerequisite: consent of instructor. The skill of observing and recording behavior in naturalistic settings, with emphasis on field training and practice. Possible applications to neuropsychiatric, artifical intelligence, instructional technology, and other fields. If taken for four units, additional class time and reading and a research paper (20-25 pages) required.

Mr. Miller (W)

236A-236B-236C. Psychology Interns Seminar (1 unit each). Prerequisite: consent of instructor. Current topics in clinical psychology. Group selected topics for discussion pertaining to psychopathology, diagnostic evaluation, and modalities of treatment. S/U grading.

Ms. Holroyd (F, W/Sp)

240. Assessment and Treatment of Afro-American Families (3 units). (Formerly numbered 240A-240B-240C.) Seminar, two hours. Prerequisites: graduate standing, consent of instructor. AIDS mental health professionals and trainees in the evaluation and treatment of Afro-American families in terms of their cultural, social, economic, and ethnic background, and their psycho- social and emotional status. Didactic presentations by instructors and invited guests form the basis for supervised evaluation and case management with an Afro-American child and family.

Ms. Bass, Ms. Powell, Ms. Wytall (Sp)

242. Parent and Child Psychotherapy Seminar (1 unit). (Formerly numbered 242A-242B-242C.) Prerequisites: current experience in psychoanalytically oriented child psychotherapy, consent of instructor. Seminar meets throughout the year. During Summer Quarter emphasis on the initial clinical and research evaluation session, as well as a documentary film of the child's interaction with the family. During Fall, Winter, and Spring Quarters instructors use videotaped sessions and notes from their own clinical work to discuss such topics as diagnostic criteria, family systems, and the therapeutic process, stressing the work with parents and children, and such theoretical and technical issues as transferance, resistance, the overdetermined nature of symptoms, and termination. Student presentations encouraged. Emphasis on clinical and theoretical issues and to become familiar with ongoing cases which are part of a systematic outcome study.

Mr. Heinicke

243A-243B-243C. Mental Retardation Interdisciplinary Core Curriculum (1 unit each), Lecture, 90 minutes. Prerequisite: consent of instructor. A survey series on major topical areas of mental retardation, covering epidemiology, nosology, assessment, health care delivery systems, basic genetics, nutrition, diet, and other special topics in an interdisciplinary framework as generic information independent of discipline. S/U grading.

Mr. Forness, Ms. Jacobs (F, W/Sp)

244. Computers in Mental Retardation Research. Present topics in the use of computers to access the basic nature of digital computer systems, with emphasis on their impact on society. Directed toward providing the student with a broad general understanding of multiple applications and the implications of the equipment. Specific choices from clinical, research, and administrative applications within the mental retardation and child psychiatry program.

Mr. Guthrie, Mr. Hull (W)

245A-245B. Psychological Assessment of Severely Handicapped Children (2 units each). Lecture, 90 minutes. Prerequisite: consent of instructor. Course 245A is prerequisite to 245B. The psychological assessment of the preschool child. Specific emphasis on the assessment of children with develop mental 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/Sp)

M246. Psychological Aspects of Mental Retardation. (Same as Psychology M236.) Prerequisite: consent of instructor. Discussion of the psychological aspects of mental retardation, including classification, description, etiology, theory, prevention, treatment, assessment, and the psychological development of the retarded. A cross-curricular course designed to allow input from other disciplines (ethics, law, religion, welfare systems).

Mr. Tymchuk (F)

247A-247B-247C. Neurological and Psychological Bases of Behavior (1 unit each). Discussion, two hours. Prerequisites: graduate standing, consent of instructor. Discussion of advances in neurophysiology and neuropsychology, with particular reference to modern developmental studies. Faculty members or advanced students present results of their research work in the context of relevant literature; intensive discussion during and after presentation. S/U grading.

Mr. Buchwald, Mr. Levine (F, W/Sp)

248. Research Rounds in Mental Retardation and Developmental Disabilities (1 unit). Prerequisite: consent of instructor. Discussion with presenters of a patient and discussion of research approaches relevant to that patient. Staff members from various disciplines and invited speakers participate. S/U grading.

Mr. Levine (F, W/Sp)

M250. Midwest Anthropology in Public Health. (Same as Anthropology M250 and Public Health M271.) Prerequisites: Public Health 112, 130, one upper division psychology, sociology, or anthropology course, 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. Browner, Ms. Scrimshaw
253. Seminar: Child Development (1 unit). Prerequisite: consent of instructor. Current systems of child development, and chronological aspects of child development. Presentation of assigned readings by students plays a major role in each session.

254. 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's 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 syndromes.

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. Examination of communication and its dysfunction as these relate to language disabilities seen in an interdisciplinary medical setting. Provides a background for graduate and postgraduate students who plan to engage in clinical work with either a clinical or laboratory approach to language disturbances of childhood and adulthood are relevant.

Ms. Baltaxe (F,W,Sp)

259. Legal and Ethical Issues 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); philosophies, ethics, ethical codes, issues, and how to solve them. Use of videotapes and discussion of cases.

Mr. Tymchuk (W)

260. The Chronically Medically Ill Child and Family. Lecture, three hours; seminar, one hour. Prerequisite: consent of instructor. Examination from a biopsychosocial perspective of the health status of children with chronic illness affecting the life-style and development of the child and family, including examination of relevant theoretical models and research. Clinical application of assessment and intervention strategies.

Mr. Betz (F,Sp)

261. Psychopathology of Mental Retardation (1 unit). Seminar, 90 minutes. Prerequisite: consent of instructor. Review of current research findings 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)

262A-262B-262C. Clinical Fieldwork in Developmental Disabilities and Chronic Illness (1 to 4 units each). Prerequisites or corequisites: courses 243A-243B-243C, consent of instructor. Placement and supervision of clinical and consultation activities in interdisciplinary teams in various agencies, hospitals, or other related settings serving developmentally disabled or chronically medically ill children, youth, or adults. Supervision done jointly by community personnel on site, in collaboration with interdisciplinary faculty. S/U grading.

Mr. Forness

263A-263B-263C. Current Issues: Mental Retardation and Developmental Disabilities (1 unit each). Seminar, 21 1/2 hours per month. Prerequisite: consent of instructor. Current clinical trends and recent 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 Applications (1 unit). Seminar, two hours; laboratory, one hour. Prerequisite: consent of instructor. Introduction to concepts and techniques of biofeedback, including review of experimental literature and applications to various clinical problems (hypertension, headache, pain and anxiety, stress, abnormal movement, psychiatric disorders, etc.). Training in the use of portable biofeedback devices. Consideration of research and clinical issues.

Mr. Shapiro (W)

265. Mind and Brain in Evolution (2 units). Prerequisite: consent of instructor. Advanced seminar and discussion of ongoing laboratory research, involving concepts, experimental design, measurement, and data analysis. Current topics include regulation of physiological and subjective responses in animals and control of blood pressure, and behavioral regulation of postural hypotension.

Mr. Shapiro (F,W,Sp)

266. Psychophysiological Research (1 unit). Seminar, 90 minutes. Prerequisite: consent of instructor. Examination of current theories and techniques of experimental research, emphasizing the interface between 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)

267. Psychophysiological Research (2 units). (Same as Anthropology M268.) Prerequisite: consent of instructor. Review of current knowledge and theory involved in the study of interindividual variation 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 neuropsychological approach. Classical and instrumental conditioning procedures, with particular attention to the motivational variables.

Mr. Sol tysik (W)

272. Psychological Anthropology. (Same as Anthropology M234Q.) 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 theory, culture and personality, and culture and psychiatry. Discussion of questions relating to research methodology, and the scientific approach. Observation and basic research on topics related to culture. Topics vary from quarter to quarter. May be repeated for credit.

Mr. Edgerton, Mr. Kennedy (W)

273. Social Relations, Illness, and Health. (Formerly numbered 273.) (Same as Anthropology M263Q and Nursing M273.) Prerequisite: one upper division course in anthropology, sociology, or psychology. Social structural factors that influence how health is defined and 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. Browner

274. Neurophysiology and Behavior (3 units). Prerequisite: consent of instructor. Examination of the neurological basis and neural mechanisms of behavior. Special emphasis on early development in electrophysiological recording techniques in behaving animals and how these techniques relate to clinical aspects of brain function.

Mr. Levine (Sp)

275A-275B. Sociobiology Seminar (2 units each). Prerequisite: consent of instructor. Review of sociological theory as it applies to adult bonding behavior; kin-selec tion theory, reciprocal altruism theory, mate selection theory, and bond strategy theory. Bonds viewed primarily from a biological rather than a psychological perspective. In Progress grading.

Mr. McGuire (F,W)

276. Prospects for Neurocognitive Enhancement in Aging (2 units). Prerequisite: consent of instructor. Examination of the evidence for alterations in brain function that accompany normal aging and of the research that attempt to reverse these changes. Critical examination at multiple levels of brain function changes with aging — from structural changes at the cellular, neurochemical, neuroanatomical, and neurophysiological levels on the one hand and behavioral, cognitive, and affective changes on the other, and the potential therapeutic and neurocognitive enhancement techniques that are currently available.

Mr. Haugan, Mr. Syndulko

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. Serafinides

278. Clinical Psychopharmacology Research. Discussion, two hours; laboratory, two hours. Prerequisites: experience in a psychiatric facility, involvement in psychiatric research, consent of instructor. Discussion of emerging and ongoing psychopharmacology research projects. Discussion of current case studies and ongoing psychopharmacological and psychopathological issues.

Mr. Forness

279A. Seminar: Human Behavioral Ecology. (Same as Anthropology M229A and Education M281A.) Lecture, one hour; discussion, three hours. Prerequisite: consent of instructor. Examination of predictive models from animal behavioral ecology used to study human diet and subsistence; selection patterns and territoriality; sharing and helping; reproduction and mortality. Comparison with other economic and ecological approaches in anthropology.

Mr. Blurton Jones

279B. Seminar: Reproduction, Families, and Parenting. (Same as Anthropology M229B and Education M281B.) Prerequisite: consent of instructor. Guided forum for graduate students to discuss and broaden their studies of human reproduction and child rearing from varied viewpoints. Representation and debate of theories, questions, and methods from social and biological sciences.

Mr. Blurton Jones

279C. Seminar: Selected Topics in Human Ethology. (Same as Anthropology M229C and Education M281C.) Lecture, one hour; discussion, three hours. Prerequisite: consent of instructor. Examination of appropriateness and contributions of using animal behavior methodology in the study of human behavior. Analysis: describing and recording behavior; causation; development, especially longitudinal studies; adaptation; historical evolution.

Mr. Blurton Jones

280. Women, Work, and Health. (Formerly numbered 280.) (Same as Anthropology M269P and Nursing M280.) 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. Lecture, one hour; laboratory, six to 10 hours. Prerequisite: consent of instructor. Supervised experience in a classroom working with exceptional children. Developmental and behavioral background furnished through three one-hour weekly lectures.

Ms. Richey

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 to tease apart the relative contributions of environmental and genetic factors in the transmission of schizophrenia and on studies of children at risk for schizophrenia.

Mr. Asarnow

250. Quantitative Analysis of Ethnographic Data. Prerequisite: graduate standing. Didactic and experiential training techniques and analysis of ethnographic data, including principles of psychological scaling and techniques of behavioral measurement as applied to ethnographic data and application of univariate and multivariate statistical methods for analysis of ethnographic data. Mr. Nihira


414. Emergency Treatment Attending Rounds (1 unit). Prerequisite: assignment to Emergency Treatment Unit, consent of instructor. Cases seen in the emergency room during the preceding night, reviewed by a consultant and the emergency treatment staff. Exploration of assessment techniques, treatment strategies, and contraindications of intervention, and alternate modes of treatment. Mr. Swanson

416. Treatment Planning Meetings (1 unit). Prerequisite: consent of instructor. Treatment and management of specific behavioral abnormalities. Emphasis on formulation of accurate diagnostic assessments and planning effective treatment programs utilizing the therapeutic milieu. Methods of the therapeutic milieu, behavior modification techniques, family therapy, group process, individual and dyadic treatment, etc. Mr. Swanson

424. Ward Milieu Meeting (1 unit). Prerequisite: consent of instructor. Milieu course meetings designed to explore experientially and didactically the multiple aspects of group process on a psychiatric inpatient unit. Mr. Frankel

425. Teaching Case Conference (1 unit). Prerequisite: consent of instructor. Review of diagnosis and treatment of the spectrum of disorders, with expert off-unit consultants. Mr. Frankel

426. Psychology Interns Psychosomatic Liaison Case Conference. Prerequisite: consent of instructor. Psychology interns case conference of psychosomatic aspects of physical illness. Cases discussed with regard to management issues, psychotherapy issues, methods of psychodiagnosis, countertransference, and relevant literature. In addition, participants receive individual supervision on a weekly basis. Mr. Wellisch

429. Child Outpatient Team (1 unit). Prerequisite: consent of instructor. Weekly team meetings to coordinate the clinical activities of the trainees in the Child Outpatient Department. Discussion of literature and theories related to selected cases. S/U grading. Mr. Cantwell

445. Family Therapy Seminar for Clinicians (2 units). Prerequisite: prior clinical responsibility and treatment experience with individuals or families, consent of instructor. Conceptual and practical issues of family development and treatment. Emphasis on structural family therapy. Prerequisite: one unit per month. Ms. Bevan

449. Supervision in Systematic Parent Training (2 units each, 50 minutes per session, 60 minutes discussion, one hour). Prerequisites: graduate standing, consent of instructor. Advanced clinical trainees learn behavioral techniques of assessment and treatment of parent-child problems. Lectures, case presentations, and workshops on the various skills necessary. Mr. Frankel

462A-462B-462C. School Intervention by Child Psychiatricians. Prerequisite: consent of instructor. Knowledge of children in schools through (1) field experience, (2) a didactic program, (3) group supervision. Each training session is a one-hour segment of the school group or individual consultation. Ms. Asarnow, Mr. Tanguay

471. Grand Rounds (No credit). Prerequisite: second-year resident in Child Service, child psychiatry fellow, or consent of instructor. Each month one second-year child psychiatry fellow presents a major clinical problem. Senior faculty discusses and comments. The presentation is expected to offer the resident literature and to assemble the critical elements of information on the case or problem at hand. Most sessions eligible for Continuing Medical Education credits.

M472A. Nursing Care of the Developmentally Disabled. (Same as Nursing M410A.) Lecture, one hour; discussion, one to two hours; laboratory, 10 hours minimum. Prerequisite: course M472A and/or 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 and 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. Prerequisites: course M472A 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)

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. Exploration and participation 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)

474. Research in Developmental Psychopathology (1 unit). Seminar, 90 minutes per month. Presentations of programmatic research in child psychiatry. Each session includes a faculty research presentation followed by comments from invited discussants, as well as general discussion. S/U grading. Ms. Asarnow, Mr. Tanguay

478. Clinical Genetics Rounds (No credit). Prerequisite: completion of course M478. Weekly clinic rounds on patients seen in the wards during the preceding week. House staff and others involved in clinical work may attend. Usually an in-depth discussion of the medical and genetic aspects of one or more disorders presented. Mr. Frankel

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. Ms. Crandall and the Staff

480. Analysis of Human Chromosome Studies (1 unit). Prerequisite: consent of instructor. Chromosome karyotypes prepared in the cytogenetics laboratory during the preceding week 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. Mr. Sparkes

481. Chromatography Review (No credit). Prerequisites: 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 techniques used. Mr. Cederbaum
482. Psychology Interns 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 masculinity-femininity characteristics of people. S/U grading.

Ms. Holroyd

485. Medical Genetics Seminar (No credit). Prerequisites: 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 special area related to genetics and may be from UCL or elsewhere. Discussion and questions from the audience encouraged.

Ms. Crandall and the Staff

596P. Individual Studies in Psychiatry (2 to 12 units). Prerequisite: consent of instructor and department chair, based on 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, B7-349 NPH. Directed individual research and study in psychiatry at the graduate level.

Mr. 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, divisions of experimental radiation biology and medical radiation physics, and the A. Frederick Rasmussen, Jr., Clinical Neutron Therapy Facility. Research and teaching facilities are available at both medical centers. The primary mission of the department is the management of patients who have cancer, although ionizing radiations also are used for preparing patients for bone marrow transplantation and for altering the immune system of patients with a range of illnesses. Knowledge of the disease in question, the comparative efficacy of radiation therapy and other methods, radiation biology and radiobiology, and the physical characteristics of varying radiations is essential.

Research interests range from clinical problems through cellular kinetics, radiation modifiers, radiation chemistry, molecular biology, immunology, and basic and applied physics. The educational programs serve medical, dental, and nursing students, and community and postgraduate physicians who are qualifying for certification in therapeutic radiology by the American Board of Radiology.

For further details on the Department of Radiation Oncology and a listing of the courses offered, see the Announcement of the UCLA School of Medicine.

Radiological Sciences

AR-259 Center for the Health Sciences, (213) 825-7811

Professors
Zoran B. Barbaric, M.D. (Diagnostic Radiology), Chair
Jorge R. Barrio, Ph.D. (Nuclear Medicine)
Edward J. Hoffman, Ph.D., in Residence (Nuclear Medicine, Biophysics)
Han K. Huang, D.Sc. (Medical Imaging)
Biomedical Physics Program Director
Sung-Cheng Huang, D.Sc. (Nuclear Medicine, Biophysics)
Hooshang Kangarloo, M.D. (Diagnostic Radiology)
Amos Norman, Ph.D. (Medical Imaging)
Michael E. Phelps, Ph.D. (Nuclear Medicine and Jennifer Jones Simon Professor of Biophysics)
James B. Smathers, Ph.D. (Radiation Oncology)
Milo M. Webber, M.D., LL.B. (Nuclear Medicine)
H. Rodney Withers, M.D., D.S.C. (Radiation Oncology)
Leslie R. Bennett, M.D., Emeritus
Moses A. Greenfield, Ph.D., Emeritus
Norman S. MacDonald, Ph.D., Emeritus
Gabriel H. Wilson, M.D., Emeritus

Associate Professors
James D. Collins, M.D. (Diagnostic Radiology)
James Winter, M.D., in Residence (Diagnostic Radiology)

Assistant Professors
Denis B. Buxton, Ph.D., in Residence (Nuclear Medicine)
Stephen L. Gickman, Ph.D., in Residence (Biophysics, Nuclear Medicine)
Juan F. Lois, M.D., in Residence (Diagnostic Radiology)
Robert B. Lufkin, M.D., in Residence (Diagnostic Radiology)
Nicholas J. Mankovich, Ph.D., in Residence (Medical Imaging)

Lecturers
David O. Findley, Ph.D. (Diagnostic Radiology)
Charles L. Moeller (Diagnostic Radiology)
Marlin C. Wexler, M.S. (Radiation Oncology)

Adjunct Professors
J. Duncan Craven, M.D. (Diagnostic Radiology)
L. Stephen Graham, Ph.D. (Nuclear Medicine)

Adjunct Associate Professors
Martin W. Herman, Ph.D. (Diagnostic Radiology)
Lawrence E. Williams, Ph.D. (Medical Imaging)

Adjunct Assistant Professors
Robert F. Ackermann, Ph.D. (Biophysics)
Carolyn Kimme-Smith, Ph.D. (Medical Imaging)
Richard L. LaFontaine, Ph.D. (Diagnostic Radiology)
Lee T. Myers, Ph.D. (Radiation Oncology)
Peter J. Rosemark, Ph.D. (Radiation Oncology)
James S. Whiting, Ph.D. (Medical Imaging)

Scope and Objectives

The biomedical physics graduate program in the Department of Radiological Sciences offers training in four specialties: 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 Picture Archiving and Communication System (PACS), the positron emission tomography (PET) scanners, the stereotactic gamma irradiator, and three VAX computers with 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 mathematics (through differential equations), equivalent to Mathematics 31A, 31B, 32A, 32B, 33A, 33B, (3) one year of college chemistry and one quarter of biochemistry, (4) one quarter in each anatomy and physiology, (5) at least one course in computer science, and (6) one course in statistics. Deficiencies in the above courses must be removed prior to advancement to candidacy.

Scores from the Graduate Record Examination (GRE) General Test, taken in the last three years, should be sent to the department. Three
If you do not complete the dissertation within four years after taking the written qualifying examination, you may be required to take it again.

**Final Oral Examination**

The final oral examination, or dissertation defense, is required.

**Upper Division Course**

199. Directed Individual Study or Research for Undergraduate Students (2 to 4 units). Prerequisite: consent of grade advisor (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, statistics 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. Nuclear Medicine Instrumentation. Lecture, one hour; laboratory, three hours. Prerequisite: course 200A. Introduction to nuclear medicine instrumentation, including well ionization chambers, probe and well scintillation detectors, scintillation cameras, and single photon emission computed tomography.

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, 207, and 208A-208B, or consent of instructor. (F, W, Sp)


Mr. Smathers (W)

204. Introductory Radiation Biology. 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. H.K. Huang, Mr. Moler (F)

206. Advanced Instrumentation: MRI, CT, and DR. Prerequisites: courses 204A, 204B, 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. Glickman, Mr. H.K. Huang (Sp)

207. Dosimetry and Health Physics. Lecture, three hours. Prerequisite: consent of instructor. The dosimetry of ionizing radiation, concepts in radiation protection, the recommendation of the national council on radiation protection and measurements, the maximum permissible dose levels. Shielding calculations. The layout and design of radiographic installations.

Mr. Herman, Mr. Norman (F)

208A-208B. Medical Physics Laboratory. Prerequisites: courses 203, 205. Techniques for measuring ionizing and nonionizing radiation, applications to problems in radiobiological sciences.

Mr. 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 the digital technology used 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. Mankovich (F)


Mr. H.K. 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. Designed to teach graduate 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.

Ms. Kimmie-Smith (W)

212. Chemical Basis of Positron Emission Tomography (PET). Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. Introduction to biochemical processes and the application of radioisotopes to study metabolism noninvasively by positron emission tomography (PET). Validation of kinetic models to derive quantitative information from PET. Introduction to clinical and experimental application of PET.

Mr. Buxton (F)

213. Quantitative Autoradiography. Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. Application of quantitative autoradiography for estimating brain and heart functions. Topics include 2-deoxyglucose method for metabolic rate; iodantpyrene method for blood flow; amino acid method for protein synthesis; quantitative receptor autoradiography; neuroanatomy and neurophysiology of autoradiography and PET scan interpretation.

Mr. Ackermann (Sp)

M230. Computed Tomography: Theory and Application. (Same as Biomathematics 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 biomechanics. 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)

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. Periodic contributions made by visiting scientists. Discussion of research in progress.

Mr. Norman (W, 260A; Sp, 260B)


(F, W, Sp)


Mr. Barrio (Sp)
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. Students are now enrolled in the new Doctor of Nursing Science degree program.

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 Factor Building, (213) 825-7181

Professors
Charles E. Lewis, M.D., Sc.D.
Ada M. Lindsey, R.N., Ph.D., F.A.A.N., Dean
Sharon J. Reeder, R.N., Ph.D., F.A.A.N.
Maria W. Saraydarian, Ph.D.
Donna L. Vreedeve, Ph.D.
Lulu Wolf Hasselplug, R.N., M.P.H., Sc.D., F.A.A.N., Emeritus Dean
Dorothy E. Johnson, R.N., M.P.H., Emeritus
Harriet C. Moede, R.N., M.A., Emeritus

Ada M. Lindsey, R.N., Ph.D., F.A.A.N., Dean
Jean E. Davis-Sharts, R.N., Ph.D.

Associate Professors
Betty L. Chang, R.N., D.N.Sc.
Kathleen A. Dracup, R.N., D.N.Sc., F.A.A.N.
Jacquelyn H. Flaskerud, R.N., Ph.D., F.A.A.N.
Phyllis A. Putnam, R.N., Ph.D.
Gwen M. van Servellen, R.N., Ph.D., F.A.A.N.
Donna F. Ver Steeg, R.N., Ph.D., F.A.A.N.
Agnes A. O'Leary, R.N., M.P.H., Emeritus

Assistant Professors
Loretta M. Brockhead, R.N., Ed.D.
Olive Y. Burner, R.N., Ph.D.
Jean E. Davis-Sharts, R.N., Ph.D.
Anayas K. Derdiarian, R.N., D.N.Sc.
Deborah Konik-Daft, R.N., Ph.D., F.A.A.N.
Susan M. Ludington, R.N., Ph.D.
Magdeline R. McBride, R.N., Ph.D.
Adeline M. Neumann, R.N., Ph.D.
Rose M. Orlum, R.N., D.N.Sc.
Anna K. Omey, R.N., D.N.Sc.
Margaret A. Topl, R.N., Ph.D.
Barbara A. Davis, R.N., Ed.D., F.A.A.N., Emeritus

Lecturers
Vicky R. Bowden, R.N., M.N.Sc.
Nancy Jo Bush, R.N., M.N.
Diane F. Cooper, R.N., M.N.
Mary M. Gottesman, R.N., M.S.
Mary E. Grech, R.N., M.S.
Roxana R. Huebscher, R.N., M.S.N.
Cheryl M. Killion, R.N., Ph.D.
H. Sue Mendelsohn, R.N., M.N.
Barbara J. Muelle, R.N., M.P.H.
Esther F. Seeley, R.N., M.N.
Irene M. Stuart, R.N., M.N.
Patricia A. Ticken, R.N., M.S.N.
Rose A. Vasta, R.N., Ph.D.
Inese L. Verzemnieks, R.N., M.S.
Mickie D. Welsh, R.N., M.S.N.

Adjunct Associate Professors
Mary A. Lewis, R.N., Dr.P.H.
Frances M. Wiley, R.N., M.N.

Assistant Clinical Professors
Genevieve A. Bahr, R.N., M.N.
Evelyn L. Gonzales, R.N., M.S.N.
Mirta E. Granville, R.N., M.S.N.
Linda P. Sarna, R.N., M.N.

The UCLA School of Nursing gives direction to interested potential applicants through monthly open counseling sessions. If you are interested in the academic programs offered, you are urged to attend a counseling session or request a copy of the Announcement of the UCLA School of Nursing by writing to the Student Affairs Office, School of Nursing, 2-200 Factor Building, UCLA, Los Angeles, CA 90024-1702 (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. In 1966 the Regents approved the Doctor of Nursing Science degree program; students were admitted into the program in Fall Quarter 1987.

The baccalaureate program has been continuously approved by the California Board of Registered Nursing since 1949. The School of Nursing became an agency member of the Department of Baccalaureate and Higher Degree Programs of the National League for Nursing in 1952. The Accrediting Service of the National League for Nursing has granted full accreditation to the programs since 1954.

Degrees Offered
Bachelor of Science in Nursing (B.S.)
Master of Nursing (M.N.)
Doctor of Nursing Science (D.N.Sc.)

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.

Admission
The School of Nursing strives to attain a culturally and ethnically diverse student population. Admission, beginning in the junior year, is based on scholarship, diverse life experiences, and disadvantage. You must have completed a minimum of 84 quarter units with an overall grade-point average of 2.8 or better and have three letters of recommendation. Diverse life experiences, including previous employment, volunteer work, and community service which reflect leadership, responsibility, multicultural involvement, multilingual abilities, and other unusual skills and knowledge are evaluated. Consideration is 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 UC 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 Factor Building, UCLA, Los Angeles, CA 90024-1702.

You can find a discussion of the prenursing curriculum and prehealth advising in "Preparing for a Professional School" in Chapter 5.

Degree Requirements
The Bachelor of Science degree 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 be 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 master’s program is currently being revised. Students admitted for the 1987-88 academic year and thereafter are advised to check with the school for descriptions of such changes.

In the Master of Nursing (M.N.) degree program, students contribute to improving nursing care through the application of advanced knowledge in nursing research, theory, and clinical practice. Throughout the program, the structure for nurse-client relationships and research is provided by the nursing process. This is a 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**

You must provide evidence of the following:

1. Graduation from a recognized college or university having a National League for Nursing-accredited baccalaureate nursing program satisfactory to the School of Nursing and to the Graduate Division. 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. 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, to be completed before entering the school.

4. An upper division nursing research course, taken at an NLN-accredited institution and equivalent to Nursing 193, to be completed before entering the school.

5. Professional and/or academic competence in nursing attested through three letters of recommendation.

6. A scholarship record satisfactory to the Dean.

7. A minimum score of 550 on the Test of English as a Foreign Language (TOEFL) for applicants from foreign countries in which English is not the primary language and medium of instruction, whether licensed registered nurses in the United States or not (scores must be submitted prior to consideration for admission). Refer to “Proficiency in English” under “Graduate Admission” in Chapter 3 for further information.

8. A passing score on the Commission on Graduates of Foreign Nursing Schools (CGFNS) examination for international applicants who are not licensed nurses in the United States or not (scores must be submitted prior to consideration for admission).

In addition to the Graduate Division application, you must also file the Application for Admission to the School of Nursing, available through the Student Affairs Office, School of Nursing, 2-200 Factor Building, UCL, Los Angeles, CA 90024-1702. Application deadlines are June 1 for Fall Quarter and December 31 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).


4. Clinical practice (Nursing 401, 402, 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, pediatric 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 clientele whose health problems may be classified according to biological systems, pathology, acuity levels, medical treatment modalities, physiological 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/chronic care settings (medical and/or surgical) and in cardiopulmonary 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 within areas of acute chronic illness (e.g., critical care, trauma nursing, diabetes, neurological care, rehabilitation) and 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.

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 John E. Anderson 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, 410, 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 care settings, nursing homes, and 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 consultees 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 192, 204, one theory course, one cultural diversity course, 405, 424A, 440A-440B, 442.

Ethnic Mental Health option requires Nursing 192, 204, one theory course, 260, 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.

Doctor of Nursing Science Degree

The Doctor of Nursing Science (D.N.Sc.) degree program is research oriented with a focus on clinical nursing research. The goal is the development of scholars who, through the conduct of original research and the generation of theory, will build the knowledge base for professional practice. The curriculum allows students to obtain the theoretical and scientific knowledge necessary for scholarly pursuit in nursing.

Admission

Priority is given to graduates of accredited master's degree programs in nursing. Individuals admitted to doctoral study with a bachelor's degree in nursing and a master's degree in a non-nursing field are required to make up clinical specialty deficiencies by taking clinical courses in one of the current master's clinical specialty programs. Such courses may be taken concurrently with doctoral courses. Individuals admitted to doctoral study with a bachelor's degree in nursing are required to complete a program of master's courses in nursing at UCLA as a prerequisite to entry into doctoral courses. Applications are reviewed on an individual basis by the doctoral program committee. Applicants whose application materials indicate a high potential for success in the doctoral program are interviewed. Preference is given to applicants who demonstrate (1) capacity for original scholarship and nursing research as evidenced by prior publications, (2) consistent research objectives and career goals, (3) research objectives congruent with those of the faculty in the School of Nursing, and (4) scholarly verbal and written communication skills.

You must provide evidence of the following:

1. A Master of Nursing degree; a Bachelor of Science degree in Nursing and a master's degree in a non-nursing field; or a Bachelor of Science degree in Nursing. Degrees must be from a National League for Nursing-accredited program satisfactory to the School of Nursing and to the Graduate Division.

2. A scholarship record satisfactory to the Graduate Division and to the School of Nursing, with a minimum grade-point average of 3.5.

3. A combined verbal, quantitative, and analytic score of at least 1,500 on the Graduate Record Examination (GRE), taken within the past five years.

4. An upper division statistics course with content equivalent to Public Health 100A, 100D, or Biomathematics 170A.

5. A graduate research in nursing course with content equivalent to Nursing 203.

6. A graduate nursing theory course with content equivalent to Nursing 204.

7. A minimum score of 550 on the Test of English as a Foreign Language (TOEFL) for applicants from foreign countries in which English is not the primary language and medium of instruction (scores must be submitted prior to consideration for admission). Refer to "Proficiency in English" under "Graduate Admission" in Chapter 3 for further information.

8. A passing score on the nursing and English portions of the Commission on Graduates of Foreign Nursing Schools (CGFNS) examination for international applicants who are not licensed as registered nurses in the United States, prior to consideration for admission.

9. Status as a licensed registered nurse; prior to entry into any clinical practicum, evidence of current licensure as a registered nurse in the State of California is mandatory.

10. Four letters of reference affirming your potential for scholarly, investigative, and creative endeavors in nursing.

11. Examples of scholarly papers and/or creative works.

12. A statement of educational objectives, specific focus of research, and program and career goals.

13. Curriculum vitae.

In addition to the Graduate Division application, you must also file the Application for Admission to the School of Nursing, available through the Student Affairs Office, School of Nursing, 2-200 Factor Building, UCLA, Los Angeles, CA 90024-1702. Application deadlines for Fall Quarter are December 31 (preferred) and February 1 (final). For information on admission to graduate standing, see Chapter 3.

Areas of Study

Students in the doctoral program focus their study in one of three areas: (1) sociocultural diversity — formulation, investigation, and evaluation of social and cultural similarities and differences that influence the perceptions of health and illness, the treatment of illness, and the utilization of health services; (2) psychophysical environment — formulation, analysis, and investigation of the effects of the psychological and physical environments (both internal and external) on health/illness states, cooperation with treatment regimens, and on preventing hospitalization and rehospitalization; (3) health/illness continuum — formulation, analysis, and evaluation of measures to enhance the patient's ability to promote, maintain, or regain health states and to combat illness states.

Degree Requirements

You must meet the University minimum standards for doctoral degrees. School of Nursing requirements are as follows:

1. Completion of core and cognate courses required for your area of focus. Cognate courses are to be selected from an approved list, with consent of the faculty adviser and review by the doctoral program committee.

2. Successful completion of a written qualifying examination and the University Oral Qualifying Examination.


Course Requirements

Core Courses

The following core courses are required of all students in the program:

1. Nursing science (Nursing 206A, 206B).


3. One statistics sequence (Public Health 206A-206B, or Psychology 252 and 253, or Sociology 210A-210B and 210C).

4. One major area of study course (Nursing 226 or 227 or 228).

Cognate Courses

A minimum of six cognate courses (24 units) relevant to your major area of study is required and must be selected from an approved list available in the Student Affairs Office, 2-200 Factor Building. In the sociocultural diversity area, you take courses in cultural anthropology and sociology. In the psychophysical environment area, courses in architecture and psychology are required. In the health/illness continuum area, you select courses in physiology and public health.

Qualifying Examinations

The written qualifying examination must be taken after completion of the basic core courses. The examination evaluates three areas of knowledge: the basic concepts of nursing science, nursing research methods and analysis, and the basic concepts of your selected area of study. If you do not pass the examination, you may be guided into additional learning experiences and then permitted to retake the examination, or you may be advised to discontinue the doctoral program.

The University Oral Qualifying Examination, taken after completing the course requirements, evaluates your dissertation proposal. You are responsible for obtaining the consent of five or more faculty members to serve on your doctoral committee.
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 surgical interventions. Ms. Grech (five weeks)

120D. 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 patient undergoing surgical interventions. Ms. Vasta (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 content related to the nursing care of individuals, groups, or communities. Ms. Vasta (five weeks)

120F. 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 community health concepts to nursing care in public health agencies. Ms. Mendelson (five weeks)

M158. Health in Culture and Society. (Same as Anthropology M168.) Prerequisite: upper division coursework in Anthropology required. Ms. Welsh (five weeks)

188. Seminar in Physiology (2 units). Prerequisite: course M108 or equivalent. Seminar based on selected topics in physiology based on recent monographs, review articles, and original research papers. Emphasis on techniques for control of variables, data analysis, and interpretation of results. Analysis in depth of the interrelationship 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. Chang (five weeks)

190A. Selected Area of Clinical Concentration (6 units). Lecture, two hours; laboratory, 20 hours. Prerequisites: courses 101, 104A, 104B, 120A through 120F. Beginning concentration in a clinical area of student's choice. Ms. Reeder (one year)

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. Ms. Vredevoe (one year)
206A. Nursing Theory Development: Issues and Methods. Lecture, two hours; seminar, two hours. Issues and methods of developing nursing theories and models, including the characteristics, concepts, and function of theories and models, and rationale for theory development in nursing. In Progress grading (credit to be given only on completion of course 206B). Ms. Flaskerud

206B. Nursing Theory Development: Application and Integration, Lecture, two hours; seminar, two hours. Prerequisites: courses 203, 206A. Issues involved in application and integration of nursing theory in practice, education, administration, and research, including the characteristics, concepts, and function of nursing theories and models in testing nursing theories. Ms. Flaskerud

207. Research in Nursing: Measurement of Clinical Variables. Lecture, two hours; discussion, two hours. Prerequisites: courses 204, and 206A or 205B or equivalent. Analysis of methods of measurement of physiological and psychosocial variables relevant to clinical nursing research, with emphasis on the purposes, underlying assumptions, strengths, and limitations of measurement techniques. Analysis of techniques to develop reliability, validity, sensitivity of measurement instruments. Ms. Vredevoe

208. Research in Nursing: Measurement of Outcomes. Discussion, three hours; field application, six hours. Prerequisites: course 207. Measurement theories, including topics related to scaling and tool development as they apply to outcomes. Emphasis on the opportunity to develop knowledge and skills through course content and individualized direct involvement in a clinical research project. Ms. Dracup

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 topics 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 topics 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 the reproductive years 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-Griffin, Ms. Reeder

217. Medical Anthropology. (Same as Anthropology M265.) Lecture, three hours. Prerequisite: course M156 or consent of instructor. Any of the topics covered in course M156 are selected each quarter for intensive literature review and independent projects. May be repeated for credit.

220A. Essentials of Nursing Management. Lecture, two hours; discussion, one hour; laboratory, three hours. A study of management theories and their application to administration of nursing services in health care facilities. Emphasis on the management functions of planning, organizing, staffing, leading, and controlling. Use of the group process, lecture, and discussion. Ms. Burner

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 child development; nursing examined through the critique of pertinent literature.

224. Problems in Patient Motivation. An exploration of the phenomena which may occur when a person assumes the role of a sick patient.


226. Psychophysical Environmental Influences on Health-Illness Behaviors and Health Outcomes. Lecture, two hours; discussion, two hours. Prerequisites: course 206A. Study of theory and research on stress and coping, adverse physical aspects of the environment, personal space and privacy, territoriality and crowding, and perception and cognition, with emphasis on health outcomes and nursing interventions. Ms. Dracup

227. Nursing's Role in the Health-Illness Continuum. Lecture, three hours; discussion, one hour. Prerequisites: courses 206A, 206B. Application of theory/research to health-illness-related phenomena of behaviors occurring as health status changes, self-definition as healthy or ill, regimen compliance, the sick role, and societal influences on sick-role. Ms. Reeder

228. Sociocultural Variations in Health and Illness. Lecture, two hours; discussion, two hours. Prerequisites: courses 206A, 206B. The relationship of sociocultural factors to health systems and the diagnosis and treatment of illness, ethnomedical systems, and the integration of sociocultural variables into clinical nursing research. Ms. Flaskerud

234. Issues in Health Care. Prerequisite: consent of instructor. A comprehensive course dealing with present and future views of health care and the roles of health team members as viewed by society and individuals. Analysis of the selection of a researchable problem and culminating in the preparation of an individual research project. Ms. Ver Steeg

251. Nursing Care to Ethnic People of Color in the Pacific. Seminar, two hours; laboratory, six to eight hours. Prerequisites: courses 206A, 206B, 208, research design course and statistics sequence in cognate area. Seminars to assist students throughout the execution of their dissertations, beginning with the selection of a researchable problem and culminating in the communication and dissemination of their research. S/U grading.

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 identification of nursing problems. Discussion and evaluation of major modes of interventional practice. Ms. Dardarian

402. Primary Diagnosis for Nurse Practitioners. (Formerly numbered 402B.) Lecture, four hours; laboratory, four hours; individual study, four hours. Prerequisites: courses 122, or consent of instructor. Emphasis on the nurse practitioner specialty area of the primary ambulatory care section, consent of instructor. Collection, analysis, and reporting of data used by the nurse practitioner in the identification of patient problems. Principles and practice of office and clinic examination, laboratory, and other diagnostic methodology. Pathology and pathophysicsology integrated in a systems approach. 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 emphasis on the study and application of group theory and practice relevant to nursing. Students gain in-depth knowledge of group dynamics and group therapy, know how to apply the above theory to any area of nursing, develop a beginning ability to function as both leader and participant in the area of group dynamics and group therapy, and develop the ability to evaluate the effectiveness of group therapy.

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
412C. Clinical Specialization in Nursing Care of Children (8 units). Discussion, three hours; laboratory, 20 to 30 hours. Prerequisite: course 421B. Required for the pediatric clinical nursing specialty. 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.

422A. Clinical Maternity Nursing. Discussion, three hours; laboratory, 16 to 20 hours. Prerequisites: one theory course, consent of instructor. Emphasis on developing skill in the utilization of the assessment, intervention, and evaluation phases of the nursing process, with special emphasis on the fetal and newborn family system. Examination of family-centered orientations and theoretical models as they relate to the development of nursing practice and care giving.

422B. Advanced Clinical Maternity Nursing (8 units). Theory, 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 activities within a developmental continuum. Further development of clinical expertise in areas of maternal-child, gynecologic, and obstetric patient teaching, counseling skills, and collegial relations.

422C. Clinical Specialization in 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 activities within a developmental continuum. Further development of clinical expertise in areas of maternal-child, gynecologic, and obstetric patient teaching, counseling skills, and collegial relations.

423A. Clinical Medical-Surgical Nursing (8 units). Lecture, four 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. Emphasis on the coordination of care, patient and family education, counseling, and consultation.

423B. Advanced Clinical Medical-Surgical Nursing (2 to 8 units). Lecture, two hours; seminar, 90 minutes; laboratory, 15 to 20 hours. Prerequisites: course 423A; for nonmedical-surgical specialization students: consent of instructor (may enroll for two units). Continued refinement of the nursing process and assessment, management, and evaluation skills with a selected patient population. Emphasis on selection, utilization, and evaluation of interventions for nursing problems of medical-surgical patients. Students select a specific patient population for concentration in the course: (1) cardiology, (2) pulmonology, (2) general medical-surgical, (3) oncology.

423C. Clinical Specialization in Medical-Surgical Nursing (2 to 8 units). Lecture, two hours; seminar, 90 minutes; laboratory, 15 to 20 hours. Prerequisites: course 204; for nonmedical-surgical specialization students: consent of instructor (may enroll for two units). Required for the medical-surgical specialization. Examination of the clinical nurse specialist role with a specific patient population and/or within a particular practice setting. Emphasis on the functional aspects of the role: practitioner, educator, consultant, researcher. Students select a specific area of concentration from: (1) cardiology, (2) pulmonology, (3) oncology.

424A. Clinical Psychiatric Nursing. Discussion, three hours; laboratory, eight hours. Prerequisites: one theory course, consent of instructor. Focus on the process of psychotherapy, with specific emphasis on the knowledge and skills of assessment and diagnosis. Content includes theories and techniques of psychotherapy, skills necessary for the interventions of these problems, and patient teaching and counseling skills. Emphasis on coordination of care, patient and family education, counseling, and collegial relations.

424B. Advanced Clinical Psychiatric Nursing (8 units). Discussion, three hours; laboratory, 20 hours. Prerequisites: course 424A, consent of instructor. Reinforcement and extension of the process of psychotherapy and the emphasis on the psychiatric specialization.

425A. Advanced Clinical Gerontological Nursing. (Same as course 425A prior to Winter Quarter 1986.) Lecture, discussion, one hour; laboratory, eight hours. Prerequisite: course 425A, consent of instructor. Examination of the role of the nurse in the care of older adults, their families, and their caregivers. Emphasis on the identification and use of multiple variables influencing the older adult's mental and physical functioning. In Progress grading.

425B. Advanced Clinical Gerontological Nursing (8 units). Seminar, discussion, one hour; laboratory, 12 hours minimum. Prerequisite: course 425A. Extension and demonstration of competencies in planning and implementation of nursing programs in care of older adults and their caregivers. In Progress grading.

429A-429B. Preceptorship in Primary Ambulatory Care Nursing (8 units each). Lecture, discussion, two hours; laboratory, 24 hours minimum. Prerequisites: courses 429A-429B, consent of instructor. Required of students who wish 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 knowledge, skills, and attitudes necessary for the role of the nurse practitioner. In Progress grading.

434A-440B. Clinical Specialization in Community Mental Health Nursing (8 units). Discussion, three hours; laboratory, 10 hours. Prerequisites: courses 434A-440B, consent of instructor. Focus on the process of psychotherapy, with specific emphasis on the knowledge and skills of assessment and diagnosis. Content includes theories and techniques of psychotherapy. Emphasis on coordination of care, patient and family education, counseling, and consultation. In Progress grading.

435A. Community Mental Health Consultation. Discussion, three hours; laboratory, 20 to 30 hours. Prerequisites: courses 434A-440B, consent of instructor. Emphasis on health advocacy, prevention of mental illness, and planned change concepts. In Progress grading.

440A-440B. Clinical Specialization in Community Mental Health Nursing (8 units). Discussion, three hours; laboratory, 10 hours. Prerequisites: courses 434A-440B, consent of instructor. Focus on the process of psychotherapy, with specific emphasis on the knowledge and skills of assessment and diagnosis. Content includes theories and techniques of psychotherapy. Emphasis on coordination of care, patient and family education, counseling, and consultation. In Progress grading.

441A-441B. Clinical Specialization in Community Mental Health Nursing (8 units). Discussion, three hours; laboratory, 10 hours. Prerequisites: courses 441A-441B, consent of instructor. Emphasis on health advocacy, prevention of mental illness, and planned change concepts. In Progress grading.

442. Liaison Nursing. Lecture, discussion, three hours; laboratory, 10 hours. Prerequisites: courses 192, 444A. Behavioral and psychological aspects of selected medical illnesses and chronic conditions as related to an adaptation framework, with emphasis on the interaction of healthcare providers and clients in general health care settings. Examination of physiological and psychological processes related to selected medical illnesses; design and implementation of appropriate interventions.
Functional Preparation

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.

473. Generic Consultation (4 to 8 units). Discussion, three hours; laboratory, 10 to 20 hours. Prerequisites: introductory and intermediate clinical practicums, 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. Burner

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.

599. Research for and Preparation of D.N.Sc. Dissertation (2 to 8 units). Individualized faculty supervision of doctoral dissertation research by student's chair. May be repeated for credit, but only eight units may be applied toward the doctoral 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.
Emeritus Professors
Roslyn B. Alfin-Slater, Ph.D.
Ruth Boak, Ph.D., M.D.
Lester Breslow, M.D., M.P.H.
John M. Chapman, M.D., M.P.H.
Witlrid J. Dixon, Ph.D.
Olive Jean Dunn, Ph.D.
Carl E. Hopkins, Ph.D., M.P.H.
Raymond J. Jessen, Ph.D.
Edward B. Migliore, Ph.D.
Alfred H. Katz, D.S.W., M.A.
Ralph W. McKee, Ph.D.
James F. Mead, Ph.D.
Edward L. Rada, Ph.D. (Environmental Health Sciences)
Milton L. Roemer, M.D., M.P.H.
John F. Schacher, Ph.D.
Max H. Schoen, D.D.S., Dr.P.H.
Frank F. Tallman, M.D.

Associate Professors
Carol S. Anshensel, Ph.D., Acting (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 Crelin, Ph.D., M.P.H. (Health Services)
William G. Cumberland, Ph.D. (Biostatistics)
Jimmi R. Davis, Ph.D. (Environmental and Occupational Health Sciences)
Curtis D. Eckert, Ph.D. (Nutritional Sciences)
John R. Friones, Ph.D. (Environmental and Occupational Health Sciences)
Michael S. Goldstein, Ph.D. (Behavioral and Health Education)
Sander Greenfield, Dr.P.H. (Behavioral and Occupational Health Sciences)
Sander Greenfield, Dr.P.H. (Behavioral and Occupational Health Sciences)
Sander Greenfield, Dr. P.H. (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 Alcaisay, Ph.D. (Behavioral Sciences and Health Education)
C. Elizabeth Castro, Ph.D. (Nutritional Sciences)
Virginia F. Fick, Ph.D. (Biostatistics)
Robert W. Haile, Dr.P.H. (Epidemiology)
Michael R. Jones, Ph.D. (Behavioral Sciences and Health Education)
Sarah E. Johnston, Ph.D. (Health Services)
Douglas M. Mackay, Ph.D. (Environmental and Occupational Health Sciences)
Glenn A. Melnick, Ph.D. (Health Services)
Donald E. Morisky, Sc.D., M.S.P.H. (Health Services)
Gary A. Richwald, M.D., M.P.H. (Population and Family Health)
Michael G. Ross, M.D., M.P.H., in Residence
Shoshanna Soffaer, Dr.P.H. (Health Services)
Jeremy M.G. Taylor, Ph.D., in Residence (Biostatistics)
Robert O. Valdez, Ph.D.

Professors
Abdelmonem A. Alfin, Ph.D. (Biostatistics), Dean
Lawrence R. Ash, Ph.D. (Infectious and Tropical Diseases)
Allan Ralph Barr, Sc.D. (Infectious and Tropical Diseases)
Emil Berkano, Ph.D. (Behavioral Sciences and Health Education)
Judith Blake, Ph.D. (Fred H. Bixby Professor of Population Policy)
Linda B. Bourque, Ph.D. (Population and Family Health)
Robert H. Brook, M.D., Sc.D. (Health Services)
Poirier C. Chang, Ph.D. (Biostatistics)
Virginia A. Clark, Ph.D. (Biostatistics)
Roger Deetels, M.D., M.S. (Epidemiology)
John Edmond, M.D. (Nutritional Sciences)
Robert M. Elashoff, Ph.D. (Biostatistics)
Jonathan E. Fielding, M.D., M.P.H. (Health Services)
Ralph Frank, D.V.M., Ph.D., M.P.H. (Epidemiology)
William H. Glaze, Ph.D. (Behavioral Sciences and Health Education)
William Shonick, Ph.D. (Behavioral Sciences and Health Education)

Lecturers
Emily Abel, Ph.D.
Omar Afifi, M.D.
Nancy H. Allen, M.P.H. (Behavioral Sciences and Health Education)
Linda M. Blanchard, M.P.H.
Stewart N. Blumenfeld, Dr.P.H.
Michael L. Bobrow, B.Arch.
Heleine G. Brown, B.S.
Wen-Pin Chang, M.D., M.P.H., M.D., Sc.
Roger A. Clemens, Dr.P.H.
Anne H. Coulson
Warren Day, M.S., M.A.
Patricia E. Engle, Ph.D.
Marsha A. Epstein, M.D., M.P.H.
Charles M. Ewell, Jr., Ph.D.
Paul M. Foss, M.D., M.P.H.
Jay W. Friedman, D.D.S., M.D., M.P.H.
Kenneth Friedman, M.S., M.A.
Emil Gauvreau, M.P.H.
Paul R. Ginsburg, Ph.D.
Robert D. Girard, LL.B.
Frank C. Glover, M.D., M.P.H.
Lois Green, M.P.H.
Pensiri Guptavand, M.D., Ph.D.
Joseph Hayefy, M.P.H.
Eunjung Hwang, M.D., M.P.H.
Patrick Hassak, M.D., M.P.H.
Arthur C. Hollister, Jr., M.D., M.P.H.
Sandra J. James, Ph.D.
Patrice Jelliffe, R.N., M.P.H.
Olive G. Johnson, B.A.
Marine Jozan, M.D., Dr.P.H.
Stephen W. Kahn, D., Env.
Joel W. Koven, Dr.P.H.
Kenneth E. Lee, M.S.P.H.
Martin L. Lee, Ph.D.
Harry M. Lieberman, M.D., M.P.H.
Robert G. Lindberg, Ph.D.
Ronald L. Linder, Ed.D. (Behavioral Sciences and Health Education)
Lawrence S. Linn, Ph.D.
J. Robert List, L.L.B.
Ping-yu Liu, Ph.D.
Eric J. McLaughlin, Ph.D. (Health Services)
Paul M. Merrifield, Ph.D. (Environmental and Occupational Health Sciences)
Jean L. Mickey, Ph.D. (Biostatistics)
Norma J. Murphy, M.S. (Nutritional Sciences), Associate Field Program Supervisor
Audrey J. Naylor, M.D.
Mano Panaque, B.A. (Nutritional Sciences; Environmental and Occupational Health Sciences)
Sondra T. Perdue, Dr.P.H. (Biostatistics)
Donald W. Polhemus, M.D., M.P.H.
Stanton J. Price, Dr.P.H.
George W. Prichard, J.D., M.D., M.P.H.
Robert F. Richards, M.P.H., M.A. (Behavioral Sciences and Health Education), Field Program Supervisor
Stephen J. Robinson, M.D., M.P.H.
Hossein Romizia, M.D.
Robert R. Rygg, B.S. (Health Services)
Frederick T. Sahl, M.B.B.S., D.T.M.&H., Royal College of Physicians and Surgeons, M.P.H.
Rafatollah Salimpour, M.D.
Simone A. Sayre, M.D., M.S.P.H.
Pamela Viele Bynes, M.P.H. (Behavioral Sciences and Health Education)
Stephen L. Volla, M.P.H.
Lawrence G. Wayne, Ph.D. (Epidemiology)
Walter Wegst, Ph.D.
Paul F. Wehrle, M.D. (Epidemiology)
Florence C. McGuinness, M.S. Emeritus

School of Public Health
16-071 Public Health, (213) 825-5516
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, 16-071 Public Health, UCLA, Los Angeles, CA 90024-1772. Both the School of Public Health Application for Admission to Graduate Status and the UCLA Application for Graduate Admission, Fellowship, and Financial Aid must be completed. Three letters of recommendation are required, two from former professors and one from an employer (if not employed, 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 15, 1988, for Fall Quarter 1988 admission. Applications received after the deadline have considerably reduced opportunities for admission, financial aid, and housing.

Applicants must meet the University minimum requirement of an acceptable bachelor's degree with a B (3.0) average in upper division coursework and/or prior graduate study. Exceptionally qualified applicants may be considered on an individual basis. 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), Dental Admission Test (DAT), or Graduate Management Admission Test (GMAT), which may be accepted in lieu of the GRE by some divisions under certain circumstances. (Note: The Nutritional Sciences and Epidemiology Divisions require GRE scores. MCAT or DAT scores are accepted only for applicants already holding M.D. or D.D.S. degrees; GMAT scores are accepted only for applicants to the joint M.B.A./M.P.H. program.) 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.

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, physical, or chemical sci-
ences 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, three quarters of biological sciences (including microbiology and physiology), and two quarters of physics (physics is not required for the M.P.H. program). Substitutions for these requirements will be considered for applicants with an otherwise superior academic background.

Applicants who do not qualify for admission to the M.P.H. program because they lack courses in basic nutrition and therapeutic nutrition may be admitted to the M.S. program. Students admitted to the M.S. program are eligible to petition to transfer to the M.P.H. program after satisfactorily completing courses in basic nutrition (equivalent to Public Health 162) and therapeutic nutrition (equivalent to courses 166A, 166B).

(3) Applicants interested in the population and family health program must have some prior experience in the health field (paid or volunteer) and preferably a bioscience or behavioral science background.

(4) For admission to the Master of Science in Biostatistics program, you must have completed a bachelor’s degree. Majors in mathematics, computer science, or a field of application in biostatistics are preferred. Undergraduate preparation for the program should include Mathematics 31A, 31B, 32A, 32B, 33A, 33B (second-year calculus), or the equivalent.

**Master of Public Health**

The M.P.H. is a professional degree in the field of public health. You are expected to focus on public health practice and to acquire a broad knowledge related to professional skills.

**Course Requirements**

You must complete at least one year of graduate residence at the University of California and a minimum of 11 full courses, at least six of which must be graduate courses and at least two of which must be 400-series courses. Only one 596 course (four units) may be applied toward the six graduate courses; 597 and 598 may be applied as part of the 400-series requirement. No more than 18 full courses may be required for the degree.

Mandatory school core courses include Public Health 100A or 101A, 112 (114 for epidemiology majors), 130 (230A-230B for health services majors), and 150 or 155. Each core course may be waived if you have taken a similar college-level course elsewhere and can pass the waiver examination.

In addition to the core courses, at least three courses (two or four units) outside your area of specialization are strongly recommended. Only courses in which you receive a grade of C− or better may be applied toward the requirements for a master’s degree. 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 182, 482 (eight units), 484, and four courses (16 units) from 280, 282, 287, 295A, and 481 are required. In addition, two to three elective courses from the list of specialty areas are required. Individual and experimental courses may 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 a 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 101A, 101B, and 101C (in exceptional circumstances, courses 100A, 100B, 100C, and 100D may be substituted); 200A, 401E or 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, 155, 253A, 255 and 256 may be repeated for credit), 400, 450, 459. 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 doctoral degree 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 usually 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, 212D, 212G, 212I, 212J, 212K, 213, 215A, 215B, 221, 223, 225, 226, 227, 410A, 410B, 411, 414, 415, 417. (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. Call 825-2594 for up-to-date details.

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 advisor.

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. (This program will not be offered in 1987-88.)

*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 102A and 102B, Public Health 165 or 261A, 260E, 260F, M260G, 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, 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 applied nutrition, community and primary health care). 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 additional faculty members interested in internationally oriented training, service, and research.

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 and working toward the M.A. in African Area Studies, it may be possible to shorten the amount of time it would normally take to complete both degrees.

Students interested in this articulated program should write to the Assistant Graduate Adviser, African Area Studies Program, UCLA African Studies Center, and/or the 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 John E. Anderson Graduate School of Management offer a three-year concurrent degree program designed for students who desire a management career in health care and related fields 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 apply to both schools simultaneously as admissions decisions are made jointly within both schools. Application materials are available from the M.B.A. Admissions Office, John E. Anderson 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 work but may be completed over a longer period of time. The first part is comprised of formal studies for the Master of Public Health (generally in either family health, epidemiology, or health services). Other areas (e.g., maternal and child health) may be considered on an individual basis. Application must be made simultaneously for both the residency and admission to the School of Public Health for the M.P.H.

The second part consists of supervised field training in preventive medicine and public health, which is individually organized for each resident's particular interests and needs. A variety of opportunities is available through UCLA, including close working relationships with the Los Angeles County Department of Health Services, the Jonsson Comprehensive Cancer Center, and other city and county health departments in the state. New affiliations are developed as the need arises. Residents may also undertake studies toward qualification for a more advanced degree in public health — the Dr.P.H. or Ph.D. — or do research in collaboration with members of the faculty. Physician applicants who have com-
completed M.Ph. studies at an accredited school of public health may be admitted directly into the field training part. Generally speaking, a license to practice medicine is a prerequisite to field training. Many residents are working toward the degree requirements. No more than 18 units (maximum four units) may be applied toward the total course requirement; only four units (maximum four units) may be applied toward the total course requirement. Public Health 597 may not be applied toward the degree requirements. No more than 18 units 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 182, 281, 484, and four to six divisional core courses (selected from an approved list) are 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 include Public Health 150, 153 (required for students who have not taken a course in environmental health and biology), 154, 156, 253A, 255, and 256 (may be repeated for credit), 258, 459, 598 (a maximum of one course may be applied toward the minimum total course requirement), 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 and 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, 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, 212G, 212H, 212L, 212J, 212K, 213, 214, 215A, 215B, 225, 226, or others). Courses 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 required courses for graduation may be subject to change. Call 825-2594 for up-to-date details.

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, 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, 181, 232, 233, 239, 240, 247, 281, 430, 438, 440A, 447D, 447E 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 recommended 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 102A-102B, Public Health 260E, 260F, M260G, 260H, 261A, 261B, 262 (may be repeated for credit), 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 52 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 1, 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. If you do not take the reexamination at the time specified by the division, you forfeit your right to reexamination.

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 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 admissions policy 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, biomathematics, survey research methods, operations research, 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. 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. Call 825-2594 for up-to-date details.

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 102A-102B, Public Health 260E, 260F, M260G, 260H, 261A, 262 or 263 (may be repeated for credit and must be taken once per year), 265 (may be repeated for credit and must be taken each quarter), 400, 461, 463A, 463B, 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 18 units in 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 administers the University Oral Qualifying Examination after you have successfully completed the written examinations.

Final Oral Examination

A final oral examination is required of all candidates.

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 admissions policy 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, 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 prior to 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 the oral examination. If you do not take the reexaminations at the specified time, you forfeit your right to reexamination.

Final Oral Examination

A final oral examination is required.

Lower Division Course

19. Peer Health Counselor Training. Limited to students in the Peer Health Counselor Program. Analysis of student health care issues as related to the campus health care delivery system and to the health care consumer. Identification of health needs, determination of appropriate resources, delivery of preventive and self-care education, and delineation of peer health counselor’s role. Ms. Viele Byrnes

Upper Division Courses

100A. Introduction to Biostatistics. Lecture, three hours; laboratory/quiz, two hours. Prerequisites: upper division standing, one biological or physical sciences course. Students who have completed courses in statistics may enroll only with consent of instructor. Not open for credit to students with credit for course 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, sample size.
136B-136C. Practices of Evaluation in Health Services: Theory and Methodology (2 units each). Prerequisites: course 136A, consent of instructor. Lecture, 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 Progress grading.

Ms. Fink, Ms. Koseff

137. Managing Human Resources in Health Facilities and Programs. Prerequisites: one social sciences course, consent of instructor. Didactic and experimental study of management of human resources in health-related organizations and programs.

138. Politics of Health Care. Prerequisites: one social sciences course, consent of instructor. Concepts and procedures for political analysis; national, state, and local politics in health care; examination of selected case studies.

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.

141. Financial and Managerial Accounting for Health Services. Prerequisites: course 130 or equivalent, consent of instructor. An introduction to financial and managerial accounting and its application to the health services industry.

143. 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 and patient fiscal records, presented via a student field project.

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 study.

145. Society’s Response to Aging. Prerequisites: courses 130, 180, 183, or equivalent, consent of instructor. Relationship of changing age structure in America to family, economy, politics, health care, retirement, age stratification, death and dying.

148. 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 supply and demand, the health care industry, for health insurance and health care, substitution of health personnel, hospital 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, or equivalent. 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 consumption; chemical food addittives; and occupational exposure to chemical and physical hazards.

Mr. Mustafa

152. Biological Effects of Air Pollution. Lecture, three hours; discussion, one hour. Prerequisites: Biology 5, Chemistry 11A, or equivalent, 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 112, Chemistry 21, or equivalent, consent of instructor. Basic principles and laboratory procedures employed in the provision of sanitary elements to the community, including food and milk, water supply and waste disposal, soil and water contamination.

Mr. Boone

154. Environmental Management. Lecture, four hours; discussion, one hour. Prerequisites: Economics 100, Political Science 142 or 143, or equivalent, consent of instructor. Introduction to foundational principles of environmental management, decision making, and evaluation of environmental policies and programs.

Mr. Davos

155. Introduction to Environmental Health (2 units). Lecture, two hours; discussion, one hour. Prerequisites: one college chemistry or biology course or equivalent, consent of instructor. Not open to students specializing in environmental health. Introduction to environmental health, including coverage of sanitary principles and chronic and acute health effects of environmental contaminants.

Mr. Boone

156. Introduction to Occupational Safety and Health. (Formerly numbered 156A.) Prerequisites: Biology 5, Chemistry 21, or equivalent, consent of instructor. Scientific, legal, policy, and historical issues in occupational health. Introduction to various related disciplines (e.g., occupational medicine, nursing, industrial hygiene, toxicology, epidemiology, health education).

Mr. Froines, Mr. Wegman

157. Health Hazards of Industrial Processes. Lecture, three hours; laboratory, four hours. Prerequisites: course 156A. Industrial processes and operations and the occupational health hazards that arise from them.

Mr. Froines, Mr. Hinds

157H. Physical Agents in the Work Environment (2 units). Prerequisites: courses 156A, 156B (may be taken concurrently), consent of instructor. Scientific, legal, policy, and historical issues in occupational health. Introduction to various related disciplines (e.g., occupational medicine, nursing, industrial hygiene, toxicology, epidemiology, health education).

Mr. Froines, Mr. Wegman

160. Principles of Food and Nutrition (2 units). Prerequisites: one biology, chemistry, or physiology course, consent of instructor. Not open for credit to students specializing in nutrition. Principles of nutrition and nutritional requirements for normal growth and development.

Mr. McLaughlin

161. Nutrition and Health (2 units). Prerequisites: Biology 5 or Chemistry 21, consent of instructor. Not open for credit to nutrition majors. Basic and clinical nutrition theory and practice for students in health sciences curricula.

Ms. Alfin-Slater, Mr. Jelliffe

162. Nutrition. Lecture, three hours. Prerequisites: 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.

Ms. Castro

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; metabolism of physiological end products.

Ms. Alfin-Slater

165. Clinical Nutrition Laboratory (2 units). Discussion, one hour; laboratory, four hours. Prerequisites: one quantitative analysis course 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

166A. Therapeutic Nutrition (2 units). Prerequisites: courses 152, 153, 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

166B. Therapeutic Nutrition (2 units). Prerequisites: course 156A, consent of instructor. Recent findings in the field of diet and disease and modifications made in normal diet for pathological conditions.

Ms. Carlisle


Ms. Alfin-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 biology course, consent of instructor. The public health 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. Alf

171A. Family Health and Population: Principles and Issues. Prerequisites: one or more behavioral or natural science courses, consent of instructor. Sociological 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.

171B. Family Health and Population: Principles and Issues. Prerequisites: course 171A, consent of instructor. Considerations of population growth, trends, services available in the areas of diagnosis, treatment, and prevention, and the legal, social, and ethical implications of genetic disease.

Ms. Scrimshew

174E. Health, Disease, and Health Services in Latin America. Prerequisite: one upper division Latin American studies or public health course. Introduction to health, disease, and health services in Latin America, with emphasis on epidemiology, health administration, medical anthropology, and nutrition.

Mr. Neumann

176. Human Sexuality and Sexual Health. Lecture, three hours; discussion, one hour. Prerequisites: two behavioral and/or life sciences courses, consent of instructor. Interdisciplinary review of sexual physiology and sexual behaviors 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; field trip. Prerequisites: course 130, consent of instructor. Examination of rape, incest, spouse and elder abuse. 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.

Ms. Richwald

177A. Principles of Genetic Counseling (2 units). Prerequisites: course 170 or 171A, Biology 8. Theoretical basis, current research, and practical considerations and techniques of counseling, especially as practiced in genetics settings.
177B. Principles of Genetic Counseling (2 units).
Prerequisite: course 177A. Counseling principles and techniques arising from such reproductive areas as prenatal care/diagnosis, abortion, adoption, sterilization, counseling in relation to grief and mourning; theories underlying alternative counseling models pertinent to these areas.

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.

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

180. Introduction to Public Health.

Lecture, four hours: assignments, eight hours. Prerequisites: course 100A 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 plans.

182. Behavioral Sciences and Health.
Lecture, three hours. Prerequisite: one social sciences course. Basic concepts in behavioral sciences pertinent to health and medical care; cultural and social class variations in health status; health team and community relations: community decision making in public health.

Mr. Goldstein, Ms. Kar

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 economics; international movement of foods; interrelations of foods, policy, politics, and nutrition.

187. Health Education for Teacher Credentials (2 units).
Limited to students in 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 sexuality, nutrition, and community health resources.

Mr. Linder

188. Community Cancer Education.
Lecture, two hours; discussion, one hour; fieldwork, one hour; reading assignments, one hour. Prerequisites: Biology 30 or equivalent, consent of instructor. Exploration of the process of cancer education through community resources, culminating 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 research studies under individual supervision. Study to be structured by instructor and student at time of initial enrollment. Only four units may be taken each quarter.

Graduate Courses

200A. Biostatistics. Lecture, three hours; discussion, one hour. Prerequisites: courses 100A, 100B, 100C or 101C, one other statistics course, consent of instructor. Study design, sampling, determination of sample size, data analysis, methods of measurement and determination of appropriate analysis, and uni-dimensional scale construction. S/U or letter grading for nonmajors only.

200B-200C. Biostatistics. Lecture, three hours; discussion, one hour. Prerequisites: courses 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: courses 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, one computer programming course, consent of instructor. Techniques for simulating important statistical distributions; simulation of statistical inference.

201H. Special Topics: Finite Population Sampling. Lecture, three hours; discussion, one hour. Prerequisites: course 100D or Mathematics 150C or 152B. Theory and methods for sampling finite populations and estimating population characteristics.

201J. Special Topics: Supplemetal 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 Biomatics M281.) Lecture, three hours; discussion, one hour. Prerequisites: courses 100B or 101B, Mathematics 150C or 152B, or consent of instructor. Statistical methods for the analysis of survival data.

201M. Introduction to Statistical Methods for Biologicual 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.

202E. Problems of Statistical Consultation. (Same as Biomatics M282.) Lecture, two hours; discussion, one hour; laboratory, two hours. Prerequisite: graduate applied statistics course. Textbook and original problems requiring special expertise in problem solution and handling of computer packages to diagnose failure of assumptions, suitability of models, and alternative analyses.

202F. Statistical Analysis of Incomplete Data. (Same as Biomatics M283.) Lecture, three hour; discussion, one hour. Prerequisites: 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 inferential statistics courses include treatment of missing data in statistical packages, missing data in ANOVA and regression imputation, weighting, likelihood-based methods, and non- random/nonresponse models. Emphasis on application of the methods to applied problems, as well as on the underlying theory. S/U or letter grading.

202G. Simultaneous Statistical Inference. (Same as Biomatics M284.) Lecture, three hours; discussion, one hour. Prerequisites: courses 200C, M205A, Mathematics 150C. Methods and theory of simultaneous statistical inference.

202H. Applied Bayesian Inference. (Same as Biomatics M285.) 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 problems in sample Bayes inference from likelihoods, noninformative and conjugate priors, empirical Bayes, Bayesian approaches to linear and nonlinear modeling, models for mixture and Bayes factor testing, and numerical methods. S/U or letter grading.

202J. Statistical Graphics. Lecture, three hours; laboratory, two hours. Prerequisites: courses 101A, 101B, 101C, 200A, consent of instructor. Graphical data analysis emphasizes use of visual displays of quantitative data to gain insight into data structure by exploring patterns and relationships, and to enhance classical numerical analyses, especially assumption validity checking. Principles of graph construction, graph visualization methods, and techniques.

203A. Data Base Management Systems. Lecture, three hours; laboratory, two hours. Prerequisites: course 403 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; data base package data base management and statistical package programs.

203B. Systems Analysis for Health Data. Lecture, three hours; laboratory, two hours. Prerequisites: course 403A, 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 M201E through 201J, consent of instructor. Current developments of methodology and problems in applications of biostatistics.

204F. Advanced Seminar in Biostatistics (2 units). Prerequisite: course 200C, consent of instructor. Current research in biostatistics. May be repeated for credit. S/U grading.

205A-M205B-M205C. Linear Statistical Models. (Same as Biomatics M279A-M279B-M279C.) Lecture, three hours. Prerequisites: course 100C, Mathematics 150C or 152B, or equivalent. Topics include linear algebra applied to linear statistical models, distribution of quadratic forms, the Gauss-Markov theorem, fixed and random component models, balanced and unbalanced designs.

206A-206B. Multivariate Biostatistics. Lecture, three hours. Prerequisites: course M205A or equivalent. Multivariate analysis as used in biological and medical situations. Topics include the component analysis, factor analysis, discriminant analysis, analysis of dispersion, canonical analysis.

207E. Advanced Topics: Stochastic Processes. Lecture, three hours. Prerequisites: upper division mathematics, including statistics and probability. Stochastic processes applicable to medical and biological research.

207F. Advanced Topics: Mathematical Epidemiology. Lecture, three hours. Prerequisites: course 207E or equivalent, upper division mathematics (including statistics and probability). Mathematical theory of epidemiology with deterministic and stochastic models and problems involved in applying the theory.

207G. Advanced Topics: Statistical Genetics. Lecture, three hours. Prerequisites: upper division mathematics, including statistics and probability. Introduction to statistical genetics.
230A-230B, Health Systems Organization and Financing. Lecture, 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 the market for those services: 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.

231. Health Policy Seminar: Health Care Financing, Competition, and Regulation. 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 the market for those services: 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 130, two additional upper division social or behavioral sciences courses, consent of instructor. Analysis of 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. Roemer.

233. Health Policy Analysis. Lecture, two hours; discussion, two hours. Prerequisites: course 130 or equivalent, three social sciences courses, 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, 136A, consent of instructor. Introduction to special issues in clinical health services research. Focus 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 political science or sociology courses 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, 90 minutes; discussion, one hour. Prerequisites: courses 100A, 112, 136, one additional health services or epidemiology course, or equivalent, consent of instructor. Fundamental issues in quality assessment, quality assurance, and the measurement of health status. Mr. Brok, Mr. Greenfield.

237A-237B. Special Topics in Health Services Research Methodology. Lecture, one hour; discussion, three hours. Prerequisites: courses 100A, 100B, 105C, 130, or equivalent, consent of instructor. In-depth consideration of problems in the application of statistical and other quantitative methods in health services research. Mr. Cretin.

238. Microeconomic Theory of the Health Sector. Prerequisites: courses 100A or equivalent. 232, Econometrics 1, 2, consent of instructor. Microeconomic aspects of the health sector, with an emphasis on the health manpower substitution choice, effective modes of treatment, market efficiency, and competition. Mr. Schweitzer.

239. Aging and Long-Term Care. Prerequisites: courses 130, 138, 185, or equivalent, consent of instructor. Long-term care of the chronically ill elderly examined from a perspective of political and sociodemographic trends, including populations at risk, policy options, and alternative forms of care such as nursing homes, home care, and care by informal support systems. Mr. Torrens, Mr. Wales.

240. Health Care Issues in International Perspectives. Prerequisites: one semester abroad. Two upper division social sciences courses, or equivalent, consent of instructor. Analysis of crucial issues in health care: manpower policy, economic support, health facilities, patterns of health service delivery, social organization. Emphasis on the role of other sectors 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 (12 or 15 units). Seminar (12 units) or seminar (15 units). 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. Ms. Abel.

242. Strategic Planning and Marketing in Health Care. Lecture, three hours; discussion, one hour. Prerequisites: courses 100A, 100B, 230A-230B, or equivalent, consent of instructor. Survey course covering two health administration and systems planning and marketing concepts as they apply to health care organizations. Lectures and discussion of case studies for which students must prepare in advance, fieldwork, and microcomputer exercises.

243. Issues in Health Planning. Discussion, three hours; other, three hours. Prerequisites: courses 130, 134, or equivalent, or research course 444B. In-depth presentation and analysis of current issues of importance to advanced students in health planning. Mr. Wisniewski.

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 designing practical and feasible health service programs. Survey of elements of different disciplines used in area 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 requirements, with particular reference to related health factors. Ms. Valentine.


252. Environmental Microbiology. Lecture, three hours. Prerequisites: courses 150, 153, or equivalent, consent of instructor. Basic concepts of eutrophication and indicators of aquatic system stress, assessment of biological treatment practices in wastewater and 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. Finnes, Mr. Mustafa.

253B. Environmental Toxicology: Trace Contaminants, Principles, Hypothesis, one hour. Prerequisite: course 253A. Essentials of toxicology in relation to trace contaminants. Mr. Finnes.

254. Environmental Decision Systems Analysis. Lecture, four 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 systems theory as applied to comprehensive study, planning, evaluation, and management of environmental decision systems. Experimentation with relevant computer programs. Mr. Davis.

255. Seminar in Health Effects of Environmental Contaminants (2 units). (Formerly numbered 256.) Prerequisites: courses 150, 153, 154, 156, or equivalent, consent of instructor. Emphasis on health effects of air, water, and foodborne pollutants, and laboratory and research literature. May be repeated for credit.

257. Properties and Measurement of Airborne Particles (3 units). (Formerly numbered 157B.) Lecture, three hours. Prerequisites: courses 100A, 100B (may be taken concurrently), 156A, one year of chemistry, physics, and mathematics through calculus, consent of instructor. Required of all industrial hygiene students in the Environmental and Occupational Health Sciences Division. Basic theory and application of aerosol science to environmental health, industrial hygiene, and air pollution. Theory and measurement of aerosols and particulate problems. Mr. Hinds.

257F. Identification and Measurement of Gases and Vapors (2 units). (Formerly numbered 157F.) Prerequisites: courses 100A, 100B (may be taken concurrently), 156A, one year of chemistry, physics, and mathematics through calculus, consent of instructor. Required of all industrial hygiene students in the Environmental and Occupational Health Sciences Division. Basic theory and application of aerosol science to environmental health, industrial hygiene, and air pollution. Theory and measurement of aerosols and particulate problems. Mr. Hinds.

257G. Industrial Hygiene Measurements Laboratory (3 units). Corequisites: courses 257E, 257F. Limited to industrial hygiene majors. Laboratory methods for sampling, measurement, and analysis of gases, vapors, and aerosols found in the occupational environment. Mr. Hinds.

257H. Control of Airborne Contaminants in Industry (3 units). Formerly numbered 157H. Prerequisites: courses 100A, 112, 156A, 156C, lecture, two hours; laboratory, two hours. Prerequisites: courses 156A, 257E, 257F, 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, 156A, Chemistry 25, consent of instructor. Introduction to instrumental techniques and their instrumentation used in the preparation and analysis of biological, environmental, and occupational samples. Mr. Panaque.

260E. Advanced Nutrition: Vitamins. Lecture, three hours; discussion, one hour. Prerequisites: Biological Chemistry 101A-101B-101C or equivalent, consent of instructor. Comprehensive treatment of vitamin nutrition and metabolic-nutrient interactions. 

Ms. Swendsen

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

M260G. Advanced Chemistry, Biochemistry, and Nutrition of Lipids. (Formerly numbered 260G.) (Same as Biological Chemistry M261 and Chemistry M261.) Lecture, three hours; discussion, one hour. Prerequisites: Biological Chemistry 101A-101B or 201A-201B or Chemistry 157A and 157B or equivalent, consent of instructor. Comprehensive treatment of lipid nutrition and metabolic-nutrient interactions. 

Mr. Edmond, Mr. Mead


Ms. Chisholm

261A. Laboratory Instrumentation and Methods. Lecture, two hours; laboratory, six hours. Prerequisites: course 261A, consent of instructor. Current biochemical methods emphasizing design of experimental research. 

Mr. Eckert

262. Seminar in Nutrition (2 units). Prerequisites: courses 162, 167, one course in the 260 series. Review of current literature in nutritional science. Emphasis 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). Prerequisites: one or more nutrition courses in the 200 series, and Biological Chemistry 101A-101B-101C or 201A-201B. Nutrition and nutrient-metabolic interactions in various disease states such as gastrointesti nal disorders, renal disease, and liver disease. 

Ms. Alfin-Slater, Mr. Kopple, Ms. Swendsen

264F. Clinical Nutrition Problems (2 units). Prerequisites: one or more nutrition courses in the 200 series, and Biological Chemistry 101A-101B-101C or 201A-201B. Nutrition and nutrient-metabolic interactions in various disease states such as cardiovascular disease, diabetes, and obesity. 

Ms. Alfin-Slater, Mr. Kopple, Ms. Swendsen

283H. Social Epidemiology II. Lecture, two hours; discussion, one hour. Prerequisites: course 112, three psychology, sociological, or anthropology courses, or equivalent, consent of instructor. Relationship between sociological, cultural, and psychological factors in epidemiology, occurrence, and distribution of chronic diseases. Topics include hypertension, coronary heart disease, and cancer. Emphasis on life-styles and other socioeconomic factors associated with chronic diseases. Ms. Siegel

284. Ecology of Mental Health. Lecture, three hours. Prerequisites: courses 100A, 112 and 182 or equivalent, consent of instructor. Analysis of occurrence and distribution of mental disorders and the relationship to the social and physical environment and development of community-based programs. Implications for social policy and planning. Mr. Goldstein

285. Community Problems in Mental Disorders. Lecture, three hours. Prerequisites: course 182, three upper division or graduate psychology or sociology courses or equivalent, consent of instructor. Intensive examination of the meaning of mental health, mental illness, and psychotherapy, both curative and preventive, within a public health context. Implications for social policy and planning. Mr. Goldstein

286. Seminar in Behavioral Sciences and Health (2 to 4 units). Lecture, two hours. Prerequisites: courses 283E, 283F, 283G, or 283H. Recent significant contributions of behavioral sciences to understanding health and illness, with selected and varying topics each quarter. May be repeated for credit. S/U grading. Mr. Berkanovic, Ms. Li

287. Community Organization in the Health Field. Lecture, two hours; discussion, one hour; fieldwork, four to six hours. Prerequisites: course 182, at least three public health and/or anthropology courses or equivalent. Theory and practice of community organization applied to health problems, including analysis of relevant factors in the physical and social environment and development of community-based intervention strategies to improve health and health services. Opportunity to study organization through field observation and participation and to discuss community organization theory in the context of student's experiences. Mr. Berkanovic

288. Current Problems in Health Education. Lecture, one hour; discussion, three hours. Prerequisites: course 182 and three other public health and/or social sciences courses, or consent of instructor. Current problems and findings in health education concern areas, such as mental health, family health, consumer health, safety, and communicable and chronic diseases.

289. Issues in Program Evaluation. Discussion, three hours. Prerequisites: course 281, one social sciences course, or equivalent, consent of instructor. Advanced seminar which explores the problems of planning and implementing evaluation research in the context of local demonstration projects. Ms. Mauro

290. Advanced Topics in Health Survey Research Methods. Lecture, two hours; discussion, two hours. Prerequisites: course 281 or equivalent, consent of instructor. Special topics in health survey research methods. Design of special surveys; recent interviewing techniques; diaries and memory aids; measurement error, including response bias, social desirability, response validity; telephone interviewing; obtaining data on sensitive issues; ethics and confidentiality of survey research data. Mr. Goldstein

291. Alcohol and Drug Abuse: Social Policy Perspectives (3 units). (Formerly numbered M292.) Prerequisite: consent of instructor. Alternative models of alcohol and other drug addictions examined and implications assessed for public policy regarding their control. Pre-requisite: courses or equivalent. Ms. Beckman

292. Alcohol and Drug Abuse Among Women. (Formerly numbered M292.) Prerequisite: consent of instructor. Discussion of the psychosocial aspects of abuse of alcohol and other drugs among women. Topics include etiology, prevention, treatment, moral and normative influences, and the role of the family. Emphasis on current theoretical perspectives and research findings. Ms. Beckman

294. Introduction to Occupational Health Education. Lecture, two hours; outside assignment, one hour. Prerequisites: course 156A, two sociology, psychology, or education courses, or consent of instructor. Health education theory and practice related to occupational health and safety. Emphasis on design and evaluation of education programs dealing with health and safety issues for workplace settings. Mr. Voczek

295A. Advanced Community Health Education. (Formerly numbered 296.) Lecture, two hours; discussion, two hours. Prerequisites: course 182 or equivalent, consent of instructor. Before planning the educational components of a health 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. Morisky

295B. Research in Community and Patient Health Education. (Formerly numbered 296.) Lecture, three hours; discussion, two hours. Prerequisites: course 182 and three upper division social sciences or public health courses, or consent of instructor. Application of conceptual, theoretical, and evaluative skills to community-based health education risk-reduction programs. Computer applications, data management, and research methodologies taught through computer and management software. Mr. Morisky

297. Social and Behavioral Perspectives on Work and Health. Prerequisites: courses 156A, 294, two psychology or sociology courses, consent of instructor. Discussion of current social and behavioral research methods of intervention and program planning. Emphasis on role of the family. Mr. Berkanovic

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 the regular instructor of a course. One hour of attendance at the University and instruction at the University. May 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 studies in selected community organizations, including 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 requirement; four units may be applied toward the M.S. minimum unit required for the M.P.H. degree.

401E. Statistical Methods in Clinical Trials. Lecture, three hours; discussion, two hours. Prerequisites: course 400C or 100D or Mathematics 152B or equivalent. Design of studies in animals to assess tumor response; randomization, historical controls, p-values, size of study, and stratification in human experimentation; various types of controls; prognostic factors, survivorship studies, and design of prognostic studies; organization of clinical trials — administration, comparability, protocols, clinical standards, data collection and management. S/U grading (nondivisional may be repeated for credit). Mr. Goldstein

401F. Statistical Methods for Longitudinal Data. Lecture, three hours. Prerequisites: courses 400C or 100D or Mathematics 150C or 152B or equivalent, 112, consent of instructor. Design and analysis of longitudinal or panel studies. S/U grading (nondivisional majors only). Mr. Goldstein

401G. 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. Topics include etiology, analysis of case-control studies, multiplicity of analyses, cross-validation, small sample performance of variance estimators, measurement error in the covariates, and incomplete data.

402A. Principles of Biostatistical Consulting (2 units). Lecture, one hour; discussion, one hour. Prerequisites: course 100B or 101B and Mathematics 150B or 152B. Presentation of structural format for statistical consulting. Role of statistician and client. Reviews of actual statistician-client interactions and case studies.

402B. Biostatistical Consulting. Discussion, two hours; laboratory, two hours. Prerequisites: courses 100C and 402A, or consent of instructor. Principles and practices of biostatistical consulting. May be repeated for credit. S/U grading.

403. Computer Management of Health Data. Lecture, three hours; laboratory, two hours. Prerequisites: at least one statistics course, two research methodology courses. Program in Computing 1 or equivalent, consent of instructor. Concepts of health data management, design and maintenance of large 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.

404. Principles of Sampling. Lecture, three hours; discussion, one hour. Prerequisites: courses 100B, 112, or equivalent, consent of instructor. Statistical aspects of the design and implementation of a sample survey. Techniques for the analysis of the data, including estimates and standard errors. Avoiding improper use of survey data.

405. Demographic Materials and Methods. Lecture, three hours; laboratory, two hours. Prerequisites: courses 100A or 101A, 112 or 114, 180, or equivalent, consent of instructor. Sources of demographic information; description of human populations; calculation and interpretation of statistics used to measure and describe population growth, structure, geographic distribution, mortality, natality, and migration.

406. Applied Multivariate Biostatistics. Lecture, three hours; laboratory, one hour. Prerequisites: consent of instructor. At least three upper division research courses, consent of instructor. The use of multiple regression, principal components, factor analysis, discriminant function analysis, logistic regression, and canonical correlation in biomedical data analysis. Use of computer packages for program development.

410A. Management of Epidemiologic Data (2 units). Prerequisites: courses 100A, 112 (one course may be taken concurrently with consent of instructor). Concepts, collection, and management of data, with particular emphasis on large-scale data bases. Introduction to computers and appropriate selection and use of packaged programs. Mr. Coulson

410B. Management of Epidemiologic Data (2 units). Prerequisites: course 410A or equivalent, consent of instructor. Development of special purpose programming and compiler languages for epidemiologic data. Management in large-scale studies in infectious and chronic diseases. Mr. Coulson

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 various bibliographic aids and sources of information, building 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 work, four hours. Prerequisites: courses 100A, 112, 130, or equivalent, consent of instructor. Delivery of preventive and ambulatory health services in the clinic. Epidemiologic, administrative, and financial aspects of communicable disease, substance abuse, mental health, primary care, chronic diseases, presymptomatic screening, venereal disease, and degenerative diseases. Mr. Tennant

413. Preventive Medicine in Public Health Practice. Lecture, two hours; discussion, two hours. Prerequisites: courses 100A, 112, 130, or equivalent, graduate standing, consent of instructor. Development, current status, and potential of preventive medicine in public health practice, focusing on the risk indicator approach (exercise, alcohol, stress, etc.), with consideration of program settings, delivery problems, and issues. Mr. Fielding

414. Practical Epidemiologic Investigations. Lecture, one hour; laboratory, three hours. Prerequisites: courses 100A, 112, 130, 155, or equivalent, consent of instructor. Practical approaches to epidemic investigations presented through problem sets based on actual outbreaks. Data collection, analysis, and written presentation of findings. Professor Straussb 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 upper division biological sciences courses or equivalent, consent of instructor. Uses of epidemiology for assessing the burden of illness in the community, establishing program priorities, and designing disease intervention or prevention strategies. Mr. Frenchis

416. Epidemiologic Strategies for Evaluating Public Health Efforts (2 units). Seminar, three hours. Prerequisites: courses 100A, 112, 130, 403, or equivalent, consent of instructor. The techniques necessary to assess the effectiveness of the work of a health department. As part of a group-selected project, students conduct an actual small-scale data collection and evaluation study. S/U or letter grading. Mr. Detels

417. Injury Prevention Strategies and Countermeasures (2 units). Prerequisites: courses 100A, 112, two upper division biological or life sciences courses, or equivalent, consent of instructor. Application of contemporary organizing and management theory to communities that provide personal health care services. Environmental characteristics, missions/goals, structure and processes of health service organizations. Ms. Sosaer

430. Health Service Organization and Management Theory. Prerequisites: course 131, two upper division social sciences courses, or equivalent, consent of instructor. Application of contemporary organizing and management theory to systems that provide personal health care services. Environmental characteristics, missions/goals, structure and processes of health service organizations. Ms. Sosaer

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 interorganization. Unique features of health service organizations are stressed as applications are presented.

432. Integrative Seminar in Health Services Management. Lecture, one hour; fieldwork, 1-3 units. Prerequisites: courses 131 and 132; and preceptors are responsible for presenting cases of actual administrative problems for solution by teams of students and faculty. Ms. Sosaer

433. Health Service Organization Policy and Strategy. Lecture, three hours; discussion, one hour. Prerequisites: courses 131, 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 markets, corporate-level strategic planning, and marketing, managerial ethics and values, organizational creativity/innovation.

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 facilities scheduling, demand forecasting, and cost-benefit analysis.

435. Manpower Management in Health Services Organizations (2 units). Prerequisites: course 131 or equivalent, consent of instructor. Introduction to personnel administration and labor relations as they apply to health care facilities.

436. Financial Management of Health Service Organizations (2 units). Prerequisites: courses 131, 141, 430, or equivalent, consent of instructor. Application of financial management and accounting principles to health care facilities. A critical review of financial management and accounting in health care facilities, including unique financial characteristics of health care organizations, reimbursement, cost finding and rate setting, operational and capital budgeting, auditing, and risk management. Mr. Valdez

437. The Legal Environment of Health Services Administration (2 units). Prerequisites: courses 112, 130, one additional health services course, or equivalent, consent of instructor. Analysis of organizational issues currently faced by local health departments in increasing scope and quality of services; exploration of administrative problems and interagency relationships. Ms. Aiken

439. Dental Care Administration (2 units). Prerequisites or corequisites: courses 100A, 112, or equivalent, consent of instructor. General survey of legal aspects of health services management, including governance, agency, informed consent, medical malpractice, contracts, negligence, and case law relating to health facility operations.

438. Issues and Problems of Local Health Administration (2 units). Prerequisites: courses 112, 130, one additional health services course, or equivalent, consent of instructor. Analysis of organizational issues currently faced by local health departments in increasing scope and quality of services; exploration of administrative problems and interagency relationships. Ms. Aiken

440. Health Information Systems: Organization and Management. 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 system. Ms. Lugg

440A. Health Information Systems: Organization and Management. Lecture, two hours; laboratory, three hours. Prerequisites: course 140A or equivalent. Students will work on research using clinical records. Principles of planning for routine and special studies. Individual investigation in methods of obtaining and processing data to meet needs of programs in institution and agency. Introduction to principles of medical auditing; analysis of medical and health services.

440B. Health Information Systems: Organization and Management. Lecture, two hours; laboratory, three hours. Prerequisites: course 440A or equivalent. Special focus on the use of health administrative research using clinical records. Principles of planning for routine and special studies. Individual investigation in methods of obtaining and processing data to meet needs of programs in institution and agency. Introduction to principles of medical auditing; analysis of medical and health services.

440C. Applied Methodology in Health Planning. Lab, two hours; fieldwork, four hours. Prerequisites: courses 130 or equivalent. Demonstration of methodology of health planning involving students in formulation of actual health plan for existing agency in Los Angeles area. Ms. Lugg

440C. Applied Methodology in Health Planning. Lab, two hours; fieldwork, four hours. Prerequisites: courses 130 or equivalent. Demonstration of methodology of health planning involving students in formulation of actual health plan for existing agency in Los Angeles area. Ms. Lugg

445A-445B. Practicum in Health Planning and Policy. Field placement. Prerequisites: courses 100A, 100B, 130 (may be taken concurrently), 233, 248, and consent of instructor. Requires in-depth study of all M.S. health planning and policy students. Preparation for and subsequent analysis of 10-week work experience undertaken during summer between first and second year. In Progress and S/U grading.

446. Financing Health Care. Prerequisite: course 130, one additional health services course, 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 care financing. Mr. Schweitzer

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 paying, providing, and organizing health care services, comparative advantages and disadvantages of alternative arrangements, and case studies of health maintenance organizations. Ms. Wasserman

447E. Health Insurance Principles and Programs. Prerequisites: courses 130, 232, one additional health services course, or equivalent, consent of instructor. Examination of social, actuarial, and commercial assumptions underlying private health insurance. Comparison with government-sponsored health insurance. Analysis of diversity of voluntary medical care insurance plans under different sponsorships and with varied scopes of coverage and benefits and their implications for public and private medical care developments. Mr. Shonick

448. Special Populations: Health Service Policy Issues. Prerequisites: course 448 prior to Fall Quarter 1986.) Prerequisites: courses 138, 230A-230B, 232, or equivalent, consent of instructor. Limitation 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 policy development. Different populations may be selected each year. Mr. Righter

448D. Health Manpower Policy: Development, Diffusion, and Regulation of Medical Technology. Prerequisites: courses 230A-230B, 238, or equivalent, one upper division policy analysis course. A doctoral-level seminar focusing on public policies that pertain to the advancement of medical science and the development of new technologies and promotion and regulation of their use. Mr. Greenfield and the Staff
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 and diet-growth relationships. Laboratory participation in dietary assessment of various population groups. Techniques for measuring vitamins, minerals, lipids, and proteins. Ms. Swendsen.

463A. Preparation for Practicum in Public Health Nutrition (2 units). Discussion, one hour; laboratory or fieldwork, five hours. Prerequisite: ETEC 112. Students will analyze a public health nutrition problem and prepare to conduct and evaluate the public health nutrition practicum with written reports. Ms. Hunt, Mr. Jones.

463B. Practicum in Public Health Nutrition. (Formerly numbered 463D.) Discussion, two hours; laboratory or fieldwork, ten hours. Prerequisites: courses 112, 165, 460 (may be taken concurrently). 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: course 152 or equivalent. Emphasis on health, social, or behavioral sciences courses, consent of instructor. Historical development and functions of international health organizations. Key problems and trends in international health. Bilateral programs and international health policy issues, funding mechanisms, and others disseminating information, money, and services. Mr. Neumann.

470B. Advanced Issues in International Health. Lecture, two hours; discussion, two hours. Prerequisites: courses 240, 250, 470A, or equivalent, consent of instructor. In-depth focus on major health issues confronting recipient less-developed countries and donors of technical and financial assistance. Mr. Day.

451. Water Quality and Health. Lecture, three hours; discussion, one hour. Prerequisites: courses 150, 153, 250, 459. 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, 153, 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.

454. Environmental Policy Decision Making. Lecture, four hours; discussion, one hour. Prerequisite: course 254. Foundations, principles, and modeling of environmental policy decision making. Critical analyses of normative and behavioral models of action choices for protection and enhancement of environmental health, and development of an alternative model. Mr. Davos.

457. Environmental Hygiene Practices (2 units). Prerequisites: courses 112, 150, 154, 450. Field principles and practices of environmental sanitation as applicable to the sanitaryian. Topics include theory, code enforcement, and inspection procedures for applicable environmental topic areas. Ms. Gomez.

459. Critical Review of the Scientific Basis of Occupational Standards. Prerequisites: courses 100A, 112, 152A, 158B. Designed to provide students with the opportunity to review the scientific basis for the association of selected occupational exposures with disease. Special emphasis on critical evaluations 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), 162 or equivalent, 460, consent of instructor. Survey of current methods of evaluating and improving nutritional status of population groups. Ms. Hunt.

461. Computer Use in Nutritional Assessment. Lecture, two hours; laboratory, six hours. Prerequisites: courses 100A, 112 (may be taken concurrently), 162 or equivalent, 460, consent of instructor. Survey of computer collection and computer analysis of data for the purpose of nutritional assessment of population groups. Ms. Murphy.
477. Assessment of Family Nutrition. Prerequisite: course 270. Assessment of nutritional status of families and development and reports, one hour. Prerequisites: courses 100A or 103, 112, 182, 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.

478. Anthropometric Nutritional Assessment (2 units). Prerequisite: course 270 or equivalent, consent of instructor. Program in anthropometry illustrating how it is used in nutritional assessment. Data presentation and interpretation. Didactic sessions, readings, demonstrations, and practical clinical in anthropometric techniques.

Ms. Neumann

478E. Cytogenetics Practicum (1 unit). Prerequisites: courses 100A, 112, 170E, 256, consent of instructor. Explanation and applied experiences in cytogenetic laboratory work, including cell culturing, harvesting, microscopy, photography, karyotyping, and interpretation of results.

Ms. Alli

479. Nutrition Programs 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, with 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. Prerequisite: course 472A or equivalent, consent of instructor. Problems and priorities in nutrition education and training for families and heard 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, 280, 282, consent of instructor. Analysis of the role, methods, and techniques of health education pertaining to hospitals, clinics, and patient education. Observation, measurement, and collection of clinical activities in the medical center in relation to the process of health education.

481. Administrative Relationships in Health Education. Lecture, two hours; discussion, two hours. Prerequisites: courses 270, 282, 462, 464, consent of instructor. Study of administrative concepts, relationships and applicability to health education settings. Responsibility and authority for health education in organizations and other groups.

Ms. Li

482. Practicum in Health Education (4 or 8 units). Discussion, two or six or 19 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 needed health education and medical care programs.

Ms. Richards

483. Social Interventions for Health Promotion and Evaluation. Lecture, two hours; discussion, one hour; seminar, one hour. Prerequisites: courses 182, 280, or equivalent, consent of instructor. Selected social intervention strategies for health promotion and health education programs. Emphasis on theories, working assumptions, methodologies, and impact of selected strategies within the contexts of planned change in health-related behaviors.

Mr. Kar

484. Introduction to Research and Program Evaluation. Lecture, two hours; discussion, two hours. Prerequisites: course 112A, three social sciences courses, or equivalent, consent of instructor. An introduction to the principles of research methods and program evaluation as they are applied to public health programs in the community.

Mr. Boranovic, Mr. Vojcicky

485. 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.

486. Death, Suicide, and Homicide: A Public Health Perspective. Lecture, three hours; field trips, two hours. Prerequisites: courses 100A or 103, 112, 182, 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

487. Advanced Community Organization Seminar. Seminar, three hours. Prerequisites: course 287, three public health or social sciences courses, consent of instructor. Advanced seminar on theoretical and practical problems in community organization, with readings and term projects focusing on participation, leadership, outreach, coalitions, and related issues of community organization and social change applied to public health problems.

Mr. Brown

488. Consumer Health Behavior. Lecture, three hours. Prerequisites: course 182, at least three anthropology, psychology, or sociology courses, consent of instructor. Discussion and demonstration of the role of economics and economic incentives and disincentives in altering consumer health behavior.

489. Health Education in International Settings. Lecture, two hours; discussion, two hours. Prerequisites: courses 112 and 182 or one upper division psychology, sociology, or medical sciences course, one upper division research methods or epidemiology course, consent of instructor. Survey of current developments in health education in international settings. Emphasis on alternative strategies, program innovations, and training of community health workers. Acquisition of skills in designing training programs for development, renewal of staff competencies, and redirection of staff activities.

Mr. Bjork

490. Professional Writing for Public Health (2 units). Prerequisite: consent of instructor. Practice in writing reports, grant proposals, abstracts, and articles for health 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 requirement. S/U grading.

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. 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. 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 grade, while UH C/N 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.

509. 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.

521. 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 be repeated for credit. S/U grading.

563. Doctoral Dissertation Research (2 to 8 units). Prerequisites: graduate standing, consent of instructor. May not be applied toward any degree requirement. 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., D.Sc. (Biology)
Christopher S. Foote, Ph.D. (Chemistry)
William H. Glaze, Ph.D. (Public Health, Director)
Malcolm S. Gordon, Ph.D. (Biology)
William E. Kaslenberg, Ph.D. (Mechanical, Aerospace, and Nuclear Engineering)
Robert A. Mah, Ph.D. (Public Health)
Richard L. Penne, Ph.D. (Civil Engineering)
Michael K. Sienstrom, Ph.D. (Civil Engineering)
David H. Weigan, M.D. (Public Health)
Morton G. Wurtele, Ph.D. (Atmospheric Sciences)
Jeffrey I. Zink, Ph.D. (Chemistry)

Assistant Professor

Douglas M. Mackay, Ph.D. (Public Health)

Lecturers

Robert G. Lindberg, Ph.D. (Public Health)
Paul M. Merrifield, Ph.D. (Earth and Space Sciences)

Adjunct Assistant Professors

Laura M. Lake, Ph.D.
Bart B. Sokolow, D.Env.

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 en-
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. Prospective students may write for descriptive brochures to the Environmental Science and Engineering Program, School of Public Health, 46-081 CHS, UCLA, Los Angeles, CA 90024-1772.

**Major Fields or Subdisciplines**

Specialties within the program include, but are not limited to, the assessment and management of hazardous substances in the air, soil, and water environments, migration of contaminants in groundwater, health risks of toxic substances, and environmental problems common to the United States and Mexico. Also, you may slant your work toward 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 advisor. 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. 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 (8 units). Prerequisite: successful completion of course 400C and of an internship approved by the Environmental Science and Engineering Interdepartmental Committee. 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. 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.
Appendix

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 90024-1405. Speech and hearing impaired persons may call TDD (213) 206-6083.

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 Office of the Dean of Students, 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.

Adult Aliens

An adult alien student is entitled to resident classification if the student has been lawfully admitted to the U.S. for permanent residence in accordance with all applicable laws of the U.S., and has thereafter established and maintained residence in California for more than one year immediately prior to the residence determination date. Nonresident aliens present in the U.S. under the terms of visa classifications A, E, G, I, K, L, or political asylee status who can demonstrate California residence for more than one year prior to the term while holding such visa may be entitled to resident classification. Nonimmigrant classifications which preclude an adult alien from establishing California residence are B, C, D, F, H, J, and M. An adult alien not holding an acceptable visa status or not in possession of a visa status which precludes establishing California residence may be considered for resident status if requirements concerning physical presence and requisite intent are satisfied.

Salary and Employment Information, University of California

<table>
<thead>
<tr>
<th>FIELD OF STUDY</th>
<th>DEGREE LEVEL OF GRADUATES</th>
<th>AVERAGE MONTHLY SALARY¹</th>
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<tr>
<td></td>
<td>BACHELOR'S</td>
<td>MASTER'S</td>
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<tr>
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<td>Management</td>
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<tr>
<td>Social Science</td>
<td>1,565</td>
<td>1,797</td>
</tr>
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</table>

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 1986 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.
Establishing the Requisite Intent to Become a California Resident

Relevant indicia 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 non-driver, a California identification card; obtaining California income 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 indicia in other states during any period for which residence in California is asserted. Documentary evidence may be required. All relevant indicia will be considered in the classification determination.

General Rules Applying to Minors

The residence of the parent with whom an unmarried minor (under age 18) child maintains his or her place of abode 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 maintained the last place of abode. The minor, except a minor alien present in the U.S. under the terms of a nonimmigrant status which precludes the minor alien from remaining in the U.S. permanently, 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 duration 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 is a U.S. citizen or eligible alien who remains in the state after his or her parent, who was a California resident 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 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, may be eligible for resident status.

(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 student, 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. He or she must provide the Residence Deputy with a statement from the commanding officer or personnel officer stating the assignment to active duty in California is not for educational purposes and must include the dates of assignment to the state.

(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 — To the extent that funds are available, the unmarried, dependent child under age 21 or the spouse of a member of the University faculty who is a member of the Academic Senate may be eligible for a waiver. Confirmation of the faculty member's membership in the Academic Senate shall be secured each term before this waiver is granted.

(4) Child of University Employee — The dependent child or spouse 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 resident status.

(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 driver's license and/or vehicle registration while temporarily residing in another state, these must be changed back to California within the time prescribed by law.

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 reclassification 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 90024-1405 (825-3447) or to the Legal Analyst-Residence Matters, 590 University Hall, Berkeley, CA 94720. NO OTHER UNIVERSITY PERSONNEL ARE AUTHORIZED TO SUPPLY INFORMATION RELATED 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, the committee may assign a grade of Pass, or allow the student to repeat the course without penalty. The ad hoc committee will 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.

In compliance with Section 92640a of the Education Code the University must accommodate requests for alternate examination dates at a time when the activity would not violate a student's religious creed. Accommodation for alternate examination dates will be worked out directly and on an individual basis between the student and the faculty member involved: (1) in general, students should make such requests of the instructor during the first two weeks of any given academic term, or as soon as possible after a particular examination date is announced by the instructor; (2) students unable to reach a satisfactory arrangement with their instructor should contact the University Ombudsman, 274 Kinsey Hall, or the Dean of Students, 2224 Murphy Hall, for assistance; (3) instructors who have questions or who wish to verify the nature of the religious event or prac-
tice involved should contact the University Ombudsman or the Dean of Students for assistance.

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 may not exceed three hours' duration and will be given only at the times and places established and published by the department chair and the Registrar.

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 Office of the Dean of Students, 2224 Murphy Hall, or the Center for Student Programming, 161 Kerckhoff Hall.

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

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, (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.
Endowed Chairs

Although UCLA is a public institution, private gifts are increasingly important in maintaining the quality of the University's three missions of teaching, research, and community service. Among the principal forms of private support are endowed professorships or "chairs," which support the educational and research activities of distinguished members of the faculty.

As this catalog goes to press, UCLA has 69 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 1986-87 UCLA General Catalog.)

**College of Letters and Science**

*Armenian Educational Foundation Chair in Modern Armenian History
Arthur Andersen and Company Chair in Business Economics
Ralph Bunche Chair in International Studies
*James S. Coleman Chair in International Development Studies
Mr. and Mrs. C.N. Flint Professorship of Philosophy
Gloria and Paul Griffin Chair in Philosophy
Marvin Hoffenberg Chair in Political Science
Endowed Chair in Modern European History
Franklin D. Murphy Chair in Italian Renaissance Studies
Narekatsi Chair in Armenian Studies
1939 Club Chair
David S. Saxon Presidential Chair in Physics
Charles Speroni Chair in Italian Literature and Culture

**School of Engineering and Applied Science**

L.M.K. Boelter Chair in Engineering
*Norman E. Friedmann Chair in Knowledge Sciences
Hughes Aircraft Company Chair in Manufacturing Engineering
Ralph M. Parsons Chair in Chemical Engineering

**Graduate School of Architecture and Urban Planning**

S. Charles Lee Chair in Architecture and Urban Planning
Harvey S. Perloff Chair

**Graduate School of Education**

Allan Murray Carter Chair in Higher Education
George F. Kneller Chair in Education and Philosophy

**School of Law**

Connell Professorship of Law
Chair in Entertainment Law
Gleeson L. Payne Chair in Insurance Law
Security Pacific Bank Chair

**John E. Anderson Graduate School of Management**

Allstate Chair in Insurance and Finance
California Chair in Real Estate and Land Economics
Edward W. Carter Chair in Business Administration
James A. Collins Chair in Management
Warren C. Cordner Chair in Money and Financial Markets
Henry Ford II Chair in International Management
Goldyne and Irwin Hearsh Chair in Money and Banking
IBM Chair in Computers and Information Systems
Harry and Elsa Kunin Chair in Business and Society
William E. Leonhard Chair in Management
Chauncey J. Medberry Chair in Management
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
Edward W. Carter Chair in Internal Medicine
Castañeda Chair in Cardiology
Crump Chair in Medical Engineering
*Distinguished Chair in Medicine
Max Factor Family Foundation Chair in Nephrology
Charles Kenneth Feldman Chair in Ophthalmology
Dolly Green Chair in Ophthalmology
Eleanor I. Leslie Chair in Neuroscience
Della Martin Chair in Psychiatry
James H. Nicholson Chair in Pediatric Cardiology
Samuel J. Pearlman, M.D. and Della Z. Pearlman Chair in Head and Neck Surgery
Thomas P. and Katherine K. Pike Chair in Alcohol Studies
Augustus S. Rose Chair in Neurology
Jennifer Jones Simon Chair in Biophysics
Norman F. Sprague Chair in Molecular Oncology
Jules Stein Chair in Ophthalmology
Streisand Chair in Cardiology Sponsored by the American Heart Association
Leon J. Tiber, M.D. and David S. Alpert, M.D. Chair in Medicine
Wasserman Professorship of Ophthalmology

**School of Public Health**

Fred H. Bixby Chair in Population Policy
*Fred W. and Pamela K. Wasserman Chair in Health Sciences
University Administrative Officers

Regents Ex Officio
Governor of California
  George Deukmejian
Lieutenant Governor of California
  Leo T. McCarthy
Speaker of the Assembly
  Willie L. Brown, Jr.
State Superintendent of Public Instruction
  Bill Honig
President of the Alumni Association of the University of California
  R. Marilyn Lee
Vice President of the Alumni Association of the University of California
  Beatrice S. Mandel
President of the University
  David Pierpont Gardner

Appointed Regents
Sheldon W. Andelson (1994)
Roy T. Brophy (1998)
Yvonne Brathwaite Burke (1993)
Glenn Campbell (1996)
Frank W. Clark, Jr. (1988)
Tarso del Junco (1997)
Jeremiah F. Hallisey (1993)
Willis W. Harman (1990)
John F. Henning (1989)
Frank L. Hope, Jr. (1988)
Leo S. Kolligian (1997)
Vilma S. Martinez (1990)
Joseph A. Moore (1990)
Robert N. Noyce (1992)
Leo S. Kolligian (1990)
Robert N. Noyce (1992)
William French Smith (1998)
Yori Wada (1992)
Dean A. Watkins (1996)
Harold M. Williams (1994)
Jacobyn Ross (1988)

Faculty Representatives to the Board of Regents
Richard W. Gable
Murray L. Schwartz

Terms of Regents appointed by the Governor expire February 28 of the year named in parentheses. The Student Regent (Jacobyn Ross) and Alumni Regents serve a one-year term beginning July 1 and ending June 30 of the year listed.

Officers of The Regents
President of The Regents
  George Deukmejian
Chair of The Regents
  Frank W. Clark, Jr.
Vice Chair of The Regents
  Yvonne Brathwaite Burke
General Counsel
  James E. Holst
Secretary
  Bonnie M. Smotony
Treasurer
  Herbert M. Gordon

Office of the President
President of the University
  David Pierpont Gardner
Senior Vice President — Academic Affairs
  William R. Frazer
Senior Vice President — Administration
  Ronald W. Brady
Vice President — Agriculture and Natural Resources
  Kenneth R. Farrell
Vice President — Budget and University Relations
  William B. Baker
Vice President — Health Affairs
  Cornelius L. Hopper, M.D.
Special Assistant to the President
  Janet E. Young

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  Charles J. Hitch
President of the University, Emeritus, and Professor of Business Administration, Emeritus
  Clark Kerr
President of the University, Emeritus, and Professor of Physics, Emeritus
  David S. Saxon
Vice President of the University, Emeritus, and Professor of Physics, Emeritus
  William B. Fretter
Vice President of the University, Emeritus, Professor of Agricultural Economics, Emeritus, and Agricultural Economist, Emeritus
  Harry R. Wellman
Vice President—Agriculture and National Resources, Emeritus
  James B. Kendrick, Jr.
Vice President—Budget Plans and Relations, Emeritus
  Thomas E. Jenkins

Vice President — Financial and Business Management, Emeritus, and Professor of Pathology, Emeritus
  Baldwin G. Lamson
University Provost, Emeritus, Chancellor, Emeritus, and Professor of Mathematics, Emeritus
  Angus E. Taylor
Vice President, Emeritus, and Secretary and Treasurer of The Regents, Emeritus
  Robert M. Underhill
Assistant President, Emeritus
  Dorothy E. Everett
Secretary of The Regents, Emeritus
  Marjorie J. Woolman
Associate Secretary of The Regents, Emeritus
  Elizabeth O. Hansson
Treasurer of The Regents, Emeritus
  Owsley B. Hansen
General Counsel of The Regents, Emeritus
  Thomas J. Cunningham
Associate Counsel of The Regents, Emeritus
  John E. Landon

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Chancellor at Berkeley
  Ira Michael Heyman
Chancellor at Davis
  Theodore L. Hullar
Chancellor at Irvine
  Jack W. Peltason
Chancellor at Los Angeles
  Charles E. Young
Chancellor at Riverside
  Rosemary S.J. Schraer
Chancellor at San Diego
  Richard C. Atkinson
Chancellor at San Francisco
  Julius R. Krevans
Chancellor at Santa Barbara
  Barbara S. Uhlering
Chancellor at Santa Cruz
  Robert Bocking Stevens

University Professors
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Melvin Calvin, Emeritus University Professor, Berkeley, Department of Chemistry
Gerard Debreu, University Professor, Berkeley, Departments of Economics and Mathematics
Murray Krieger, University Professor, Irvine, Department of English and Comparative Literature
Julian S. Schwinger, University Professor, Los Angeles, Department of Physics
Glenn T. Seaborg, Emeritus University Professor, Berkeley, Lawrence Berkeley Laboratory
Neil J. Smelser, University Professor, Berkeley, Department of Sociology
Edward Teller, Emeritus University Professor, Livermore, Lawrence Livermore Laboratory
Charles H. Townes, Emeritus University Professor, Berkeley, Department of Anthropology
John R. Whinnery, University Professor, Berkeley, Department of Electrical Engineering and Computer Sciences

**UCLA Administrative Officers**

**Chancellor**
Charles E. Young, Ph.D.

**Executive Vice Chancellor**
To be named

**Assistant Executive Vice Chancellor**
Andrea L. Rich, Ph.D.

**Administrative Vice Chancellor and UCLA Medical Center Director**
Raymond G. Schultze, M.D.

**Vice Chancellor—Capital Programs**
Peter W. Blackman, J.D.

**Vice Chancellor—Faculty Relations**
Harold W. Horowitz, S.J.D.

**Vice Chancellor—Graduate Programs and Dean of Graduate Division**
Victoria A. Fromkin, Ph.D.

**Vice Chancellor—Institutional Relations**
Elwin V. Svenson, Ed.D.

**Vice Chancellor—Planning**
Adrian H. Harris, M.S.

**Vice Chancellor—Public Affairs**
Alan F. Charles, J.D.

**Vice Chancellor—Research Programs**
Albert A. Barber, Ph.D.

**Vice Chancellor—Student Affairs**
Winston C. Doby, Ed.D.

**Executive Assistant to the Chancellor**
Rosemary Ford, B.A.

**Assistant Chancellor—Executive Assistant**
John R. Sandbrook

**Director of Neuropsychiatric Hospital**
Don A. Rockwell, M.D.

**Director of Neuropsychiatric Institute**
Louis Jolyon West, M.D.

**Campus Counsel**
Patricia M. Jasper, J.D.

**University Librarian**
Russell Shank, M.B.A., D.L.S.

**Dean of Continuing Education**
Leonard Freedman, Ph.D.

**Deans of UCLA Colleges and Schools**

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**School of Dentistry**
Robert P. Thye, D.M.D.

**Graduate School of Education**
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**School of Engineering and Applied Science**
A.R. Frank Wazzan, Ph.D., Acting

**College of Fine Arts**
J. Bernard Kester, M.A., Acting

**School of Law**
Susan W. Prager, J.D.

**College of Letters and Science**
Provost
Raymond L. Orbach, Ph.D.

**Division of Humanities**
Herbert Morris, LL.B., D.Phi.

**Division of Life Sciences**
John H. O'Connor, Ph.D.

**Division of Physical Sciences**
Clarence A. Hall, Jr., Ph.D.

**Division of Social Sciences**
David O. Sears, Ph.D.

**Division of Honors**
Edward A. Alpers, Ph.D.

**Graduate School of Library and Information Science**
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How to Reach UCLA

By Automobile:
San Diego Freeway northbound; exit Wilshire Boulevard toward Westwood; left on Westwood Boulevard.
San Diego Freeway southbound; exit Sunset Boulevard; left on Sunset Boulevard; right on Westwood Plaza.

By Bus:
Schedule information is available by calling the following numbers:
Culver City Municipal Bus Line:
202-5731 or 559-8310
Southern California Rapid Transit District:
626-4455
Santa Monica Municipal Bus Line:
451-5445
## Correspondence Directory

**University of California, Los Angeles, CA 90024**

Main campus telephone: (213) 825-4321

Speech and Hearing Impaired Persons: TDD (213) 825-2833

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