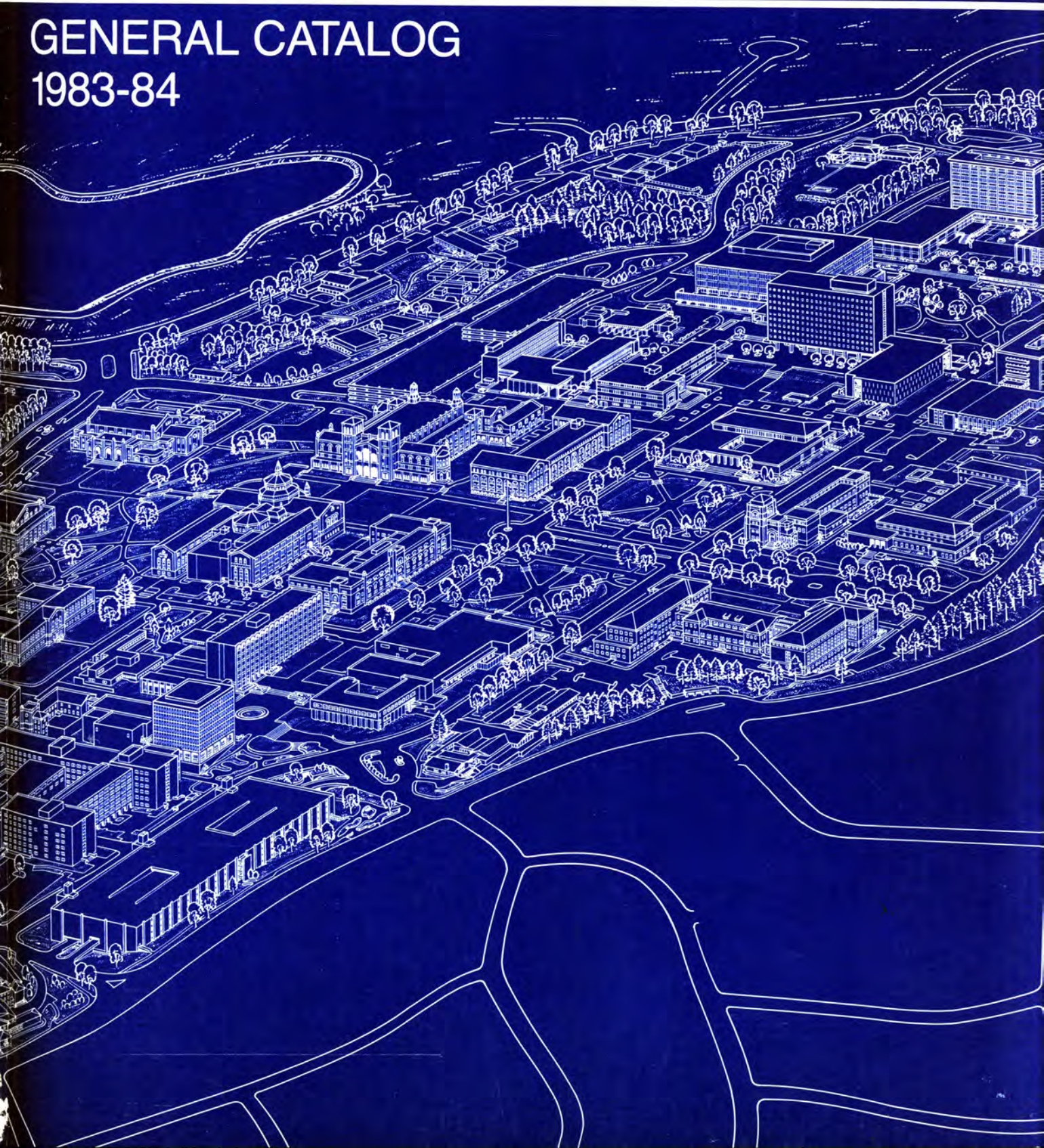
UCLA

GENERAL CATALOG
1983-84



Organization of the Catalog

General Campus Colleges

College of Letters and Science

African Area Studies
Afro-American Studies
American Indian Studies
Anthropology
Applied Linguistics
Archaeology
Asian American Studies
Astronomy
Atmospheric Sciences
Biological Chemistry (see School of Medicine)
Biology
Biomathematics (see School of Medicine)
Chemistry and Biochemistry
Chicano Studies
Classics
Communication Studies
Comparative Literature
Cybernetics
Earth and Space Sciences
East Asian Studies
Economics
Economics/Business
Economics/System Science
English
Environmental Science and Engineering (see School of Public Health)
Ethnic Arts (see College of Fine Arts)
Folklore and Mythology
French
Geography
Geology (see Earth and Space Sciences)
Germanic Languages
History
Indo-European Studies
Islamic Studies
Italian
Journalism
Kinesiology
Latin American Studies
Linguistics
Mathematics
Mathematics/Computer Science
Mathematics/System Science
Microbiology
Molecular Biology
Near Eastern Languages and Cultures
Oriental Languages
Philosophy
Physics
Political Science
Psychology
Religion (see Study of Religion)
Romance Linguistics and Literature
ROTC Programs
Russian Civilization/Russian Linguistics (see Slavic Languages)
Scandinavian Languages (see Germanic Languages)
Slavic Languages and Literatures
Sociology
Spanish and Portuguese
Study of Religion

College of Fine Arts

Art, Design, and Art History
Dance
Ethnic Arts
Motion Picture/Television (see Theater Arts)
Music
Theater Arts

General Campus Professional Schools

School of Engineering and Applied Science

Chemical Engineering
Computer Science
Electrical Engineering
Engineering Systems
Environmental Science and Engineering (see School of Public Health)
Materials Science and Engineering
Mechanics and Structures
System Science

Graduate School of Architecture and Urban Planning

Graduate School of Education

School of Law

Graduate School of Library and Information Science

Graduate School of Management

School of Social Welfare

Health Science Schools

School of Dentistry

Oral Biology

School of Medicine

Anatomy
Anesthesiology (Nurse Anesthesia)
Biological Chemistry
Biomathematics
Microbiology and Immunology
Molecular Biology (see College of Letters and Science)
Neuroscience
Pathology
Pharmacology
Physiology
Psychiatry and Biobehavioral Sciences
Radiological Sciences (Medical Physics)

School of Nursing

School of Public Health

Environmental Science and Engineering

UCLA

GENERAL CATALOG
1983-84

UNIVERSITY OF CALIFORNIA, LOS ANGELES JUNE 1983 $3.00

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Acknowledgments

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On the cover: Line drawing of the UCLA campus based upon a computer-generated image.

Please note

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

Other information about UCLA may be found in the announcements of the Schools of Architecture and Urban Planning, Dentistry, Education, Engineering and Applied Science, Law, Library and Information Science, Management, Medicine, Nursing, Public Health, and Social Welfare, and in the announcement of 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.*

UCLA OFFICIAL PUBLICATIONS
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A series of administrative publications of the University of California, Los Angeles, 405 Hilgard Avenue, Los Angeles, CA 90024. Second-class postage paid at Los Angeles, CA. Twelve a year—one issue in March and November; two issues in April, June, July, August, and September.

Calendar, 1983-1984

	Fall 1983	Winter 1984	Spring 1984
First day to file undergraduate application with admissions officer, 1147 Murphy Hall (Last day will depend on number of applications received)	November 1, 1982	July 1, 1983	October 1, 1983
Last day to file application for graduate admission, readmission, or renewal of application with complete credentials and application fee, with Graduate Admissions, 1247 Murphy Hall	December 30, 1982	October 1, 1983	December 30, 1983
Last day to file graduate petitions for change of major with Graduate Division, 1225 Murphy Hall	December 30, 1982	October 1, 1983	December 30, 1983
First day to obtain Student Parking Request forms at Campus Parking Service	May 2, 1983	October 10, 1983	January 16, 1984
Schedule of Classes goes on sale at Students' Store, Ackerman Union, and North Campus facilities	June 6	November 10	February 17
Distribution of registration materials by letter groups for continuing students	June 6	November 10	February 17
Enrollment for student health insurance at A2-143 Center for Health Sciences	July 1- October 14	December 1- January 20	March 21- April 13
Academic counseling for new students is available by appointment in college and school offices	July 1	November 2	January 23
Eligibility date for new and re-entrant registration by mail (Paperwork must be filed by this date in order to receive registration packets by mail)	July 15	November 1	January 20
First mailing date for continuing student registration (fee payment) and enrollment in classes	July 15	November 18	February 17
Last day to submit Student Parking Request for campus parking permit	July 13 (1st run) August 17 (2nd run)	November 15	February 20
Last day to file undergraduate application for readmission with Registrar, 1134 Murphy Hall	August 1	November 15	February 15
New and re-entrant students eligible to register by mail should receive registration materials at permanent address	August 5	November 30	February 24
First mailing date for new and re-entrant student registration (fee payment) and enrollment in classes	August 10	December 2	February 29
Last mailing date for all students to register (pay fees) and/or enroll by mail	September 2	December 9	March 7
Registrar mails: (1) Validated Reg Cards for students who paid fees by mail (2) Tentative Study List datamailer with results of enrollment processed by mail, and appointment for undergraduate enrollment in person	September 13	December 20	March 15
English as a Second Language Placement Examination (ESLPE)	September 20	January 3, 1984	March 27
QUARTER BEGINS	September 27	January 4	March 28
Subject A Placement Examination and Proficiency Examinations for English 3	September 27	January 4	March 28
Chemistry/Mathematics Preliminary Examination	September 27	January 4	March 28
Financial Aid check distribution to registered students begins	September 27	January 4	March 28
Issuing of UCLA Student I.D. Cards to new and re-entering students begins	September 27	January 4	March 28
Registration in person, 8:30 a.m. to 5:00 p.m. (Allow 30 minutes to complete fee payment process)	September 27-30	January 4-6	March 28-30
Undergraduate enrollment in person by appointment	September 27-30	January 4-6	March 28-30
French Placement Examination	September 28	January 6	March 30
Music Placement Examination	September 29	January 5	March 29
Spanish and Portuguese Placement Examination	September 29	January 5	March 29
INSTRUCTION BEGINS	October 3	January 9	April 2
*LATE registration in person with $50 fee, 8:30 a.m. to 5:00 p.m.	October 3-14	January 9-20	April 2-13
Changes in Study List without fee, 8:30 a.m. to 5:00 p.m.	October 3-14	January 9-20	April 2-13

*Note fee increase from $25 to $50.

	Fall 1983	Winter 1984	Spring 1984
Graduate Study List Card should be filed with major department by 4:00 p.m.; all approved cards due to Registrar, 1134 Murphy Hall, by 5:15 p.m.	October 5	January 11	April 4
Last day: (1) To file advancement to candidacy petitions for the master's degree with Graduate Division, 1225 Murphy Hall (2) To file Study List Card without fee (3) To change Study List (add, drop courses) without fee (4) To check waiting lists for courses on computer (5) To file graduate leaves of absence with Graduate Division, 1225 Murphy Hall	October 14	January 20	April 13
Last day to register for ETS foreign language examinations in French, German, Russian, and Spanish	October 14	January 27	March 30
Registrar mails Official Study List to all registered students	October 17	January 23	April 16
Orientation meetings on format for master's theses and doctoral dissertations (See Manuscript Adviser, 134 Powell Library)	October 20-22	January 26-28	April 26-28
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**	October 21	January 27	April 20
Last day for continuing students to file applications for undergraduate scholarships for 1984-85		February 1	
ETS foreign language examinations in French, German, Russian, and Spanish	October 22	February 4	April 7
WITH APPROVAL OF ACADEMIC DEAN: **(1) Last day for undergraduates to ADD courses with $3 petition fee** ****(2) Last day for undergraduates to file Late Study List with $50 fee**	October 28	February 3	April 27
Last day to file bachelor's Degree Candidate Card for current quarter (without fee) with Registrar, Window A, Murphy Hall	October 28	February 3	April 27
Last day to submit final drafts of dissertations to doctoral committees for degrees to be conferred in current quarter	November 4	February 10	May 4
Last day: **(1) To file removal of Incomplete petition ($5 fee) with Registrar, Window A, Murphy Hall** **(2) For undergraduates to DROP courses or change grading basis (optional P/NP) with $3 petition fee and APPROVAL OF ACADEMIC DEAN**	November 11	February 17	May 11
Last day to file bachelor's Degree Candidate Card (with $3 fee) with Registrar, Window A, Murphy Hall	November 18	February 24	May 18
Last day to submit final drafts of theses to master's committees for degrees to be conferred in current quarter	November 18	February 24	May 18
Last day to file completed copies of theses for the master's degree and dissertations for the doctoral degree to be conferred in current quarter with Graduate Division, 1225 Murphy Hall	December 5	March 9	June 1
WITH APPROVAL OF ACADEMIC DEAN: **(1) Last day for graduates to DROP courses with $3 petition fee** **(2) Last day for graduates to change grading basis (optional S/U) with $3 petition fee**	December 9	March 16	June 8
Last day to withdraw	December 9	March 16	June 8
INSTRUCTION ENDS	December 10	March 17	June 9
Final examinations	December 12-16	March 19-23	June 11-15
QUARTER ENDS	December 16	March 23	June 15
Last day to file applications for graduate merit-based financial support for 1984-85	December 30	Consult department	Consult department
Unofficial copy of previous quarter's grades available at Registrar's Window A, Murphy Hall	February 1, 1984	May 1	August 1
Commencement			June 17
Academic and administrative holidays:	July 4 September 5 November 24, 25 December 23, 26 December 30, January 2	February 20 March 26	May 28

**Note fee increase from $10 to $50. Changes to Official Study List after this date will be considered only under extraordinary circumstances and with approval of the academic dean.

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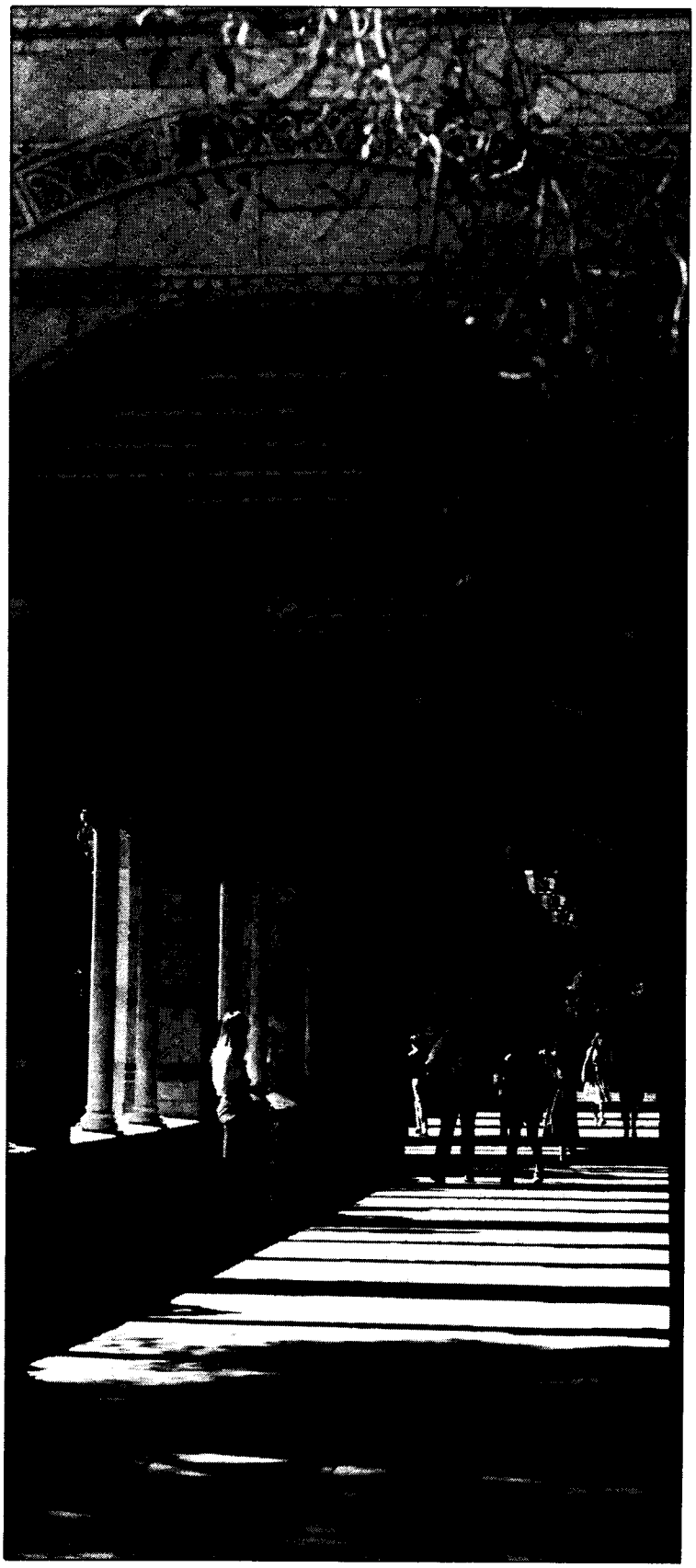
About UCLA



Introducing UCLA

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

— Ernest Carroll Moore
UCLA Director, 1919

Humble Beginnings

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

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

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

With a view toward expansion, Director Ernest Carroll Moore proposed in 1917 that the school become the first branch of the 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 1929 the Southern Branch had earned its new name: The University of California at Los Angeles (the "at" became a comma in 1958).

The Move Westward

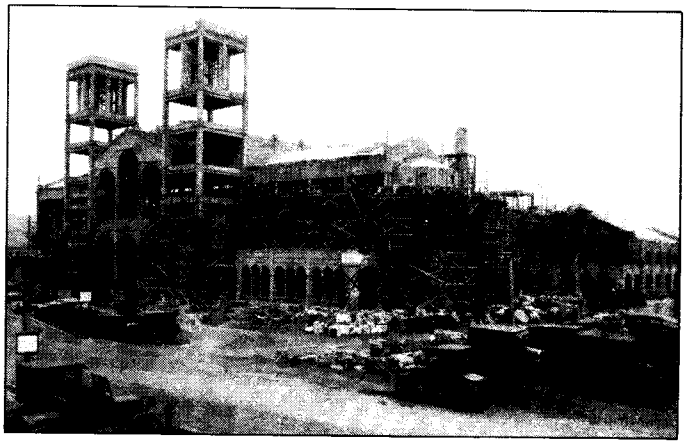
As the student population of the University continued to increase, the need for a new site became obvious and the search was soon underway for a permanent home for UCLA. On September 21, 1927, Director Moore turned the first shovelful of soil that broke ground for the creation of the campus of his dreams.

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

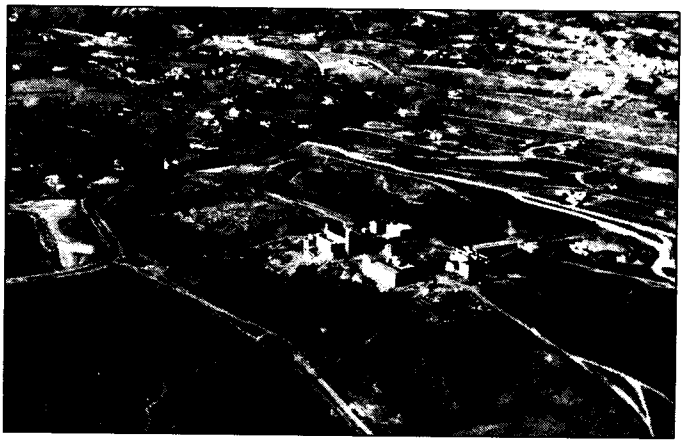
The first priority after the move to Westwood was to establish a graduate curriculum, essential for any major university. The Regents established the master's degree at UCLA in 1933 and, three years later, the doctorate. UCLA was on its way to becoming a full-fledged university offering advanced study in almost every field.

Los Angeles and the University nurtured each other through the years and both experienced phenomenal growth and development during the

Groundbreaking, September 21, 1927. Provost Ernest Carroll Moore wields the shovel as Regent Edward A. Dickson (to Dr. Moore's right) and others cheer



Not the sound of symphony, but of chisel and saw: Royce Hall under construction, 1928



Royce, Haines, Kinsey, and Moore Halls and Powell Library: the UCLA of 1929

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 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.

More than 120 buildings on 411 acres house 13 colleges and schools and serve 33,000 students. UCLA offers its undergraduates a broad and balanced general education that prepares them for the challenges of an increasingly complex world. Graduate students develop mastery of a chosen field and prepare for the practice of a profession through creative activity and research. Royce Hall, one of the original buildings, remains the symbol of the campus.

The Setting

UCLA is cradled in the rolling green hills of the Pacific slope, 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. Its first-run movie theaters (about 20 at last count), restaurants, bookstores, and specialty shops of every description are just a brief walk from campus.

The cultural treasures of the L.A. 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.

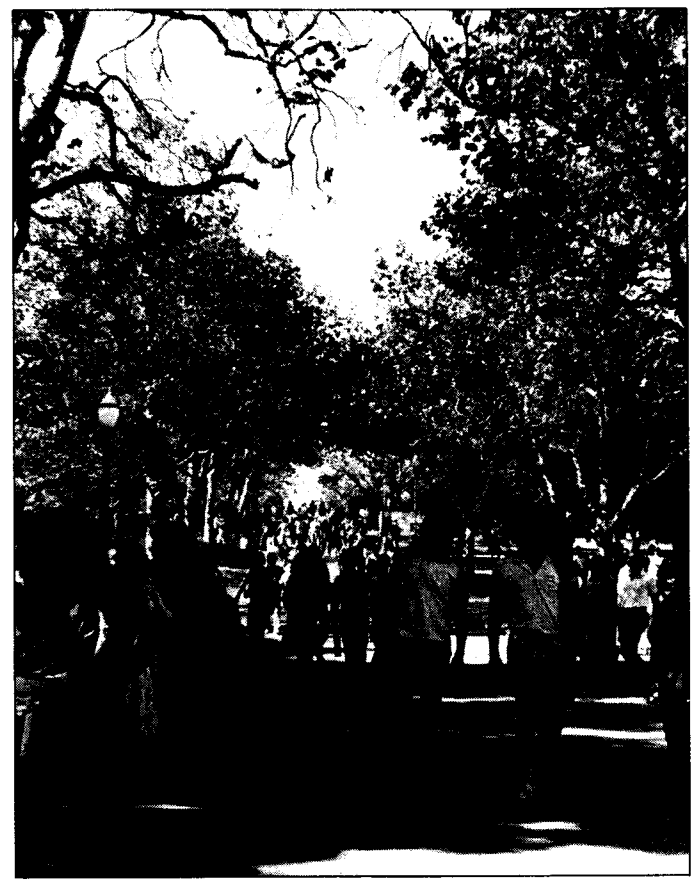
The Ambiance

UCLA is a place of broad vistas, spacious quadrangles, and landscaped gardens. The stately Tudor Gothic and Italian Romanesque architecture of the early buildings blends with the contemporary and modern design of the newer structures. Carefully planned flora line the walkways, surround the open lawns, and complement the architecture. Flowering trees delight the eye all year round: wisteria in spring, hibiscus in summer, magnolia in fall, camellia in winter.

UCLA is a place of contrasts. Moods range from the activity of Bruin Walk to the serenity of the Japanese Garden. Attend a rock concert on the lawn, or a classical recital in Schoenberg Hall. Contemplate a Rodin or a Lachaise in the Sculpture Garden, or participate in a political rally in Meyerhoff Park.

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

UCLA is a place for serious study in a vibrant, dynamic atmosphere. You must visit the campus to appreciate it. **The Visitors Center,** located in 100 Dodd Hall (825-4338), 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 events, concerts, exhibits, lectures, and recreation areas. **The Office of Undergraduate Admissions and Relations with Schools** (825-8764) conducts tours for prospective undergraduates.



Bruin Walk is a hub of activity at noon hour.

The Commitment to Research

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

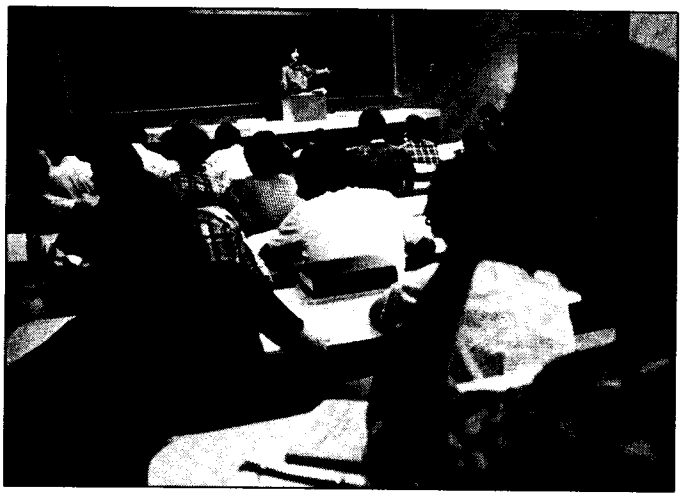
It means that the same faculty members teach both undergraduate and graduate courses, and that these instructors create knowledge as well as transmit it. They spend a major portion of their time engaged in research in libraries and laboratories and out in the field.

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 29,000 students is equal to that at UC Berkeley, but the UCLA campus is enriched by an additional 3,800 men and women studying in its health science schools of Dentistry, Medicine, Nursing, and Public Health. UCLA makes the most of its size by offering an extraordinary breadth of high quality academic programs and a range of student opportunities available at few other universities in the country.

A major concern of the faculty and staff is to allow you, the student, to feel that you belong. UCLA provides orientation sessions and special academic assistance programs for new students, a staff of helpful advisers and counselors in every college and academic department, a myriad of



student services, and unlimited opportunities for involvement and participation.

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

Many prospective students ask about the size of classes at UCLA. Standard instructional formats include lectures, discussion sections, seminars, and laboratory sessions. Lecture groups of more than 200 — especially in introductory courses — are not unusual, but in such cases students generally also enroll in discussion sections of about 25 students. Seminars and laboratory classes usually have fewer than 20 students. There is an overall ratio of one faculty member for approximately 17 students.

Most UCLA faculty members take a genuine interest in their students. They set aside office hours for receiving students, and most appreciate the opportunity for informal conversation. Even professors who seem remote in the classroom may be just the opposite on a one-to-one basis. A brief discussion can benefit both student and instructor.

Professors are often aided, especially in the small discussion sections, by teaching assistants (TAs). These are graduate students who teach on a part-time basis while pursuing their degree. Many students find it helpful to talk to the TAs about academic problems.

Hallmarks of Excellence

Recent surveys indicate that in overall excellence, UCLA is one of America's most prestigious and influential public universities. It is consistently rated among the best universities in the nation and is by far the youngest institution in this select group.

ACADEMICS — UCLA has two colleges and eleven professional schools. The College of Letters and Science and the College of Fine Arts offer programs leading to both undergraduate and graduate degrees, as do the School of Engineering and Applied Science and the School of Nursing. The other professional schools offer graduate programs exclusively: the Graduate School of Architecture and Urban Planning, Graduate School of Education, School of Law, Graduate School of Library and Information Science, Graduate School of Management, School of Social Welfare and, in the health sciences, the Schools of Dentistry, Medicine, Nursing, 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 86 different disciplines; graduate students may earn one of 68 master's and 80 doctoral and professional degrees.

THE FACULTY — Of the many factors that go into the making of a great university, no single factor is as important as its faculty. UCLA's distinguished faculty includes Nobel laureates and many members of both the National Academy of Science and the American Academy of Arts and Sciences. Since 1964, the prestigious John Simon Guggenheim Fellowship has been awarded to 143 UCLA faculty members — sixth highest total of any university in the country.

In 1982, the Conference Board of the 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 in the top five overall. Of the 32 disciplines studied, 17 of UCLA's academic departments were rated among the top ten in the country.

RESEARCH — UCLA is one of the outstanding research universities in the country, receiving more than $125 million a year in extramural grants and contracts to support its research activities. The University hosts several hundred postdoctoral scholars sharing 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 sources of energy and safety, and the discovery 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 — equally divided between men and women — yields the wide range of opinion and perspective essential to a great university. Although the majority are from California, students come from all 50 states and 112 foreign countries to study at UCLA. Foreign students number nearly 2,200, making this one of the most popular American universities for students from abroad. Ethnic minorities comprise more than one quarter of the student population.

OTHER FACTORS — With more than five 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 will play a significant role in the 1984 Olympics in Los Angeles, with half of the Olympic Village, all gymnastics and tennis events, and headquarters for the Olympic Committee 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 upon 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 140,000 students, 90 percent of them California residents. Nearly one-third 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 faculty of the University of California is internationally known for its distinguished academic achievements. On its nine campuses the University has 16 Nobel laureates, and membership in the National Academy of Science is the largest of any university in the country.

University Administration

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

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

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, some 4,000 of which are in progress at a given time. One focus of these efforts is a series of "organized research units" (ORUs) which provide an interdisciplinary approach to the search for knowledge.

ORUs are study centers and research institutes consisting of interdepartmental groups of faculty and students engaged in continuing research of particular subjects from the perspective of a number of disciplines. 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 four major divisions — health and 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 and Life Sciences

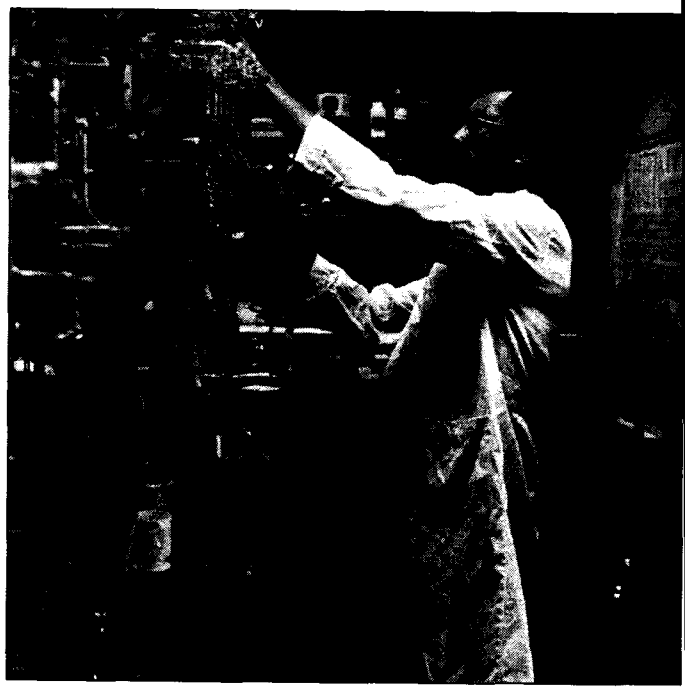
The **LABORATORY OF BIOMEDICAL AND ENVIRONMENTAL SCIENCES,** located in Warren Hall (900 Veteran Avenue, 825-9431) and funded through a contract with the Department of Energy, conducts research in the fields of biomolecular and cellular science, environmental biology, and nuclear medicine. Its major facilities include a cobalt radiation installation and a biomedical cyclotron.

The **BRAIN RESEARCH INSTITUTE,** center of neuroscience research at UCLA, is located in the Center for Health Sciences (73-364 BRI, 825-6055). It has the largest investigative program of its kind in the country, with more than 130 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 at Harbor-UCLA Medical Center in Torrance (533-3491).

The **MENTAL RETARDATION RESEARCH CENTER,** located in 48-240A NPI (825-0313), provides laboratories and clinical facilities for research and training in mental retardation and related aspects of human development. Its interdisciplinary activities range from anthropological studies to molecular aspects of inherited metabolic diseases.

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



The **JULES STEIN EYE INSTITUTE** is one of the best equipped centers for research and treatment of eye diseases anywhere in the world. This comprehensive facility, located in the Center for 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 and life sciences, research carried out in ORUs is complemented by research on neurological and neuromuscular diseases in the **Jerry Lewis Neuromuscular Research Center,** the **Reed Neurological Research Center,** and the **Neuropsychiatric Institute.** The **Jonsson Comprehensive Cancer Center,** one of 22 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, while scholars at the **Center for Health Enhancement** are improving the health of high-risk patients by initiating life-style changes.

Physical Sciences and Engineering

The **CRUMP INSTITUTE FOR MEDICAL ENGINEERING,** located in 6417 Boelter Hall (825-4111), joins medicine and engineering to conduct research on important medical problems. Its research interests include developing new approaches to the understanding of complex systems.

The **INSTITUTE OF GEOPHYSICS AND PLANETARY PHYSICS,** located in 3839 Slichter Hall (825-1664), is a Universitywide ORU engaged in studies of the earth, moon, and other planets, interplanetary space, and stellar interiors. Its laboratories include space physics, geochronology, seismology, petrology, archaeology, plasma astrophysics, glaciology, origins of life, and meteorites.

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. Administrative office: 3805 Geology (825-2093).

Among other interdisciplinary activities in the physical sciences and engineering at UCLA, researchers in the **National Center for Intermedia Transport Research** are applying the results of their particulate research to practical systems such as synthetic fuel emissions and the chemical and petrochemical industry. On another frontier, faculty and students in the **Center for Plasma Physics and Fusion Engineering** are studying the plasma fusion process in order to imitate the sun's production of energy.

Social Sciences

The **INSTITUTE OF AMERICAN CULTURES** promotes and coordinates 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 acts as an educational catalyst and coordinates the needs of American Indian students with the University and the community.

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 the College of Fine Arts. The center also works with the professional schools of Architecture and Urban Planning, Education, Management, and Public Health.

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

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

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

The **INSTITUTE OF INDUSTRIAL RELATIONS,** located in 9244 Bunche Hall (825-1964), is an interdisciplinary research and publishing program directed primarily toward the study of labor-management relations and related problems. It also conducts community and labor relations programs serving unions, management, and the general public.

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. The institute is located in 11252 Bunche Hall (825-0711).

Other interdisciplinary activities in the social sciences involve the study of arms control, nuclear proliferation, and international security in the **Center for International and Strategic Affairs;** a nationally respected **Business Forecasting Project** in UCLA's Graduate School of Management; and a nationally funded program for studies related to educational effectiveness in the Graduate School of Education's **Center for the Study of Evaluation.**

Arts and Humanities

The **INSTITUTE OF ARCHAEOLOGY,** located in 288 Kinsey Hall (825-8506), develops and coordinates activities relating to archaeology. Its major goal is to contribute to a comprehensive reconstruction of the human past, particularly as it is retrieved from excavations. Activities include excavations, management of archives and laboratories, publications, lectures, and symposia.

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 Western Folklore Archives, and 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).

In other research activities, a Fulbright Fellow in the English Department is creating a new edition of the Greek Gospels using original computer programs for textual criticism. 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. Art scholars are reconstructing the original drawings and manuscripts of Leonardo da Vinci. And the College of Fine Arts has established an Advanced Design Research Group to develop innovative ways to manage and store information.

Resources for Research and Study

The University Library System

Library facilities are crucial to both study and research. The University Library on the UCLA campus is one of the largest and most renowned academic libraries in the nation. It consists of the University Research Library, the College Library, and 17 specialized subject libraries.

Collectively they contain more than five million volumes and extensive holdings of government publications, pamphlets, manuscripts, maps, microtext editions, music scores, recordings, and slides. They regularly receive nearly 55,000 serial publications.

The main card catalog in the University Research Library lists older holdings in all campus libraries, and an on-line information system locates recently acquired materials. Students have access to the stacks in most libraries. A handbook describing the organization, services, and hours of the University libraries is available in any of the campus branches.

The University Research Library

The University Research Library on north campus (825-8301) is a modern six-story building designed primarily as a graduate research library serving the social sciences and humanities. The building houses nearly two million volumes arranged in open stacks, as well as the Reference Room, Circulation Department, and Periodicals Room. The **Microform Reading Service,** with some 400,000 microcopies of newspapers, books, and periodicals, has a variety of reading and copying equipment. Hours on weekdays are 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, Anais Nin, and Carey McWilliams, as well as the private papers of Jack Benny, Charles Laughton, King Vidor, and Nobel Peace Prize winner Dr. Ralph J. Bunche, a UCLA alumnus. Other significant holdings include the Michael Sadleir Collection of nineteenth-century fiction, generally regarded as the finest of its kind; and the Ahmanson-Murphy Aldine Collection from the press of Aldo Pio Manuzio (1495-1515).

The **Public Affairs Service,** also housed in the Research Library, embraces official publications of the United States government, the State of California, California counties and cities, the United Nations and some of its specialized agencies, and a number of other international organizations.

The College Library

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

Other Campus Libraries

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

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

The **Biomedical Library,** in the Center for Health Sciences, is one of the finest libraries of its kind in the country. Its 388,000 volumes and over 7,000 serial subscriptions serve all the UCLA health science schools and the UCLA Medical Center.

The **Chemistry Library** includes material on chemistry, biochemistry, and molecular biology, while education, kinesiology, and psychology (as well as teaching English as a second language) are the principal subjects covered by the **Education and Psychology Library.** Materials for engineering, astronomy, computer science, meteorology, and mathematics are kept in the **Engineering and Mathematical Sciences Library.** The **English Reading Room** mainly duplicates the Research Library's holdings in English and American literature, and major subjects covered by the **Geology-Geophysics Library** include geology, invertebrate paleontology, space science, and hydrology.

The **UCLA Law Library** has a substantial collection of nearly 300,000 volumes selected to further the course of instruction and legal research, while the **Management Library** serves the Graduate School of Management and the various subjects relating to business and management.

The **Map Library,** in Bunche Hall, is one of the largest of its kind in the Western U.S. The **Music Library** houses musical scores, ethnomusicology materials, sheet music, recordings, and the personal collections of such composers as Henry Mancini, Ernest Gold, and Ernst Toch. Materials in Chinese, Japanese, and Korean are available in the **Oriental Library,** while the **Physics Library** covers all aspects of that science as well as acoustics and spectroscopy.

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

The Clark Library

Supplementing the University Library is the **William Andrews Clark Memorial Library,** with its collection of some 77,000 volumes and 14,500 manuscripts relating 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 ten miles from the UCLA campus, contains non-circulating materials. Leaflets describing the Clark Library and information about University transportation to it are available at the Reference Desk in the Research Library.

Special Archive Collections

Three unique collections, the UCLA Film, Radio, and Television Archives, are a living resource equally respected by industry and scholars. Students use them to learn the finer points of production techniques and to study the careers of leading actors and directors, many of whom also use the Archives. All three archive collections are located in 1438 Melnitz Hall and are open Tuesday through Friday, 9 a.m. to 5:30 p.m. For information and/or viewing appointments, call 206-8013.

The **FILM ARCHIVES,** with more than 20,000 titles, is the largest film center west of the Library of Congress. Among its outstanding collections are 28 million feet of Hearst Metrotone News Film dating back to 1895, a recent gift to UCLA. Other noteworthy holdings include the complete nitrate print collection of Twentieth Century-Fox, the pre-1948 studio print holdings of Paramount Pictures, and more than 600 Warner Brothers prints.

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

The **TELEVISION ARCHIVES,** under joint auspices of the Academy of Television Arts and Sciences and UCLA, constitutes the nation's largest university collection of its kind in the country. Its 20,000 titles include kinescope, telefilm, and videotapes spanning television history, with particular emphasis on drama and comedy from 1947 to the present.

Art Galleries and Museums

A tour of all the UCLA museums and art galleries will take you from one corner of campus to the other. Major art exhibitions, both traveling and assembled at UCLA, are displayed in the **FREDERICK S. WIGHT ART GALLERY,** located in the Dickson Art Center. More than 200,000 visitors each year come to see a series of 12 exhibitions of painting, sculpture, photography, prints and drawings, folk art, architecture, and design. The gallery is open Tuesday through Friday 11 a.m. to 5 p.m. and weekends from 1 to 5 p.m. Daily tours are given at 1 p.m. and 2 p.m. Group tours are by appointment; call 825-3264. The administrative office is located in 1100A Dickson Art Center (825-1461).

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

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

The **MUSEUM OF CULTURAL HISTORY** is internationally known for the quality of its collections and exhibits. Its collections encompass the arts and material culture 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 noon to 5 p.m. Wednesday through Sunday.

Other Resources

The **OFFICE OF ACADEMIC COMPUTING (OAC),** located in 5905 Math Sciences, is responsible for all general-purpose academic computing activities on the UCLA campus. In support of instructional and research activities, OAC provides a broad range of computing services to the UCLA community. Computer activities are supported by an extensive library of application programs, consulting services, and reference documentation.

UCLA's principal computing system is the IBM 3033, available to all colleges, schools, and departments within UCLA. Time-sharing terminals and remote-job-entry stations are located throughout the campus. Several kinds of graphics equipment are also available.

In addition, any registered student or faculty member can obtain an account free of charge to use the IBM 4341 computer for independent research or to learn programming; apply in 4302 Math Sciences (825-7548). The IBM 4341 is also used in conjunction with specific courses. Access terminals are located in GSM, Math Sciences, Boelter Hall, and other locations throughout campus.

The **DIVISION OF LABORATORY ANIMAL MEDICINE,** located in IV-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 LAND AND WATER RESERVES SYSTEM** offers 26 reserves statewide to be used for field studies in unspoiled natural sites and for protected scientific experiments. A complex of three reserves in the Santa Monica Mountains administered by UCLA (124 Botany, 825-8062) is close enough to campus for daily access.

The **BIOLOGICAL COLLECTIONS** of the Biology Department include marine fishes from the Eastern Pacific and Gulf of California, and birds and mammals primarily from the Western U.S., Mexico, and Central America. The department also maintains a more limited collection of amphibians, reptiles, and fossil vertebrates, as well as collections of algae, fungi, and bacteria. For more information, contact James Northern, 1303 Life Sciences (825-1282).

Although the UCLA campus as a whole has an attractive, park-like atmosphere, there are two distinctive garden areas worthy of special note. The eight-acre **MILDRED E. MATHIAS BOTANICAL GARDEN,** located in the southeast corner of campus, contains some 4,000 species of native and exotic plants. It is used for botanical and ornithological teaching and research, as are the 250,000 dried plant specimens in the Herbarium. This peaceful wooded area, a center for testing the usefulness of woody subtropical plants, is a favorite spot for quiet strolls. The administrative office is located in 124 Botany (825-3620).

The **HANNAH CARTER JAPANESE GARDEN** in nearby Bel Air, designed and constructed by Japanese artisans and architects using native

plants and artifacts, is said to be one of the most authentic reproductions of Kyoto gardens in the Western world. 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 anyone wanting 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., with Friday set aside for group visits. Call the Visitors Center at 825-4574.

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 Session

UCLA offers two six-week Summer Sessions each year. More than 400 courses are offered, drawn from approximately 50 UCLA departments. Many students take advantage of Summer Session 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 Session does not constitute admission to a regular UCLA session in either undergraduate or graduate status. Students who wish to attend the University in regular session must follow admission procedures described in Chapter 2 (undergraduate) or Chapter 3 (graduate).

If you are an undergraduate registered in regular session, you may attend UCLA Summer Session for full unit and grade credit. Summer Session 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 Session study.

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

Unlike enrollment in regular session, you may attend another college institution for credit while you are enrolled in Summer Session. Courses taken in Summer Session cannot be taken on a Passed/Not Passed or Satisfactory/Unsatisfactory basis without an approved petition from your college or school or the Graduate Division. Applications and more information on Summer Session are available in 1254 Murphy Hall (825-8355).

University Extension

Serving nearly 115,000 adult students each year, UCLA Extension is the largest on-campus adult education program 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 4,500 Extension classes are innovative and experimental in content, format, and teaching methods, with extensive use of media technology. Credit and noncredit courses are offered in nearly every academic discipline and in many interdisciplinary areas. Several 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, credit earned through Extension may apply toward the UCLA bachelor's or master's degree; consult your college or school counselor or graduate adviser before enrolling. For more information, see the sections on "Concurrent Enrollment and Transfer of Credit" and "Courses of Instruction" in Chapter 4. Graduate students should also see "Transfer of Credit" in Chapter 3.

The Extension Advisory Service offers assistance in planning long- or short-term study through Extension. The office is located in 114 UCLA Extension, 10995 Le Conte Avenue (206-6201). To obtain the current *UCLA Extension Catalog,* call 825-8895. The Registration Office is open 8 a.m. to 6 p.m. weekdays and until 5 p.m. on Friday (825-9971).

Education Abroad Program (EAP)

Each year, more than 650 undergraduate and graduate students from UC campuses study at distinguished universities throughout the world. UCLA students remain registered here while overseas and receive UC units and grade points for work completed abroad. Currently, the EAP offers study opportunities on 44 different campuses in 22 countries: Australia, Austria, Brazil, China, Egypt, England, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Mexico, Norway, Peru, Scotland, Spain, Sweden, USSR, Wales, and West Africa. 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.

The EAP is open to all undergraduate students who have completed a minimum of 90 quarter units (junior status) and have at least a B average (3.0 GPA) overall. 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 the EAP vary from $5,200 to $8,000, but University financial aid is available. Applications must be filed several months in advance. For more information, contact the EAP Office in 2221B Bunche Hall (825-4889, 825-4995).

Student Life

Living Accommodations

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

There are many different housing options available, though the housing shortage on and near the UCLA campus means your first choice may not be available. You should therefore consider all housing options, decide early which ones you plan to pursue, and apply or follow up on them as soon as possible. If you plan to live off campus, arrive early to make your housing arrangements for the coming academic year. Some students even pay rent year-round to insure accommodations, and try to sublet during the summer months.

The **UCLA Housing Office,** 78 Dodd Hall (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 foreign students find housing and may also provide temporary facilities until suitable permanent housing arrangements are made.

UCLA Housing Options and Information, a booklet which covers the housing situation in much greater detail, is mailed to all undergraduates who apply to the University. Graduate students should request the booklet when they are accepted for admission.

On-Campus Housing

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

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

Applications for on-campus housing are contained in the *UCLA Housing Options and Information* booklet. It is not necessary to wait until you receive your notice of admission to apply for housing. Applications should be submitted by:

March 31 for Fall Quarter 1983
October 31 for Winter Quarter 1984
January 31 for Spring Quarter 1984

On the day following each of the above dates, a lottery will be held to determine the order in which students will be accepted. The full cost for the 1983-84 academic year (Fall, Winter, and Spring Quarters, excluding vacation periods) is approximately $2,500 for residence halls and $3,100 for suites, plus a $15 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 700 off-campus apartments for married and single-parent students on Sawtelle and Sepulveda Boulevards, about five miles from campus. Unfurnished one-, two-, and three-bedroom units are available. It is expected that rentals for 1983-84, excluding utilities, will range from $276 to $383 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 (391-0686) for up-to-date information.

University-Owned Apartments

Approximately 650 students live in three off-campus apartment buildings owned by the University. Two of the locations are within walking distance of campus and the third, about five miles south, has free shuttle bus service on weekdays. Rental rates vary depending on the location and size of the apartment. There is no waiting list and apartments are rented on a first come, first served basis. Listings are posted in the UCLA Housing Office as vacancies occur.

Cooperatives

Cooperatives provide a community atmosphere similar to residence halls except that you must work three to six hours per week as partial payment for room and board. There are five privately owned, nonprofit groups within walking distance of campus. Room and board rates for 1982-83 varied between $416 and $800 per quarter. Cooperatives normally have long waiting lists, so apply early. For applications and information, write

directly to each cooperative. Addresses are available in the UCLA Housing Office.

Fraternities and Sororities

Some 2,000 Bruins live in the fraternity and sorority houses which border the campus on the west and east sides respectively. To live in a "Greek" house you must participate in rush and join that particular organization, though membership does not guarantee housing accommodations. Costs, including 15 meals per week, average about $2,450 per year for fraternities and $2,400 for sororities. For more information, contact the UCLA Interfraternity Council (fraternities) or the Panhellenic Council (sororities) through the Dean of Students Office, 2224 Murphy Hall (825-3871).

Apartments

If you would like to rent an apartment off campus, you must consider the kind of living arrangements you can afford. UCLA is located in an affluent area of Los Angeles; rentals decrease as you move further from campus. Apartments within three miles of UCLA (Westwood, West Los Angeles, parts of Brentwood and Santa Monica) average $400 per month for efficiency units and $510 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 Housing Office.

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. Some offer discounts to UCLA students. In addition, several fraternities have rooms to rent for the summer at low rates. Check with the Interfraternity Council through the Dean of Students Office (825-3871). Hotel and motel listings are available in the UCLA 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; several bike paths in the local area make your ride easier and safer, and there are parking areas on campus specially marked and equipped for these vehicles. Many students also make their own carpooling and vanpooling arrangements to save money and make the daily commute more pleasant.

All of these alternatives are described in *How to Get to UCLA Without Using Your Car,* a booklet which also contains a ridesharing application, bus routes, area maps, and a host of helpful hints. It is available at the Campus Parking Service (Structure 8, Level 2, Westwood Plaza at Strathmore Place), at the UCLA Housing Office, and through the Transportation Services Administration (825-7639).

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 apply for parking permits through Student Health Service. If you do not receive a permit, you must reapply every quarter to be reconsidered. For more information call the Campus Parking Service at 825-9871.

ASUCLA

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

Food Service

ASUCLA operates the general campus food service which provides a number of innovative and inexpensive menu options at a variety of locations. Catering for special events is also available.

THE TREEHOUSE — Located on the first floor of Ackerman Union, the Treehouse is open for breakfast, lunch, and dinner and features as many as 48 different entrees. Several Chinese and Italian-style dishes are available, as are a variety of traditional American favorites. Both hot and cold sandwiches are offered at the **Hole-in-the-Wall.** The Treehouse is open weekdays from 7 a.m. to 7 p.m. (5 p.m. Friday).

Adjacent to the Treehouse is the **Sandwich Room,** where you can find a variety of low-cost, made-to-order sandwiches including Italian-style hot or cold submarine sandwiches. Hours are 8 a.m. to 4 p.m. weekdays.

THE COOPERAGE — On the A Level of Ackerman Union, the Cooperage offers Mexican food, pizza, grill items, croissants, and special salads. In addition to the innovative menu you will find a stage and sound system for live entertainment and a large screen TV for major events. The Cooperage is open weekdays 10:30 a.m. to 10 p.m. (7 p.m. Friday), Saturday 11 a.m. to 6 p.m., Sunday noon to 8 p.m.

NORTH CAMPUS STUDENT CENTER — This facility, just south of the Research Library, offers a variety of pastas, deli and garden sandwiches, hamburgers, and a salad bar. An outside cart offers quiches and specialty salads. North Campus is open for breakfast, lunch, and dinner. Hours are 7:30 a.m. to 11 p.m. weekdays (8 p.m. Friday), Saturday 10 a.m. to 6 p.m., Sunday 11 a.m. to 9 p.m.

THE BOMBSHELTER DELI AND BURGER BAR — This unique food service in the center of the Court of Sciences offers an assortment of deli sandwiches, hamburgers, and salads at low prices, or you can get a genuine falafel for lunch. "Gypsy breakfasts" are served in the morning. It is open weekdays 7:30 a.m. to 5 p.m., Saturday 9 a.m. to 4 p.m.

CAMPUS CORNER — The oldest of the ASUCLA facilities, the Campus Corner is located just across Bruin Walk from Meyerhoff Park. Soft frozen yogurt, hamburgers and French fries, and a broad range of pita bread pocket sandwiches are available. It is open weekdays from 8 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. Live entertainment is featured almost every night. The Coffee House is open 7:30 a.m. to 1 a.m. weekdays and 11 a.m. to midnight weekends.

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

Students' Store

The ASUCLA Students' Store, the largest on-campus retail store in the nation, is actually a mini department store with three campus locations: the B level of Ackerman Union (825-7711), the Center for Health Sciences (13-126 CHS, 825-7711, ext. 218), and the North Campus Student Center (825-7711, ext. 216). You can buy a wide variety of textbooks, general books and Lecture Notes, school and art supplies, dental and medical supplies, electronic items, sporting goods, UCLA merchandise (Bearwear), clothing, food, health aids, and greeting cards. Main store hours during school sessions are 7:45 a.m. to 7:30 p.m. weekdays (6 p.m. Friday), Saturday 10 a.m. to 5 p.m., Sunday noon to 5 p.m. During school breaks hours are 8:30 a.m. to 5:30 p.m. weekdays and noon to 5 p.m. weekends.

Job Opportunities on Campus

ASUCLA Personnel provides over 1,500 part-time jobs on campus in food service, the Students' Stores, and other departments. Listings are posted outside the office in 205 Kerckhoff Hall (825-7055).

The residence halls offer a number of positions, as do the 19 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

Students, staff, and faculty with current UCLA identification may cash a personal check or traveler's check for up to $50 a day, with a 20¢ service charge for each check, at the Service Center in 140 Kerckhoff Hall (825-0611, ext. 321). Check cashing hours are 9 a.m. to 4 p.m. weekdays. The Cashier's Office on the A Level of Ackerman Union will cash checks on Saturday from 10 a.m. to 5 p.m.

Students may purchase money orders for up to $300 at this same location (those addressed to the UC Regents may be over this limit.) There is a service charge of 50¢ for each money order. Students, staff, and faculty may also rent post office boxes here at $6 per quarter for a small box and $8 for a large one. Hours for both services are 8:30 a.m. to 4:30 p.m. weekdays.

Graphic Services

ASUCLA Graphic Services, in 150 Kerckhoff Hall (825-0611, ext. 295), is the campus center for photographic, printing, typographical, and other graphic services. Senior portraits, identification and passport photographs, laminating, film, photo and darkroom supplies, and discount photofinishing are also provided. Hours are 8:30 a.m. to 6 p.m. weekdays and 10 a.m. to 3 p.m. Saturday.

Meeting Rooms and Lounges

A variety of lounging and meeting spaces are available for use by the entire campus community. To reserve space in Ackerman Union or Kerckhoff Hall, contact the Student Union Operations Office on the A Level of Ackerman Union (825-0611); to reserve space in the North Campus Student Center, contact the information area at North Campus (825-0611, ext. 331).

Travel Service

The ASUCLA Travel Service, located in A209 Ackerman Union (825-9131), offers a selection of domestic and international charter flights, land arrangements and charter packages, student tours, scheduled air and rail tickets, and other travel-related services. The Travel Service is open 8:30 a.m. to 6 p.m. weekdays and 10 a.m. to 2 p.m. Saturday.

Student Activities

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

Student Government

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

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 presided over by the student body president. The undergraduate student body elects officers annually.

Graduate Student Government — UCLA's Graduate Students Association (GSA) shares an equal voice with the Undergraduate Students Association in the governance of the Associated Students. For more details on the GSA, see "Administration" in Chapter 3.

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

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

Clubs and Organizations

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

Clubs focusing on sports and recreation are listed in the University Recreation Association Office, located in the John Wooden Center (825-3701). For a full listing of registered student organizations, contact the **Organizational Relations Office,** 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.

Groups registered through the Organizational Relations Office are eligible to use the services of the **Campus Activities Service Office (CASO),** 62 Royce Hall (825-8981). CASO offers technical advice in the public events area, and operates most campus public assembly facilities, classrooms, and auditoriums. Official and general purpose bulletin boards on campus, general assignment lockers, and the sale of UCLA padlocks are administered by CASO.

Fraternities and Sororities

In the past few years, UCLA's fraternities and sororities — the Greeks — have enjoyed a tremendous increase in popularity. There are 29 fraternities and 17 sororities on campus, all chapters of their respective national organizations, with a total UCLA membership of more than 6,000 students.

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

You can find out more about UCLA's fraternities and sororities by contacting the Panhellenic Council (sororities) or the Interfraternity Council (fraternities) through the Dean of Students Office, 2224 Murphy Hall (825-3871).

Mardi Gras

UCLA's annual Mardi Gras has become the largest student-operated collegiate event in the country. Each spring, some 4,000 Bruins from all types of campus organizations help to prepare and present this carnival. Students design and operate more than 115 booths featuring games, food, and live entertainment for the three-day spectacle. There are rides, celebrities, roving mimes and magicians, fireworks, and much more. Mardi Gras generates some $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 Office in 129 Kerckhoff Hall (825-8001), the Campus Events Commission in 300A Kerckhoff Hall (825-1957), or the Organizational Relations Office in 161 Kerckhoff Hall (825-7041).

Speakers Program

Headed by the Campus Events Commission, the Speakers Program brings many of the foremost social and political leaders and entertainers to the campus. Past speakers have included Johnny Carson, Mel Brooks, Jane Fonda, and Bob Hope from the entertainment world; Jimmy Carter, Jerry Brown, Henry Cabot Lodge, Justice William O. Douglas, and French President Francois Mitterrand representing government and politics; and Dr. Margaret Mead and Dr. Martin Luther King, Jr. speaking on social issues.

Publications and Broadcast Media

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

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

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

The Communications Board also publishes a literary magazine called ***Westwind.*** All students are encouraged to submit their prose, poetry, illustrations, photography, and even musical compositions to the magazine for consideration. The offices of *Westwind* and the special interest periodicals are located in 112 Kerckhoff Hall.

The UCLA yearbook, ***Bruin Life,*** is one of the largest student publication efforts on campus. Available each 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. **KLA Radio** (830 AM; 99.9 Cable FM) provides music, news, and sports 24 hours a day. The carrier current signal is sent to the residence halls and parts of Ackerman Union and Kerckhoff Hall, while the Cable FM signal is broadcast to many parts of the Los Angeles area. The studios are located at the rear of the Grand Ballroom in 2400A Ackerman Union (825-9104; request line: 825-8300). 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 Arts Departments of the College of Fine Arts provides opportunities for studen involvement and personal growth.

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

The **Dance Department** presents afternoon and evening modern dance concerts and demonstrations for your participation or attendance, and folk and ethnic performing groups meet regularly. Dance students have the opportunity to design and choreograph as well as perform.

The **Theater Arts 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, including Robert Reed, Carol Burnett, Hugh O'Brien, Sam Goldwyn, Jack Nicholson, and Natalie Wood, have established awards and scholarships in the performing arts at UCLA. The Theater Arts Library houses many noteworthy collections (see "The University Library System" and "Special Archive Collections" earlier in this chapter).

Be a Spectator

If you'd rather be entertained than do the entertaining, UCLA's **Center for the Performing Arts** stages more than 200 events each year. Ever since Royce Hall was dedicated in 1929, UCLA has been a premiere West Coast showcase for the artistry of new talent as well as the mastery of the world's leading artists. The Los Angeles Philharmonic and California Symphony Orchestras appear regularly each season, as do several major dance ensembles and theatrical companies. Numerous celebrities have performed on UCLA stages, from Luciano Pavarotti to Elton John, Arthur Rubenstein to Carlos Montoya, Marian Anderson to Andy Williams, Marcel Marceau to Miles Davis. Discounted 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 1980-81 the UCLA men's athletic program was judged the finest in the country and has now won the award for national all-around excellence three times in the last five years. The women's program captured the same honors in 1981-82 for the fifth consecutive time. 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 43 NCAA men's championships — second highest in the nation — including 14 in tennis, 10 in volleyball, and 10 in basketball under the legendary John Wooden. 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 825-3236 or 825-3326.

WOMEN'S INTERCOLLEGIATE SPORTS — With 12 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 NCAA championships in softball and track and field. Other nationally ranked teams are those in basketball, volleyball, 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 206-6780.

INTERCOLLEGIATE ATHLETIC FACILITIES — UCLA's major indoor arena is the famed **Edwin W. Pauley Pavilion,** which seats 12,600 for UCLA basketball, volleyball, and gymnastics events. It will also be the site of the 1984 Olympics gymnastics competition. Immediately adjacent, the **Elvin C. Drake Stadium** is the home of UCLA track and field competitions and site of many outdoor events including Commencement. The **Los Angeles Tennis Center,** a new 5,800-seat outdoor tennis stadium and clubhouse, is expected to be completed this academic year. Off-campus facilities include the **Jackie Robinson Stadium** for varsity baseball, the **Marina del Rey Boathouse** for the UCLA crew and sailing programs, and the renowned **Rose Bowl** in Pasadena, home of the UCLA football team.

Athletics for Everyone

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

INTRAMURALS — Competitive intramural teams at UCLA are open to students, faculty, and staff. There are 55 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 the John Wooden Center (825-3701).

RECREATIONAL CLUBS AND CLASSES — Recreational clubs are formed at UCLA to bring people interested in a particular sport or activity together. Through more than 40 different clubs with a combined membership of some 3,900 students, you can learn (and meet people who enjoy) bowling, flying, waterskiing, cricket, karate, sailing, or lacrosse, to name just a few. For club information, contact the University Recreation Association in the John Wooden Center (825-3701).

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

RECREATION FACILITIES — UCLA students have several major facilities in which to practice and play. The recently completed **John Wooden Recreation and Sports Center** is a comprehensive student activities building with several gymnasia, 10 racquetball/handball courts, a weightlifting facility, and exercise and martial arts workout rooms. The **Sunset Canyon Recreation Center,** open seven days a week the year round, features an Olympic-sized swimming pool, a family pool, picnic-barbeque areas, multipurpose play fields, an outdoor amphitheater, and various meeting rooms and lounges. Students also have the use of Pauley Pavilion and Drake Stadium 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 campus at little or no cost to all registered students upon presentation of Registration and UCLA Student I.D. Cards. 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 Health Sciences. Office hours are 8 a.m. to noon and 1 to 5 p.m. weekdays except Tuesday, when service begins at 9 a.m. Emergencies only, as determined by the staff, are seen from 11:30 a.m. to 1 p.m. and 4:30 to 5 p.m. Emergency care is also available for athletic injuries at Gate 10 in Pauley Pavilion (825-5704) from 1:30 to 6 p.m. weekdays. For emergency care when these facilities are closed, you may obtain treatment at the UCLA Hospital Emergency Room on a fee-for-service basis.

Primary Care Clinics provide outpatient diagnosis, treatment, and consultation for most general health care needs on a walk-in or appointment basis. Call 825-2463.

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 825-1163.

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

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

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

Outreach Programs, such as the Peer Health Counselor and Student Health Advocate Programs, provide peer care and educational counseling for health concerns. The programs allow students to be involved in the planning and delivery of all aspects of health care. Call 825-4730.

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

A low-cost insurance policy is available for purchase at SHS at the beginning of each quarter. Students are not automatically enrolled in the plan, nor is coverage automatically renewed. The deadline for purchasing insurance for Fall Quarter is **October 14.** For information on insurance available through SHS, call 825-1856.

Psychological and Counseling Services

Located in 4223 Math Sciences, each of two divisions provide confidential, professional services focusing on personal development. Appointments are necessary (immediate appointments are arranged when needs are pressing).

The **Counseling Division** (825-0768) offers individual and group counseling for a number of general concerns, emotional crises, or indecisions. Counseling is offered for personal exploration, for couples, and for adjustment to the loss of a relationship. Educational and career interest inventories are also available.

The **Behavioral Division** (825-4207) offers counseling to help you change habits, patterns, or attitudes to cope more easily with university life. Individual and group counseling are offered in assertiveness training, weight control, stress and time management, and building social confidence.

Helpline

Helpline (825-HELP) provides information, referrals, crisis intervention, and a friendly ear when you don't know where else to turn. It is open daily from 8 p.m. to midnight (1 a.m. on Friday and Saturday). For more information, contact the Dean of Students Office, 2224 Murphy Hall (825-3871).

Ombudsman

The Ombudsman seeks to resolve personal grievances of any members of the campus community who feel they have been adversely affected by University policies. As an independent agent with investigatory powers, the Ombudsman serves as a troubleshooter for students, faculty, and staff whose problems (including sexual harassment) have not been resolved by other campus agencies. For assistance, contact the Ombudsman in 274 Kinsey Hall (825-7627).

Student Legal Services

If you are a registered 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 problems related to landlord/tenant relations, domestic relations, accident and injury problems, criminal matters, and contract and debt problems. Assistance is on a walk-in basis from 9 a.m. to 12:30 p.m. weekdays in 70 Dodd Hall (825-9894).

Central Ticket Office

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

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

The 650 Westwood Plaza location offers discounted student 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 5,500 foreign students and postdoctoral scholars. Together they provide a comprehensive orientation program which helps foreign students to pursue their academic goals and share their viewpoints with American students and the community.

The OISS staff, located in 297 Dodd Hall (825-1681), includes professional and peer counselors especially prepared to help with questions about immigration, employment, government regulations, financial aid, cross-cultural adjustment, and personal matters.

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

Special Services/Veterans Affairs

The Special Services/Veterans Affairs Office, A255 Murphy Hall (825-1501), provides information for veterans and their dependents about V.A. educational benefits, tutorial assistance, and V.A. work-study and loan programs.

This office issues fee waivers to dependents of California veterans who are deceased or disabled because of service-connected injuries and who meet certain income restrictions, and certifies student status for recipients of Social Security benefits.

Services for disabled and handicapped students include assistance with registration and class enrollment, parking permits, fee deferments authorized by the California Department of Rehabilitation, readers for the blind, interpreters for the deaf, note takers, examination proctors, and minor wheelchair repairs. Ramps, elevators, and specially equipped rest rooms for the handicapped are provided in all campus buildings.

Women's Resource Center

The Women's Resource Center, located in 2 Dodd Hall (825-3945), offers services to the entire campus community with special focus on women's needs.

The center presents workshops and support groups on child care, assertiveness training, career development, being a single parent, returning to school, and personal relationships. It offers referral services for medical, legal, career planning, personal counseling, and other services on and off campus. A library includes specialized publications for research purposes and internships are offered in creative writing, editing, legislative research, publicity, and program development.

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

Child Care Services

The **Child Care Center** provides full- and part-time care for children aged two months to six years. Fees range from $162 to $330 per month depending on care. Some grants are available for eligible families. The center is located in Parking Lot 1 at 10833 Le Conte Avenue (825-5086).

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

The **UCLA Parent Toddler School** is open to children 18 months to three years of age. Tuition is on a sliding scale according to parents' income; participating parents must work at school one morning in every four that their child attends. The school, open 9 a.m. to noon weekdays, is located in the Family Student Housing complex four miles south of campus. For more information, call 391-9155 or 398-8739.

The **University Parents Cooperative Nursery School** offers a supportive educational environment to children of the UCLA community aged three to six years. Hours are 9 a.m. to noon and/or noon to 3:45 p.m. weekdays, with extended care available until 5:30 p.m. The nursery school is located in the Family Student Housing complex (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 Campus Community Safety provides free escort service every day of the year from dusk until 1 a.m. (2 a.m. during finals week). Uniformed escorts — specially trained UCLA students employed by the Campus Police — 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.

Night Tram Service — The night tram is a free shuttle that circles the campus approximately every 15 minutes from 5 p.m. to midnight (1 a.m. during finals week). It makes several stops including the residence halls and sorority row. For more information, contact the Escort Service (825-1493) or the Student Welfare Commissioner (825-7586).

Rape Prevention and Education Services — The Women's Resource Center and the Department of Community Safety both offer workshops, self-defense training, counseling, and referrals to provide practical suggestions on safety, increase physical and mental preparedness, and heighten awareness. For more information, call 206-6915 (825-7661 for faculty and staff).

Important Phone Numbers

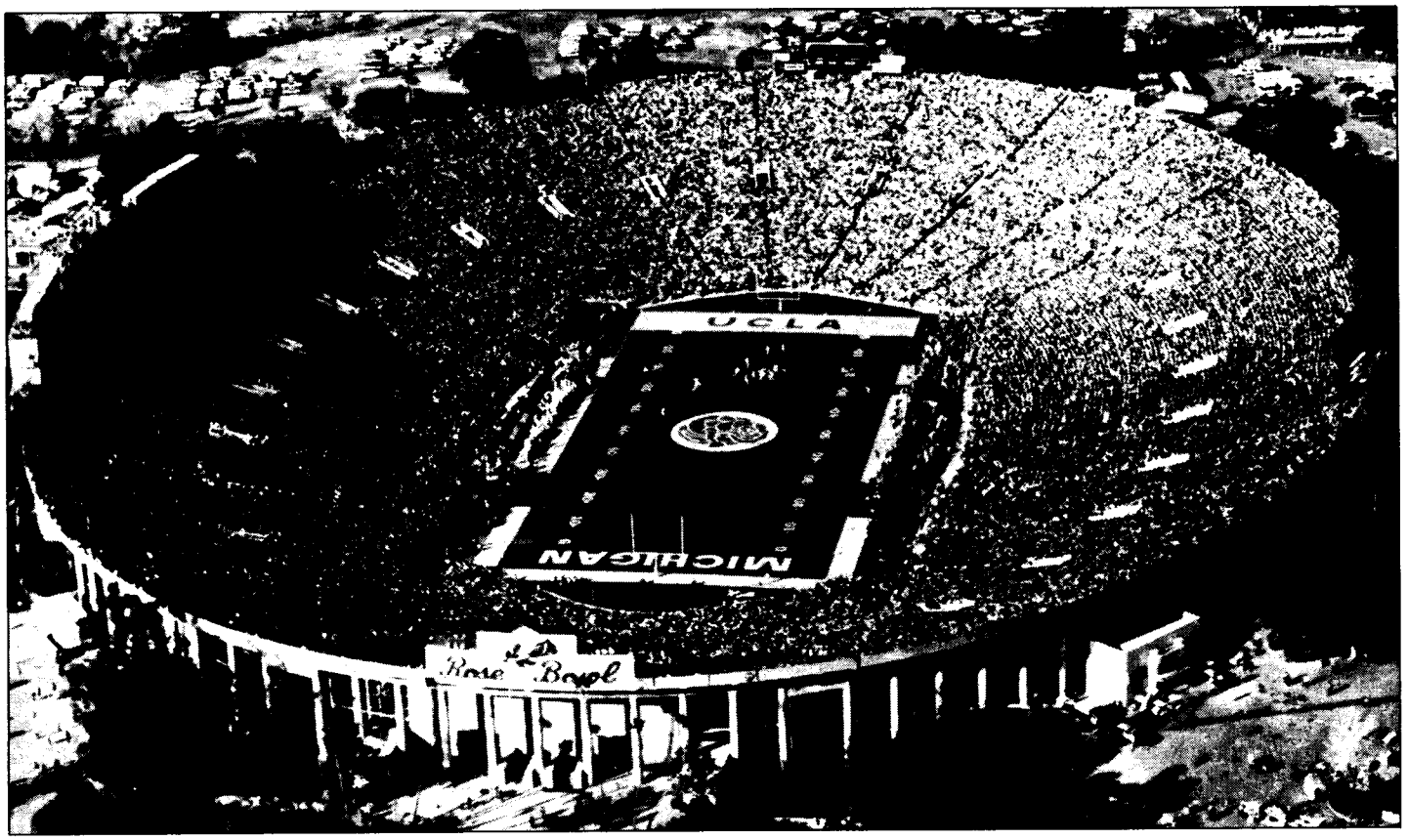
UCLA Police Department (24 hours)	825-1491
Police Emergency (from campus phones)	dial 35
UCLA Emergency Medical Center (24 hours)	825-2111
UCLA Escort Service (dusk to 1 a.m.)	825-1493
Helpline (8 p.m. to midnight)	825-HELP
Crime Information (6 p.m. to 6 a.m.)	825-7661

UCLA Alumni Association

The UCLA Alumni Association serves to advance the University's interests and to benefit students and alumni. With some 44,000 members, it ranks among the 12 largest alumni groups in the country. Students, graduates, parents, staff, and University Extension students are all eligible to join and serve on one of approximately 80 regional clubs, professional and school organizations, and student support and honorary clubs.

The Alumni Association awards scholarships to freshmen and continuing students each year; sponsors UCLA's Homecoming festivities and holds "Dinners for Twelve Strangers," which bring together students, alumni, and faculty; supports student events such as the Chancellor's Freshman and Graduate Receptions, Spring Sing, and Mardi Gras. UCLA's Young Alumni organization serves the needs of recent graduates.

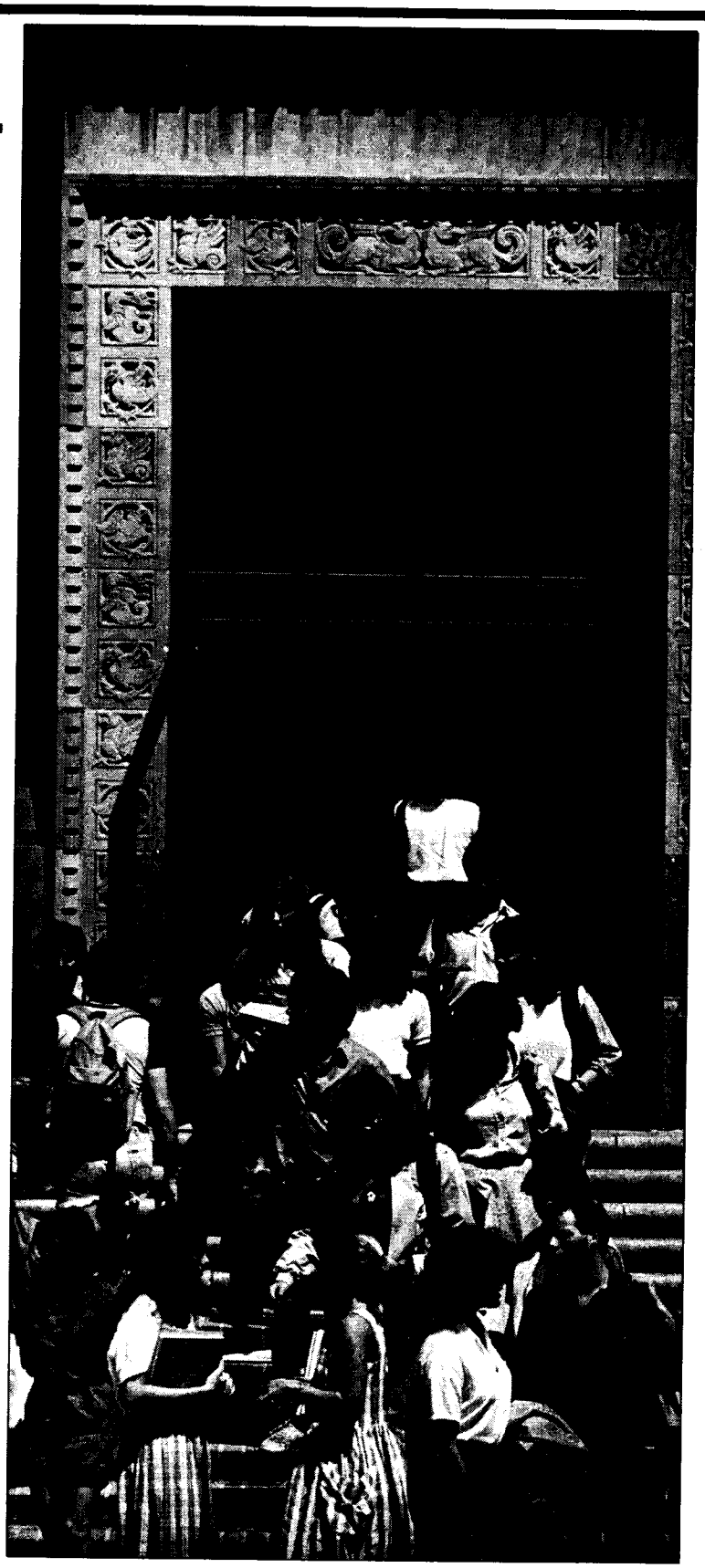
Benefits of Alumni Association membership include free library privileges as well as discounts on UCLA Fine Arts Productions, athletic events, group medical insurance, and travel programs. Graduating seniors who join receive special discounts on cap and gown rental, diploma lamination, graduation announcements,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



The UCLA Bruins beat the Michigan Wolverines, 24-14, to become 1983 Rose Bowl champions.

2

Undergraduate Study



Undergraduate Admission

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

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

In addition, the Alumni Scholars Club conducts special "up-close and personal" tours for highly qualified high school seniors (3.85 grade-point average or better). Tours are given by UCLA undergraduates during Winter and Spring Quarters and include attending class lectures and lunch. Warm, personal contact often makes it easier for prospective students to decide which university to attend.

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 chosen field. Most important, if you master certain basic subjects and skills in high school, you increase your chance of success at the University.

As a prospective UCLA student, you should give priority to completing the high school courses required for admission — the **A-F** pattern of courses listed 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 **A-F** requirements for admission are **minimum** entrance standards. Completing the required high school courses with satisfactory grades will not automatically prepare you for freshman work in every subject, much less in your major or program of study.

Good study habits and skills developed in the more advanced high school courses are essential for success at UCLA. University courses assume that you know how to read a textbook effectively, take notes, and plan a proper study schedule. Background material is expected to be thoroughly mastered.

To prepare for the demands of University work, you should take a full load of challenging, advanced courses in your senior year in high school. Since grades earned in academic courses beyond those required for admission are not used in determining your high school grade-point average, your chances for success at the University can be improved without jeopardizing your eligibility for admission.

READING — Many students are not prepared for either the kinds or amounts of reading demanded of freshmen at UCLA. You should become proficient in reading and understanding technical materials and scholarly works. Learn to read analytically and critically, questioning yourself about the author's intentions, viewpoint, arguments, and conclusions. Become familiar, and comfortable, with the conventions of standard written English, and with various writing strategies and techniques. Your reading experience should include original works in their entirety, not just textbooks and anthologies, and should encompass a wide variety of forms and topics.

WRITING — Effective critical thinking and proficiency with the written language are skills which every UCLA student must master. By University standards, a student who is proficient in English composition is able to (a) understand the assigned topic; (b) select and develop a theme by argument and example; (c) choose words which aptly and precisely convey the intended meaning; (d) construct effective sentences which economically convey the writer's ideas and display a variety of structures; (e) know the conventions of standard written English, avoiding sentence fragments, run-together sentences, faulty agreements, and improper pronoun references; and (f) punctuate, capitalize, and spell correctly.

If you plan to attend UCLA, you must take English courses in high school that require the development and practice of these skills. You must take at least four years of English composition and literature that stress expository writing: the development of persuasive critical thinking on the written page.

MATHEMATICS — Many students are unaware of the large number of fields that require advanced preparation in mathematics. Calculus courses are included in all majors in engineering and the physical, mathematical, and life sciences, as well as in programs leading to professional degrees in medicine, dentistry, optometry, and pharmacy. Moreover, many majors in the social sciences require statistics or calculus, and sometimes both.

If you select a major that includes statistics or calculus, you should expect to take that course during your freshman year at UCLA. You should prepare for such courses in high school. In addition to the two years of mathematics required for admission, you should take a second year of algebra and a year of precalculus mathematics. These courses should include (a) basic operations with numerical and algebraic functions; (b) operations with exponents and radicals; (c) linear equations and inequalities; (d) polynomials and polynomial equations; (e) functions and their graphs; (f) trigonometry, logarithms, and exponential functions; and (g) applications and word problems. Students who plan to enter a field which requires statistics should take at least the second year of algebra.

If you are not proficient in basic and intermediate algebra, you will have to take one or more precalculus courses before beginning calculus at UCLA and may also have to take preparatory courses before beginning statistics. These preparatory courses could seriously delay your undergraduate studies.

Applying for Admission

The first step in applying for admission to UCLA is obtaining an *Undergraduate Application Packet* from your high school or community college counselor or from any University of California Admissions Office. The same application is used for applying to all UC campuses.

Complete the application, taking care to list the college or school you wish to attend at UCLA and your desired major. Then send the completed application, along with your personal essay and a $30 nonrefundable application fee, to Undergraduate Admissions and Relations with Schools, 1147 Murphy Hall, University of California, Los Angeles, CA 90024.

Checks or money orders should be made payable to The Regents of the University of California. (If you have applied previously and were ineligi-

Undergraduate Admission Checklist

- ☐ Obtain and complete the *Undergraduate Application Packet,* listing the UCLA college or school and major you prefer.
- ☐ Submit the Application Packet, along with a $30 nonrefundable fee, to the UCLA Office of Undergraduate Admissions and Relations with Schools (UARS) as soon as possible after the filing period opens.
- ☐ Take the SAT or ACT examination as early as possible and have your scores sent to UARS.
- ☐ Request that official transcripts, including work in progress, be sent from your high school and any colleges you have attended to the UARS Office.

ble, or if you were admitted previously and did not register, you must file a new application for the quarter you want to attend and submit a new application fee.)

Next, if you are in high school when you apply (freshman applicant), request that your high school send an official transcript of work completed, as well as a separate list of courses in progress, to the UCLA Undergraduate Admissions and Relations with Schools Office. A final transcript, including a statement of graduation or proficiency, will be required later.

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 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.

Finally, if you are a freshman applicant, you must also submit official results of the Scholastic Aptitude Test (SAT) or American College Test (ACT) and three achievement tests. See "Entrance Requirements" later in this chapter.

When to Apply

The open or priority filing period for admission is as follows:

Winter Quarter 1984: File July 1-31, 1983
Spring Quarter 1984: File October 1-31, 1983
Fall Quarter 1984: File November 1-30, 1983

(Applications for admission to Fall Quarter 1983 would have had to be filed during November 1982.)

All applications received during the priority filing period will be accepted for consideration. After this period, however, some departments, colleges, or schools at UCLA may close to new applicants as enrollment targets are met. So, it is important to apply for admission as soon as possible after the priority period opens. (Certain colleges, schools, and departments at UCLA accept applications for the Fall Quarter only. Check the appropriate school announcement or departmental listings for details.)

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 spring.

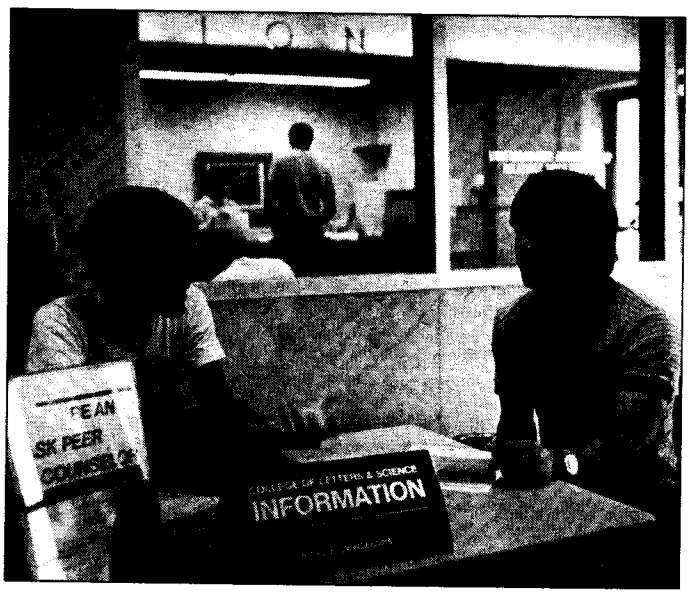
If you are accepted for admission, you will be asked to sign and return a Statement of Intention to Register and a Statement of Legal Residence. A nonrefundable $50 deposit, also required at this time, will be applied to your University registration fee if you register in the quarter to which you are admitted.

Multiple Applications

You may file an application with **one UC campus only,** listing alternate campus preferences in the space provided on the application. If you file for admission to more than one campus simultaneously, your application will not be processed until you notify Student Academic Services in Berkeley of your first choice. Fees submitted with multiple applications cannot be refunded.

Redirection

The University of California guarantees a place in the UC system to every eligible applicant who files an application during the priority filing period. Therefore, when an undergraduate program or major has more qualified applicants than can be admitted, some students are "redirected" to other UC campuses. Every effort is made to redirect your application according to the campus preferences you list on the form. For this reason, you are urged to submit your application and test scores early and to give careful thought to the order in which you rank your campus preferences. Test scores, grade-point average, and other information provided on your application are all considered in making redirection decisions.



Entrance Requirements

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

Fulfilling the admission requirements, however, does not necessarily assure admission to the campus of your first choice. As noted above, some UC campuses with enrollment limits cannot admit everyone who meets the minimum requirements.

Note, too, that admission requirements vary for California residents and nonresidents. Since the University of California is partially state-funded, admission requirements are necessarily somewhat more restrictive for out-of-state applicants. The UC requirements are designed to admit nonresidents whose standing is in the upper half of those who would be

eligible as residents. For a full definition of residence and nonresidence, see the Appendix.

Admission as a Freshman (California Residents)

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). A high school diploma or proficiency certificate is required for admission to the University.

To qualify for admission as a freshman, you must meet three major requirements: **(1) the Subject Requirement, (2) the Scholarship Requirement, and (3) the Examination Requirement.** You may also qualify for admission by examination alone.

(1) High School Subject Requirement

The following subject pattern, called the **A through F subjects,** is required for admission to UCLA. You must have earned a grade of C (2.0 grade-point average) or higher in each semester of each course.

(A) History — 1 Year

A one-year course in United States history or one-half year of United States history and one-half year of civics or American government.

(B) English — 4 Years

University preparatory courses in English composition and/or literature with no more than one year taken in the ninth grade.

(C) Mathematics — 2 Years*

University preparatory courses in such subjects as algebra, geometry, trigonometry, calculus, elementary functions, and mathematical analysis.

(D) Laboratory Science — 1 Year, completed after the ninth grade

A one-year course in one laboratory science.

(E) Foreign Language — 2 Years

Two years in one language. Any foreign language with a written literature is acceptable.

(F) Advanced Course — 1 or 2 Years*

This must be chosen from one of the following:

Mathematics — A total of one year of mathematics beyond the two years offered toward the mathematics requirement.

Foreign Language — Either an additional year in the same language offered toward the foreign language requirement or two years of another foreign language.

Science — A year course in laboratory science taken after the one-year science requirement is completed.

*For students who graduate from high school in June 1986 or later, the following changes will be in effect: the Mathematics (C) requirement will increase from two to three years, and the Advanced Course (F) requirement will be four units of college preparatory courses in at least two of the following areas: history, English, advanced mathematics, laboratory science, foreign languages, social science, fine arts. Moreover, students will be required to complete a minimum of 16 high school units in grades nine through twelve. Fifteen of those must be academic or college preparatory units, and seven of the academic units must be completed in the last two years of high school. For more information on these new requirements, see your high school counselor.

These courses constitute the **minimum** subject requirements for admission, but it is strongly recommended that you take additional courses. See "Preparing for University Work" at the beginning of this chapter.

(2) Scholarship Requirement

Eligibility for admission to UCLA is based on a combination of your grade-point average (GPA) in the A-F subjects 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.

(3) Examination Requirement

All freshman applicants must submit scores from the following tests:

(A) One Aptitude Test, either

(1) The American College Test (ACT), composite score, OR
(2) The Scholastic Aptitude Test (SAT), total score.

(B) Three College Board Achievement Tests which must include:

(1) English composition AND
(2) Mathematics, level 1 or 2 AND
(3) Either English literature, foreign languages, sciences, or social sciences.

If you are applying for admission to the Fall Quarter, you should take these tests by December of your senior year in high school. **Do not wait to apply for admission until you have taken the tests;** apply as soon as possible after the priority filing period opens (see "When to Apply" earlier in this chapter).

For detailed information about these requirements, consult the *Undergraduate Admissions Circular* or the *Undergraduate Application Packet,* available in the Undergraduate Admissions Office at any UC campus and in high schools and community colleges.

Admission by Examination Alone

If you do not meet the subject and scholarship requirements for admission, you may be able to qualify for admission to the University by examination alone. To qualify, you must score at least 1100 on the Scholastic Aptitude Test (SAT) or 26 on the American College Test (ACT). In addition, your total score on the three College Board Achievement Tests must be 1650 or higher, with a minimum score of 500 on each test.

Admission as a Freshman (Nonresidents)

Admissions procedures and examination requirements are the same as for California residents as described above. For nonresident freshmen, however, the minimum required grade-point average for A-F courses in high school is 3.4. Admission by examination alone requires the same total score of 26 on the ACT or 1100 on the SAT, but a higher total score on the three Achievement Tests (1730 or higher, with a minimum score of 500 on each test).

If you do not meet the requirements for admission to freshman standing or if you cannot qualify by examination alone, you may still gain admission as a transfer student.

Admission as a Transfer Student (California Residents)

A transfer applicant has been a registered student (a) at another college or university, or (b) in college-level extension courses other than 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 usually 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 breadth (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 breadth 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.

Admission as a Transfer Student (Nonresidents)

If you were eligible for freshman admission as a nonresident and want to apply as a transfer student, you must have a GPA of 2.8 or higher in transferable college courses. If you graduated from high school with less than a 3.4 GPA in the A-F subjects required for freshman admission, you must have completed at least 84 quarter units (56 semester units) of transferable work with a GPA of 2.8 or higher. If you lacked any of the required A-F subjects, you must also complete the appropriate college courses.

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).

Many students who plan to earn a University degree find it to their advantage to complete their freshman and sophomore work at a California community college. Each college offers a full program of courses approved for transfer. You may earn 105 quarter units (70 semester units) toward a University degree at an accredited two-year college. If you earn more than that, you will receive subject credit for the additional courses, but no more than 105 quarter units will apply toward your degree. Individual colleges and schools may impose additional credit limitations.

Extension courses taken either at UCLA or at another institution may not be acceptable for credit. The decision rests with the UARS Office.

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 priority 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 will be required to pass the English as a Second Language Placement Examination given by the University. 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 foreign students must obtain clearance in person at the Student Health Service by completing and returning a Health Evaluation Form, by verifying adequate health insurance coverage, and by establishing absence of active tuberculosis. In addition, all foreign students must obtain an annual health insurance clearance each fall at the SHS Insurance Office. For information, call 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 1983-84 academic year, all such students returning in the same status (graduate or undergraduate) must file applications for readmission as follows:

Filing Deadlines

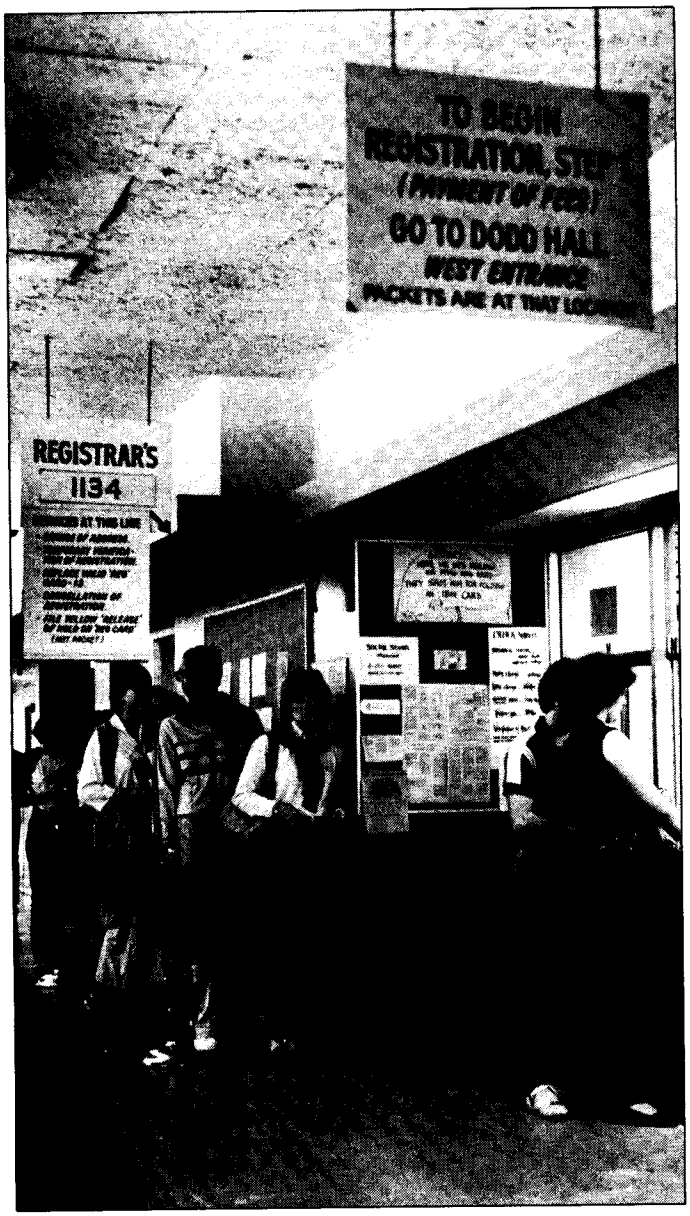
August 1 for Fall Quarter 1983
November 15 for Winter Quarter 1984
February 15 for Spring Quarter 1984

Applications are available at the Registrar's Office, Window A in Murphy Hall. Your completed application must be accompanied by a $30 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 (825-3308) for further information on readmission.

Registration and Enrollment

Information:
Registrar's Office
1134 Murphy Hall
825-1091, 825-3801

Detailed information on registration and enrollment procedures is contained in the quarterly *Schedule of Classes*, available for purchase at the Students' Store several weeks before the beginning of the quarter. To obtain a copy by mail, write to ASUCLA Students' Store, 308 Westwood Plaza, Los Angeles, CA 90024, Attn: Mail Out. Include a check or money order for $1.50 payable to ASUCLA.



Registration consists of paying fees and enrolling in classes. The registration packet, issued by the Registrar, contains cards for paying fees and a Study List Card for requesting enrollment in classes. You must complete and return the cards by the established deadlines to be officially registered and enrolled for the quarter.

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

Last Mailing Dates to Register and Enroll by Mail

(Tentative only; please refer to the *Schedule of Classes* for firm dates)

September 2 for Fall Quarter 1983
December 9 for Winter Quarter 1984
March 7 for Spring Quarter 1984

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

Registration in Person

September 27-30 for Fall Quarter 1983
January 4-6 for Winter Quarter 1984
March 28-30 for Spring Quarter 1984

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 choose 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 Card 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.

Study List Changes

Tentative Study Lists showing enrollment results are mailed to each student 10 days before the term begins. Before the first day of class, you may make program changes (add/drop courses, switch sections, or change grading options) by keeping the appointment to enroll which is printed on your Tentative Study List. Once instruction begins, and **through the tenth day (second week) of classes,** you may make as

many program changes as you wish, without appointment and without fee, at the enrollment terminals in the second-floor lounge of Ackerman Union.

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. 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 Registrar's 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 through the fourth week of instruction require a 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 slip 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 course proposal. The deadline to drop classes has been extended to the end of the sixth 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 $1,120 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 1983 are current as of our publication date but are subject to change without notice by The Regents.**

Quarterly Expenses, Fall 1983

University registration fee	$ 178
Education fee	264
Ackerman Student Union fee	4
Associated Students (ASUCLA) fee	8
Wooden Recreation Center fee	4
Total for California residents	**$ 458**
Nonresident tuition fee	$1,120
Total for nonresidents	**$1,578**

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 undergraduates at UCLA include a $50 charge for late payment of registration fees or late filing of the Study List. 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 enrollment in part-time status.

If you have approval from your college or school to enroll in 10 units or less, you may qualify for a fee reduction. Nonresident students pay only half the nonresident tuition fee; residents pay one-half the education fee. You must file the Request for Fee Reduction form with your college or school by the tenth day of instruction.

Living Expenses

Printed below is an estimated yearly budget for undergraduate California residents. Nonresidents must add the annual tuition fee of $3,360 to their total expenses for an accurate estimate. Expenses cover the three regular session quarters of the 1983-84 academic year and do not include Summer Session. This budget is designed to serve as a guide only.

Estimated Annual Budget for California Residents

	Single, Commuter, Living at Parents' Home	Single, Living at UCLA Residence Hall, Co-Op, Sorority, or Fraternity	Single, Living in Off-Campus Apartment or House	Married, Living in UCLA Family Student Housing	Married, Living in Off-Campus Apartment or House
University fees	$1,372	$1,372	$1,372	$1,372	$1,372
Books & Supplies	390	390	390	390	390
Food & Rent	1,200	2,400*	3,790	5,160	6,320
Transportation (local bus)	235	235	235	470	470
Personal	873	1,103**	1,003	1,528	1,528
Total Budget	**$4,070**	**$5,500**	**$6,790**	**$8,920**	**$10,080**

*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 Housing Office in 78 Dodd Hall (825-4491).

Financial Support

Information:
Financial Aid Office
A107 Murphy Hall
825-4531

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

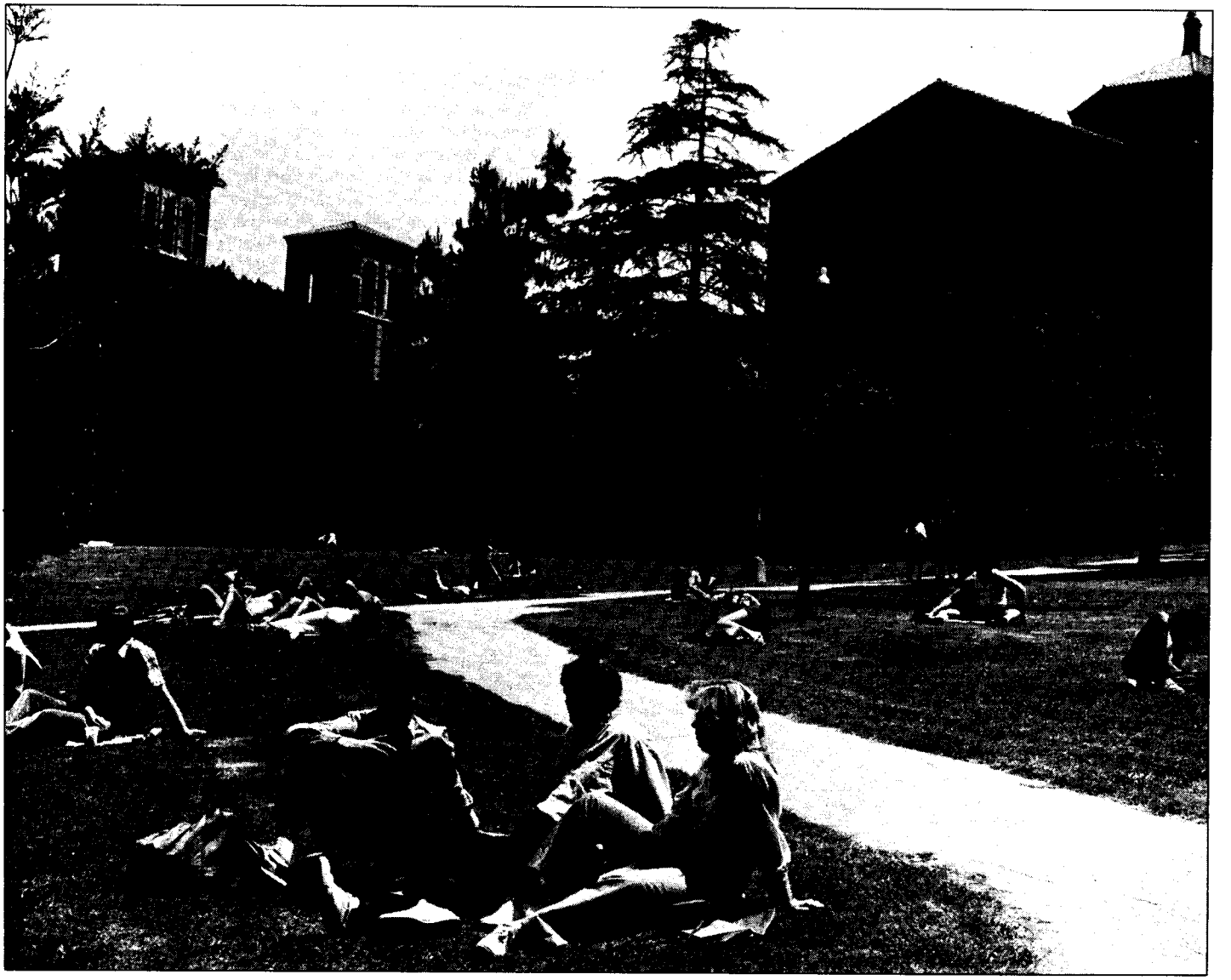
The Financial Aid Office publishes a *Financial Aid Handbook* which provides more complete information than this catalog can give. You can get a copy free of charge from your high school counselor or from the Financial Aid Office, A107 Murphy Hall, University of California, Los Angeles, CA 90024.

Applying for Financial Aid

The deadline for filing all undergraduate financial aid applications for calendar year 1984-85 is **early February 1984** (applications for 1983-84 would have had to be filed by February 1983). 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 Application for Undergraduate Admission during the priority filing period (see "Undergraduate Admission" at the beginning of this chapter). On the application, check the boxes requesting financial aid and scholarship application materials. The Financial Aid Office will send you complete instructions and applications well before the deadline.

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 foreign students in their first year of attendance at UCLA.



The 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. Undergraduate scholarships at UCLA honor outstanding past achievement and make possible greater academic excellence in the future. UCLA administers about 100 different scholarship funds which are either honorary or need-based.

Honorary scholarships come with a small honorarium (usually $100) and are awarded solely on the basis of academic performance and promise. No financial information is required. Need-based scholarships, which often carry substantial yearly stipends, are given to students who demonstrate financial need as well as high academic performance. For eligibility requirements, read the scholarship instructions sent to all financial aid applicants.

All scholarships require annual reapplication. To maintain eligibility, you must carry at least 12 units per quarter.

Regents Scholarships

One of the highest honors that may be conferred upon 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 entering or continuing juniors. You are eligible to apply if you have achieved an outstanding academic record (minimum 3.5 GPA) and show a high degree of promise. Financial need is not a criterion for this award but if you are eligible for financial assistance and have filed the SAAC, you may receive a stipend to cover the difference between your resources and the cost of your UCLA education. Regents Scholars receive an honorarium of $100 regardless of need.

Chancellor's Scholarships

The Chancellor has established these honorary scholarships, with an honorarium of $100, to recognize superior achievement among UCLA's entering freshmen. Financial need is unnecessary.

UCLA Alumni Association Scholarships

Alumni Scholarships are available to California residents who will be UCLA freshmen in the Fall Quarter. No financial need is involved, but you must show academic promise. Alumni Scholarships are merit-based and competitively awarded. Amounts for 1983-84 range from $1,000 to $3,500. 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 with consideration given to financial status and ethnic background.

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 1983-84 range from $200 to $1,800 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 1983 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 with amounts from $300 to $1,917 and are renewable annually. The state sends renewal applications to continuing Cal Grant recipients.

Grants-in-Aid

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

Supplemental Educational Opportunity Grants

These awards are federally funded and are granted only to undergraduates with financial need. Awards range from $200 to $2,000.

Education Fee Grants

To qualify for these grants, you must demonstrate need and be a California resident in your first year at the University. The grant pays your education fee for your first three consecutive quarters of attendance.

Loans

Loans allow you to postpone paying some of the costs of your education until you have completed school. A financial aid offer almost always includes a long-term, low-interest loan. The loans come from revolving funds; most repayments are immediately reloaned to current students.

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

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

Education Fee Loans

California residents who are eligible for financial aid qualify for deferral loans of the education fee. Repayment, including interest of four percent per year, begins six months after you terminate at least half-time enrollment. Minimum repayment is $30 plus interest per calendar quarter for a maximum of 10 years.

National Direct Student Loans (NDSL)

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

Nursing Loans

To be eligible for a nursing loan, you must be a U.S. citizen, permanent resident, or refugee and a student in the School of Nursing. Up to $2,500 is available per academic year. For more information, contact the financial aid counselor either in the Financial Aid Office or in the School of Nursing.

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 GSL Office, A128 Murphy Hall.

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 $2,500 per academic year up to a total of $12,500. 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 $600 to $5,200, 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 a 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

MAJORS	DEGREES	OTHER
College of Letters and Science		
African Studies	—	Special Program (taken jointly with an organized major)
Afro-American Studies	B.A.	
Anthropology	B.A.	
Asian American Studies	—	Special Program (taken jointly with an organized major)
Astronomy	B.S.	
Atmospheric Sciences	B.S.	
Biology	B.S.	
Business and Administration	—	Program (taken jointly with an organized major)
Chemistry and Biochemistry		
Biochemistry	B.S.	
Chemistry	B.S.	
General Chemistry	B.S.	
Chemistry/Materials Science	B.S.	
Chicano Studies	B.A.	
Classics	B.A.	
Classical Civilization	B.A.	
Greek	B.A.	
Latin	B.A.	
English/Greek	B.A.	
English/Latin	B.A.	
Communication Studies	B.A.	
Cybernetics	B.S.	
Diversified Liberal Arts	—	Certificate 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 Studies	B.A.	
Economics	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.	
Geography/Ecosystems	B.A.	
Germanic Languages		
German	B.A.	
Scandinavian Languages	B.A.	
History	B.A.	
International Relations	—	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.	
Linguistics	B.A.	
African Languages	B.A.	
Linguistics and Computer Science	B.A.	
Linguistics and English	B.A.	

MAJORS	DEGREES	OTHER
Linguistics and French	B.A.	
Linguistics and Italian	B.A.	
Linguistics and Oriental Languages	B.A.	
Linguistics and Philosophy	B.A.	
Linguistics and Scandinavian Languages	B.A.	
Linguistics and Spanish	B.A.	
Mathematics	B.A.	
Applied Mathematics	B.S.	
Mathematics/Applied Science	B.A.	
Mathematics/Computer Science	B.S.	
Mathematics/System Science	B.S.	
Microbiology	B.A.	
Near Eastern Languages and Cultures		
Ancient Near Eastern Civilizations	B.A.	
Arabic	B.A.	
Hebrew	B.A.	
Jewish Studies	B.A.	
Near Eastern Studies	B.A.	
Oriental Languages		
Chinese	B.A.	
Japanese	B.A.	
Philosophy	B.A.	
Physics	B.S.	
General Physics	B.A.	
Political Science	B.A.	
Psychology	B.A.	
Psychobiology	B.S.	
Quantitative Psychology	B.A.	
Slavic Languages and Literatures	B.A.	
Russian Civilization	B.A.	
Russian Linguistics	B.A.	
Sociology	B.A.	
Spanish and Portuguese		
Portuguese	B.A.	
Spanish	B.A.	
Spanish and Linguistics	B.A.	
Study of Religion	B.A.	
Urban Studies or Organizational Studies	—	Special Program (taken jointly with an organized major)
Women's Studies	—	Special Program (taken jointly with an organized major)
College of Fine Arts		
Art, Design, and Art History		
Art	B.A.	
Art History	B.A.	
Design	B.A.	
Dance	B.A.	
Ethnic Arts	B.A.	
Music	B.A.	
Theater Arts		
Motion Picture/Television	B.A.	
Theater	B.A.	
School of Engineering and Applied Science		
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. The bachelor's degree is the culmination of your undergraduate work; master's and doctoral degrees are earned in graduate study.

Knowing Your Responsibilities

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

Choosing Your Major

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

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 and, with careful planning, several of these courses may apply toward fulfilling college requirements for whatever major you choose.

To further narrow your choices, 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 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 213 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. Working with a tentative major in mind, you need to plan courses to satisfy each of the four levels of 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 the step-by-step process of planning an effective program (see "Orientation" later in this chapter). If you cannot attend Orientation, see your college or school adviser or, if you have chosen a major, make an appointment with your major department adviser before enrolling in classes.

Undergraduate Degree Requirements

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. (If you have credit for English 1 taken Fall Quarter 1979 or later at UCLA, the minimum and maximum unit requirements are increased to 182 and 210 respectively. In the School of Engineering and Applied Science, the minimum and maximum units allowed are 185 and 213 respectively.)

In working toward a bachelor's degree, you should be aware that there are four levels on which you must satisfy requirements. The first level consists of University-wide 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, foreign language, breadth requirements);

(3) Departmental requirements (courses in preparation for the major);

(4) Major requirements (courses in satisfaction of the major).

University requirements are described below. Turn to "Requirements for the Bachelor's Degree" in the appropriate school or college chapter for a description of level (2) requirements, and then to the individual departments within each college and school for level (3) and (4) 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: English Composition

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 in your first quarter of residence. You may meet this requirement by:

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

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

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

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

If you do not meet the requirement in one of the ways described above, during the first quarter of residence at UCLA you must enroll in either English A or English 1 (determined by performance on the Subject A Placement Test). If you fail either course, you must repeat it in your next quarter of residence. You will not receive credit for any English course (except English A or English 1) unless the Subject A requirement is satisfied.

Students whose native language is not English will be required to take the English as a Second Language Placement Examination (ESLPE). These students are exempt from the Subject A examination, but must take the ESLPE and may have to complete one or more courses in the English 33A-33C series.

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) Satisfactorily 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:

Economics 10, 183,
English 80, 85, 104, 115A, 170, 171, 172, 173, 174,
Geography 136,
History 6A, 6B, 6C, 7A, 7B, 145A, 145B, 146A, 146B, 147A, 147B, 148A, 148B, 148C, 149A, 149B, 150A, 150B, 150C, 151A, 151B, 152A, 152B, 153, 154A, 154B, 154C, 154D, 155A, 155B, 156A, 156B, 156C, 156D, 156E, 157A, 157B, 157C, 158A, 158B, 158C, 158D, 158E, 159A, 159B, 160, 161, 162, 163,
Political Science 1, 114A, 114B, 143, 144, 145, 171, 172A, 172B, 180, 186.

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 certificate of satisfaction of the present California requirement as administered at another college institution within the State.

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.

Aliens attending the University on an F-1 or J-1 student 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 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. Failure to maintain this level normally results in probation.

Academic Probation

You will be placed on probation if your overall grade-point average falls below 2.0 (but above 1.5), 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 should 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 be dismissed from the University.

Academic Dismissal

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

(1) If your grade-point average in any one quarter is less than 1.5, OR

(2) If you do not earn at least a C (2.0) average in any quarter when you are on probation, OR

(3) If you do not end probation within two quarters.

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

If you are subject to dismissal, your transcript will carry the notation "Academic Probation, Continuance Subject to Dean's Approval." To avoid automatic dismissal, you should immediately make an appointment with your college or school counselor. Your individual situation, attitudes, and goals will be taken into account and a decision made as to whether you will be allowed to continue on probation (with certain conditions) or be dismissed.

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

Progress Toward the Bachelor's Degree

UCLA is a full-time educational institution, and students are expected to complete their undergraduate degree requirements and graduate within four years. Maintaining the recommended study load will enhance your learning experience and the coherence of your studies.

The normal program for undergraduate students is three to four courses (12 to 16 units) per quarter. Some colleges or schools may enforce minimum enrollment or minimum progress regulations. Please see the degree requirements under each college and school for specific Study List limits. See Chapter 4 for information on concurrent enrollment, credit by examination and credit from other institutions, and special studies (199) course limitations.

Academic Resources and Assistance

Alternative Academics

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

Council on Educational Development

The Council on Educational Development (CED) offers special courses and programs that encourage educational diversity and enrichment for undergraduates. The Council works closely with colleges, schools, and research centers on campus to support new academic programs and courses. Many of these courses are on socially important issues which, because they are new, are unavailable in existing academic departments. Many involve nontraditional educational concepts, interdisciplinary topics, and subjects on the leading edge of faculty interest.

One of these is the program in **Medicine, Law, and Human Values,** which offers interdisciplinary courses and seminars on both the undergraduate and graduate levels. 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 50C Dodd Hall (825-5467).

Education at Home Program

Students interested in early American history and culture may have the opportunity to spend Winter Quarter 1984 "on location" in three Eastern cities. The Education at Home Program, conducted through the UC Riverside campus, is open to undergraduates from any campus in the UC system.

Those selected for participation will spend eight 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. For further information, brochures, or applications, write to the Education at Home Program, International Services Center, University of California, Riverside, CA 92521, or call (714) 787-3820. (See Chapter 1 for details on the **Education Abroad Program,** available to both graduate and undergraduate students.)

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 Office, A213 Ackerman Union (825-0831).

Government Internship Program — More than 2,500 UCLA students have learned about the inner workings of government while serving in this program, the largest of its kind in any university in the nation. Bruins serve part-time or full-time internships for one or more quarters on the staffs of elected officials, public interest groups, and government agencies in Los Angeles, Sacramento, Washington, and overseas. Others are participating in business, banking, and the arts in New York and San Francisco. Full-time positions carry a small stipend.

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

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

Model United Nations — This program allows students to serve as delegates to week-long simulations of United Nations sessions held each spring in New York and on a West Coast university campus.

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 50 Dodd Hall (825-7867).

Departmental Field Studies Development — This program encourages the development of coherent field programs for academic credit in relevant departments. 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 credit for appropriate field experience.

Developmental Disabilities Immersion Program (DDIP) — Cosponsored 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.

Professional Seminar Internships — This program is an extension of the Freshman/Sophomore Professional School Seminar series (see below), enabling students to learn about the professions through internships and other academically related placements. For more information, contact Paul Von Blum in 50 Dodd Hall (825-2480).

Freshman and Sophomore Programs

Freshman/Sophomore Professional School Seminar Program

This program focuses on the relationships between various academic disciplines and professional practice, and the characteristics common to the professions. Students seeking to define their own academic and career goals will gain valuable exposure to the views of professionals and the challenges and demands that stimulate professional activity.

Seminars are offered in the Fall, Winter, and Spring Quarters. Enrollment is limited to allow lower division students close contact with professional school faculty members. Internship or research opportunities are available to selected students who have completed specific seminars. For

further information, contact the Program Office in 50 Dodd Hall (825-2480).

The 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.

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.

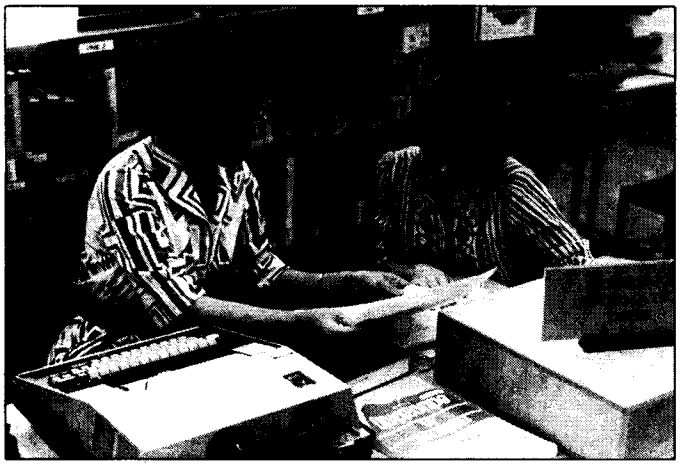
The requirements for an individual major vary with each college and school at UCLA, although maintaining a high scholastic average is usually mandatory. Please refer to the appropriate college or school chapter.

Reserve Officer Training Corps (ROTC)

The University of California, in accordance with the National Defense Act of 1920 and 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: 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.

Advising and Academic Assistance

Because UCLA's academic standards are high, many students 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 and A328 Murphy Hall, 825-1965 or 825-3382

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

School of Engineering and Applied Science — 6426 Boelter Hall, 825-2941

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

Counseling Assistants

Counseling Assistants (CAs) are UCLA graduate students who have been specially trained to help new students with the transition into University life. Although employed in the College of Letters and Science, they represent a number of academic disciplines in several colleges and schools on campus. CAs help new students during Orientation with program planning and course selection, and are available throughout the year for follow-up visits and to provide academic information and personal support. The CA Office is in A316 Murphy Hall.

Preparatory Programs for New Students

The Office of Preparatory Programs, located in A316 Murphy Hall (206-1217), administers four important programs to help new students adjust and succeed at UCLA: Orientation, Freshman Summer Program, Transfer Summer Program, and the Academic Advancement Program. 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.

Orientation is a three-day, two-night dormitory live-in program for freshmen ($95), and a two-day, one-night program for transfer students ($60). For more information, contact the Orientation Office in A316 Murphy Hall (206-6685).

Freshman Summer Program (FSP)

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

Several hundred new freshmen get a head start every summer through the program's classroom instruction, tutorials, and learning workshops held for four hours each day. Special English courses, English A, English 1, and English as a Second Language, help students improve writing skills and meet the University's initial composition requirement. The program's math courses prepare them for subsequent university-level math courses — including calculus — required for many majors at UCLA. Moreover, students receive guidance on how to plan and insure enrollment in Fall Quarter classes.

The FSP offers a firsthand introduction to UCLA. You can live in the residence halls (optional), take part in academic and personal counseling sessions, and generally get to know the campus and its facilities. The application fee is $10, and if you have applied and are eligible for financial aid, there are no registration or tuition fees. (If you are not financial aid-eligible, you will have to pay a portion of the program's tuition expense.) Other program costs are relatively low. You are eligible for the program if you have scored below 600 on the CEEB English Achievement Test and/or below 530 on the SAT Math, and if you have not taken advanced placement calculus. For more information, contact the Freshman Summer Program Office in 1209 Campbell Hall (825-8824).

Transfer Summer Program (TSP)

The Transfer Summer Program is an intensive six-week instructional program to improve the composition and general learning skills of new transfer students. Its goal is to prepare such students for UCLA through approximately 15 hours per week of classroom instruction, tutorial assistance, and workshops.

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

For details on TSP, contact the Transfer Summer Program Office in 1209 Campbell Hall (825-8824).

Academic Advancement Program

The Academic Advancement Program (AAP), formerly EOP, is the primary student affirmative action program at UCLA. AAP provides academic and personal support each year to some 3,100 students from low-income and ethnic backgrounds who have been historically underrepresented at UCLA. Its major goals are to help these students adjust to the University and to increase the likelihood of their college graduation. Among its services are peer counseling for all new students, professional/academic/personal counseling, individual and group tutoring sessions, career and graduate/professional school advice, and seminars to prepare you for graduate school entrance examinations.

AAP is open to U.S. citizens or permanent residents who are residents of California, and to Native Americans who can document their tribal affiliation. Applicants must meet regular University requirements for undergraduate admission. For more information, contact the AAP Office in 1209 Campbell Hall (825-1481).

Academic Resources Center (ARC)

The Academic Resources Center provides a comprehensive academic support system through the ARC Audiovisual Center, Learning Laboratory, Tutorials Program, and Foreign Language Instructional Laboratory. For further information on any of the services described here, contact the ARC Office in 80 Powell Library (206-1248).

Audiovisual Center — Located in 290 Powell Library, the Audiovisual Center houses a noncirculating collection of audio and video cassettes to help you with academic subjects ranging from Shakespeare to chemistry. Upon faculty request, the center holds material on reserve for specific courses.

Learning Laboratory — You can work at your own pace in the Learning Laboratory on a variety of self-instructional programs including audio, video, and written materials for improving reading comprehension and speed, writing techniques, concentration and time management, and study and test-taking techniques. Counselors are available to guide you in selecting materials and using the equipment. The Learning Lab is housed in the Audiovisual Center, 290 Powell Library.

Tutorials Program — ARC helps you develop the verbal and quantitative skills necessary for University success through peer tutoring programs staffed by trained undergraduates. The Composition Tutoring Lab (280 Powell Library), developed in collaboration with UCLA Writing Programs, provides individual assistance to students enrolled in English composition and ESL classes and, as available, to students writing for other UCLA courses. The Math/Science Tutoring Center (3973 Math Sciences), developed in cooperation with the Mathematics Department, offers organized workshops and appointment tutorials for lower division courses, and drop-in tutoring for most mathematics courses. ARC also offers peer tutoring in several other disciplines. For more information, contact the tutorial supervisors.

Foreign Language Instructional Laboratory — Located in 190 Powell Library, the laboratory provides audio materials and listening, recording, and monitoring equipment to help students improve pronunciation and comprehension of foreign languages. Resources and services are mainly course related.

Dean of Students Office

The Dean of Students Office exists to help you, either directly or by referral, with whatever needs you might have. Direct services include general counseling; locating or sending emergency messages to students; verifying eligibility for automobile insurance discount; and helping in understanding grievance procedures regarding student records, discrimination, student debts, and sexual harassment. The Dean of Students Office also plays a role in administering campus discipline and applying the standards of citizenship which you are expected to follow at UCLA (see "Student Conduct" in the Appendix). The office is located in 2224 Murphy Hall (825-3871).

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.

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.

Academic Excellence

Eligible students receive the following honors and awards in recognition of academic achievement and outstanding contributions and service to the University.

Dean's Honor 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. These honors are based upon 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 the last quarter of academic work or at graduation. To be eligible, you must have completed at least 90 University of California units for a letter grade (80 units if you are in the College of Fine Arts or the School of Nursing).

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

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

Departmental Scholar Program

Departments may nominate exceptionally promising juniors and seniors as Departmental Scholars to pursue bachelor's and master's degree programs simultaneously. Nominations are submitted to the college or school dean or provost for recommendation to the Dean of the Graduate Division.

Qualifications include completion of 24 courses (96 quarter units) at UCLA or the equivalent at a similar institution, the requirements in preparation for the major, and eligibility for the honors program in your college or school. 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).

Departmental Scholars are accorded all the privileges of graduate students with the exception of leaves of absence and participation in the Intercampus Exchange Program.

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 in the second and third quarters. Initiation is held during Spring Quarter. For more information, contact the Dean of Students Office, 2224 Murphy Hall (825-3871).

Blue Key

Blue Key is a national honor society for full-time juniors and seniors who have a 3.0 GPA or better. The group participates in campus and community service projects. Membership applications are available in Fall or Spring Quarter in the Dean of Students Office, 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 Dean of Students Office, 2224 Murphy Hall, 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.)

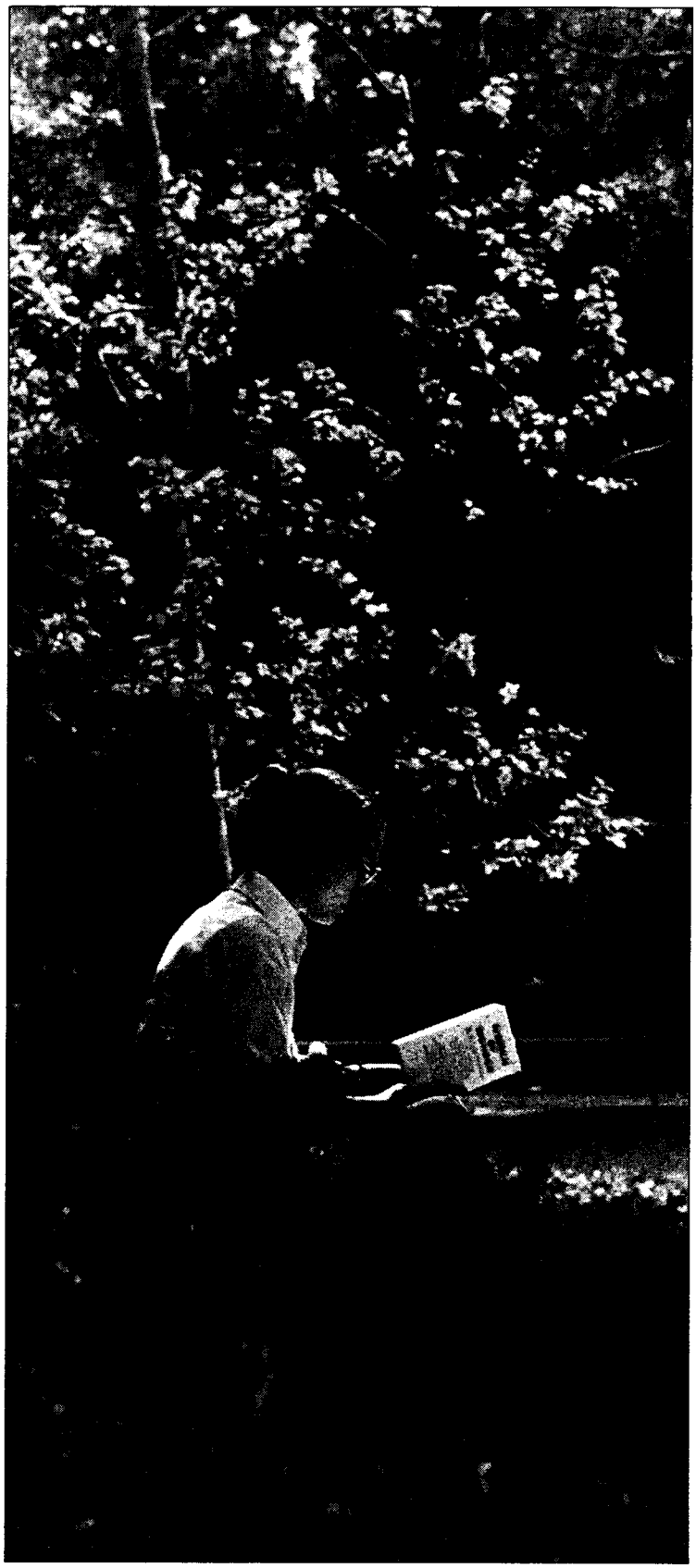
At UCLA, only graduating seniors are elected to membership. The annual election is held in May, with the initiation in June. At present, the minimum GPA considered is 3.65 (for 140 or more UC units); the minimum number of UC units considered is 75 (students at the 75-unit level must have at least a 3.85 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, 3130 Murphy Hall (825-2477).

Outstanding Senior Award

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

3

Graduate Study



Nature of Graduate Education

The principal characteristic of graduate study is the pursuit of new knowledge through research. At UCLA, graduate students benefit from — and contribute to —the resources of one of the outstanding research universities in the country. A distinguished faculty committed to research and teaching, an extensive library system ranked among the best in the nation, excellent research centers, institutes, and laboratories in virtually every major discipline (see details in Chapter 1), all provide an extraordinary scope of opportunities for graduate endeavor.

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

The first stage of graduate education leads to the degree of Master of Arts or Master of Science, or one of several professional degrees such as Master of Business Administration or Juris Doctor. The master's program is intended to develop your mastery of a field and prepare you for the practice of a profession.

The second stage leads to a doctoral degree (Ph.D., Ed.D., etc.) and is designed to prepare you for creative activity and original research, often in association with college or university teaching.

Administration

The Graduate Division

The UCLA Graduate Division is responsible for administering policy established by the Academic Senate's Graduate Council for master's, doctoral, and certain graduate professional degree programs. The Division 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

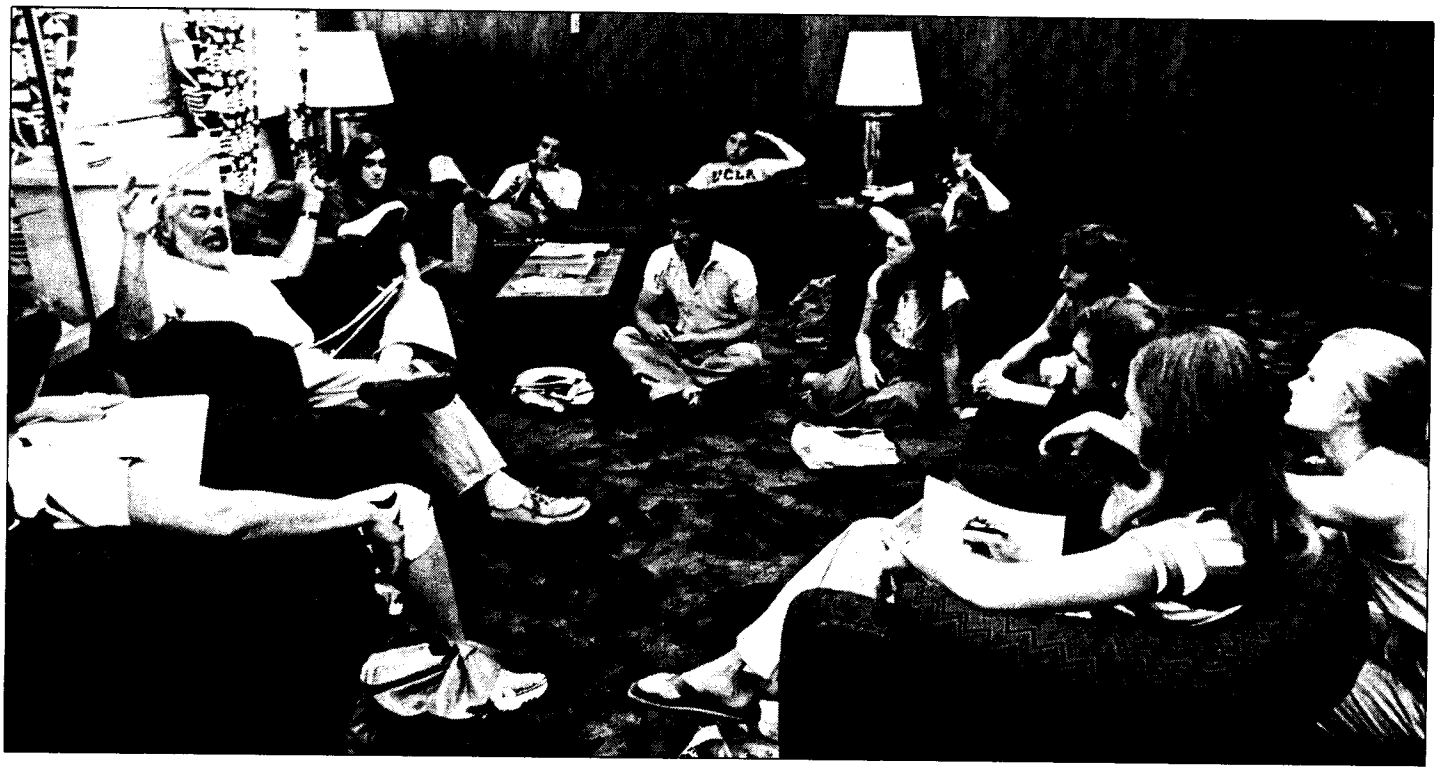
The Graduate Council is a standing committee of the UCLA faculty Academic Senate. In keeping with the University's philosophy of shared governance, the Council establishes policy for graduate education at UCLA, including requirements and standards for admission and graduate degree programs, and makes recommendations regarding fellowships and apprentice personnel. A major responsibility of the Council is the regular review of all graduate programs.

The Graduate Adviser

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

Graduate Students Association (GSA)

The Graduate Students Association is the official organization representing the interests of UCLA graduate students in academic, administrative, campus, and statewide areas. The GSA appoints or elects graduate student members to important campus organizations and committees, including the ASUCLA Board of Control and University Policy Commission, as well as to departmental student organizations and committees of the Academic Senate. In addition, the GSA sponsors various graduate student projects and social events. The GSA Office is located in 301 Kerckhoff Hall (206-8512).



Graduate Admission

Information:
Graduate Admissions Office
1247 Murphy Hall
825-1711

Admission Requirements

All applicants to graduate status must hold a bachelor's degree or the equivalent from a regionally accredited institution comparable in standard to that awarded at the University of California. A scholastic average of B or better is required in junior and senior year coursework and in any graduate study.

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

Applying for Admission

Graduate students at UCLA must submit the *Application for Graduate Admission, Fellowship and Financial Aid* to the Graduate Division. You may obtain this form, in person or by mail, from your prospective school or department or from: Graduate Admissions Office, 1247 Murphy Hall, University of California, Los Angeles, CA 90024.

Applications are generally accepted for Fall, Winter, and Spring Quarters, although some departments limit admission to Fall Quarter due to course sequencing. Such restrictions are stated in this catalog's departmental listings and in the application packet. Enrollment in Summer Session courses does not constitute admission to graduate status.

Applications and supporting papers should be on file in the Graduate Admissions Office by the following dates:

October 1, 1983 for Winter Quarter 1984
December 30, 1983 for Spring Quarter 1984
and Fall Quarter 1984

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

Supporting papers and materials to be submitted, including official transcripts of record and a $30 nonrefundable application fee, are specified in the application packet.

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.**

1983-84 GRE Test Dates

October 15, 1983	February 4, 1984
December 10, 1983	April 28, 1984

June 9, 1984 (aptitude only)

GRE applications and information are available from offices of the Educational Testing Service, either at Box 995, Princeton, NJ 08541, 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.

Foreign Applicants

Applicants who have credentials from universities and colleges in foreign countries should submit applications at least two months before the dates listed above. Foreign applicants should have an academic degree or professional title (e.g., Engineer) and will be evaluated on the basis of grades (marks) and class or rank achieved.

Foreign applicants must have adequate preparation for admission to graduate study at UCLA. If your examinations have been graded Excellent, Very Good, Good, and Pass, you must have at least a Very Good general rating to qualify for admission. A three- or four-year ordinary or pass degree or professional diploma, or a certificate from a technical, vocational, or postsecondary specialized school, does not qualify you for graduate admission.

You should submit official transcripts of record, in duplicate, for all college and university work. Do not send the original of any academic record which cannot be replaced, but obtain a properly certified copy instead. Specific instructions are given in the application packet.

Proficiency in English — If your first language is not English, you will be required to take the UCLA English as a Second Language Placement Examination (ESLPE) before the term in which you are to register. If you have a bachelor's or higher degree from any university where English is the language of instruction, or have completed at least your last two years of study at such a university, the ESLPE is not required.

As a preliminary screening test (though not as a substitute for the ESLPE), you are also urged to take the Test of English as a Foreign Language (TOEFL), administered by the Educational Testing Service in some 95 foreign centers. Even though this test is not a general University requirement, some individual departments require that you take it. Applications for the TOEFL are available from the Educational Testing Service, Box 995, Princeton, NJ 08541. See the application packet for further details.

Graduate Majors and Degrees

MAJORS	DEGREES	OTHER
African Area Studies	M.A.	
Afro-American Studies	M.A.	
American Indian Studies	M.A.	
Anatomy	M.S., C.Phil., Ph.D.	
Anesthesiology		
Nurse Anesthesia	M.S.	
Anthropology	M.A., Ph.D.	
Applied Linguistics	C.Phil., Ph.D.	
Archaeology	M.A., Ph.D.	
Architecture and Urban Planning		
Architecture/Urban Design Program	M.Arch. I, M.Arch. II, M.A. (Architecture/Urban Planning), Ph.D. (Architecture)	Certificate of Specialization (Architecture/Urban Design)
Urban Planning Program	M.A. (Architecture/Urban Planning), Ph.D. (Urban Planning)	
Art, Design, and Art History		
Art (Art, Design)	M.A., M.F.A.	
Art History	M.A., Ph.D.	
Asian American Studies	M.A.	
Astronomy	M.S., M.A.T., Ph.D.	
Atmospheric Sciences	M.S., C.Phil., Ph.D.	
Biological Chemistry	M.S., Ph.D.	
Biology	M.A., C.Phil., Ph.D.	
Biomathematics	M.S., Ph.D.	
Chemistry and Biochemistry		
Biochemistry	M.S., C.Phil., Ph.D.	
Chemistry	M.S., C.Phil., Ph.D.	
Classics	M.A., C.Phil., Ph.D.	
Greek	M.A.	
Latin	M.A.	
Comparative Literature	M.A., C.Phil., Ph.D.	
Dance	M.A.	
Dentistry	D.D.S.	Postgraduate Certificate Programs
Oral Biology	M.S.	
Earth and Space Sciences		
Geochemistry	M.S., C.Phil., Ph.D.	
Geology	M.S., C.Phil., Ph.D.	
(Nonrenewable Natural Resources)	M.S.	
Geophysics and Space Physics	M.S., Ph.D.	
Economics	M.A., C.Phil., Ph.D.	
Education	M.Ed., M.A., Ed.D., Ph.D.	Credential Programs in Multiple and Single Subject Teaching, Bilingual Emphasis, Reading Specialist, Pupil Personnel Services, School Administrative Services, School Psychologist
Special Education	Joint Ph.D. with Cal State University, L.A.	
Engineering and Applied Science	—	Certificate of Specialization (Engineering and Applied Science)
Computer Science	M.S., Ph.D.	
Engineering	M.S., M.Engr., Engr., Ph.D.	
English	M.A., C.Phil., Ph.D.	
English as a Second Language		
Teaching English as a Second Language	M.A.	Certificate Program
Environmental Science and Engineering	D.Env.	
Folklore and Mythology	M.A., Ph.D.	
French	M.A., C.Phil., Ph.D.	
Geography	M.A., C.Phil., Ph.D.	
Germanic Languages	C. Phil., Ph.D.	
German	M.A.	
Scandinavian	M.A.	
History	M.A., C.Phil., Ph.D.	
Indo-European Studies	C.Phil., Ph.D.	

MAJORS	DEGREES	OTHER
Islamic Studies	M.A., C.Phil., Ph.D.	
Italian	M.A., C.Phil., Ph.D.	
Kinesiology	M.S., Ph.D.	
Latin American Studies	M.A.	
Law	J.D., LL.M.	
Library and Information Science	M.L.S., Ph.D.	Certificate of Specialization Program
Linguistics	M.A., C.Phil., Ph.D.	
Management	M.B.A., Executive M.B.A., M.S., C.Phil., Ph.D.	
Mathematics	M.A., M.A.T., C.Phil., Ph.D.	
Medicine	M.D.	Certificates of Postgraduate Medical Study
Microbiology	M.A., Ph.D.	
Microbiology and Immunology	M.S.*, Ph.D.	
Molecular Biology	Ph.D.	
Music	M.A., M.F.A. (Performance Practices), C.Phil., Ph.D.	
Near Eastern Languages and Cultures	M.A., C.Phil., Ph.D.	
Neuroscience	Ph.D.	
Nursing	M.N.	
Oriental Languages	M.A., C.Phil., Ph.D.	
Pathology		
Experimental Pathology	M.S., Ph.D.	
Pharmacology	M.S.*, Ph.D.	
Philosophy	M.A., C.Phil., Ph.D.	
Physics	M.S., M.A.T., Ph.D.	
Physiology	M.S.*, Ph.D.	
Political Science	M.A., C.Phil., Ph.D.	
Psychiatry and Biobehavioral Sciences	—	Certificate Program in Clinical Psychology Internship
Social Psychiatry	M.S.P. (not admitting new students at this time)	
Psychology	M.A.*, C.Phil., Ph.D.	
Public Health	M.P.H., M.S., Dr.P.H., Ph.D.	
Biostatistics	M.S., Ph.D.	
Preventive Medicine and Public Health	M.S.	
Radiological Sciences		
Medical Physics	M.S., Ph.D.	
Romance Linguistics and Literature	M.A., C.Phil., Ph.D.	
Slavic Languages and Literatures	M.A., C.Phil., Ph.D.	
Social Welfare	M.S.W., D.S.W.	
Sociology	M.A., C.Phil., Ph.D.	
Spanish and Portuguese		
Hispanic Languages and Literatures	C.Phil., Ph.D.	
Luso-Brazilian Language and Literatures	M.A.	
Spanish	M.A.	
Theater Arts (Motion Picture/Television, Theater)	M.A., M.F.A., C.Phil., Ph.D.	

*The department admits only applicants whose objective is the Ph.D.

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 foreign 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 will be 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 Session Courses

Enrollment in Summer Session courses does not constitute admission to graduate status, nor does it substitute for the required continuous registration in Fall, Winter, and Spring Quarters. If you wish to apply Summer Session 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 status and you wish to resume gradu-

ate study in Summer Session. Information and applications are available from the Office of Summer Sessions, 1254 Murphy 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 Graduate Admissions or 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.

You may file only one Renewal of Application without the $30 application 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, 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 $30 (nonrefundable) made payable to The Regents of the University of California.

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

(3) The Graduate Petition for Change of Major, if appropriate. (If you are reapplying in a new major, request this form along with the Application for Readmission.)

Admission to the Schools of Dentistry, Law, and Medicine

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

Registration and Enrollment

Information:
Registrar's Office
1134 Murphy Hall
825-1091

Detailed information on registration and enrollment procedures is contained in the quarterly *Schedule of Classes,* available for purchase at the Students' Store several weeks before the beginning of the quarter. To obtain a copy by mail, write to ASUCLA Students' Store, 308 Westwood Plaza, Los Angeles, CA 90024, Attn: Mail Out. Include a check or money order for $1.50 payable to ASUCLA.

Registration consists of paying fees and enrolling in classes. The registration packet, issued by the Registrar, contains cards for paying fees and a Study List Card for requesting enrollment in classes. You must complete and return the cards by the established deadlines to be officially registered and enrolled for the quarter.

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

Last Mailing Dates to Register by Mail

(Tentative only; please refer to the *Schedule of Classes* for firm dates)

September 2 for Fall Quarter 1983
December 9 for Winter Quarter 1984
March 7 for Spring Quarter 1984

Several days immediately preceding the beginning of classes each quarter are set aside for in-person registration. Hours are 8:30 a.m. to 5 p.m. on the following days:

Registration in Person

September 27-30 for Fall Quarter 1983
January 4-6 for Winter Quarter 1984
March 28-30 for Spring Quarter 1984

Enrollment

Enrollment requests are processed from the completed Study List Card contained in the registration packet. To be enrolled for credit, you must complete the card, 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).

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

Change of Major

Continuing graduate students may petition for a change of major after discussing plans with — and obtaining the acceptance of — the new department. Forms for this purpose are available from, and should be filed with, the Graduate Division, Student and Academic Affairs Section, 1225 Murphy Hall. Deadlines are generally the same as those for the graduate admissions procedure, but you should consult with the department before filing an application.

Full-Time Graduate Program

Three graduate courses (or twelve units) per quarter are considered the normal enrollment for graduate students. If, however, you are enrolled in at least two full graduate and/or upper division courses per quarter, you are considered a full-time student. (In special circumstances, you may enroll for less than a full program with the approval of your department.)

Teaching and research assistants are required to take 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 for research assistants, may be included in reaching the eight-unit load.

Graduate students holding fellowships must be enrolled full-time students, both before and after advancement to candidacy. The two courses required per quarter may include, among others, the 500 series (individual study or research).

Veterans are required to make normal progress toward the degree as stated by the major department. Information on Veterans Administration regulations is available in the Office of Special Services/Veterans Affairs, A255 Murphy Hall.

Continuous Registration

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

If you fail to register or to file for an official leave of absence by the end of the second week of instruction, you are assumed to have withdrawn from UCLA. You will then have to reapply and compete for readmission with all other graduate applicants if you wish to return to graduate study at UCLA.

Continuing graduate students studying or doing research outside California throughout a quarter may register "in absentia" and pay one-half the registration fee, plus all other fees in full. Petitions for the reduced fee are available from the department and from the Graduate Fellowship and Assistantship Section, 1228 Murphy Hall.

Registration in the Final Quarter for the Award of the Degree

(1) You must register in the final quarter in which the degree is to be conferred if you are (a) completing coursework, (b) using library or other University facilities, or (c) taking up faculty time other than to read the thesis or dissertation or to administer the comprehensive or final examination.

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

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

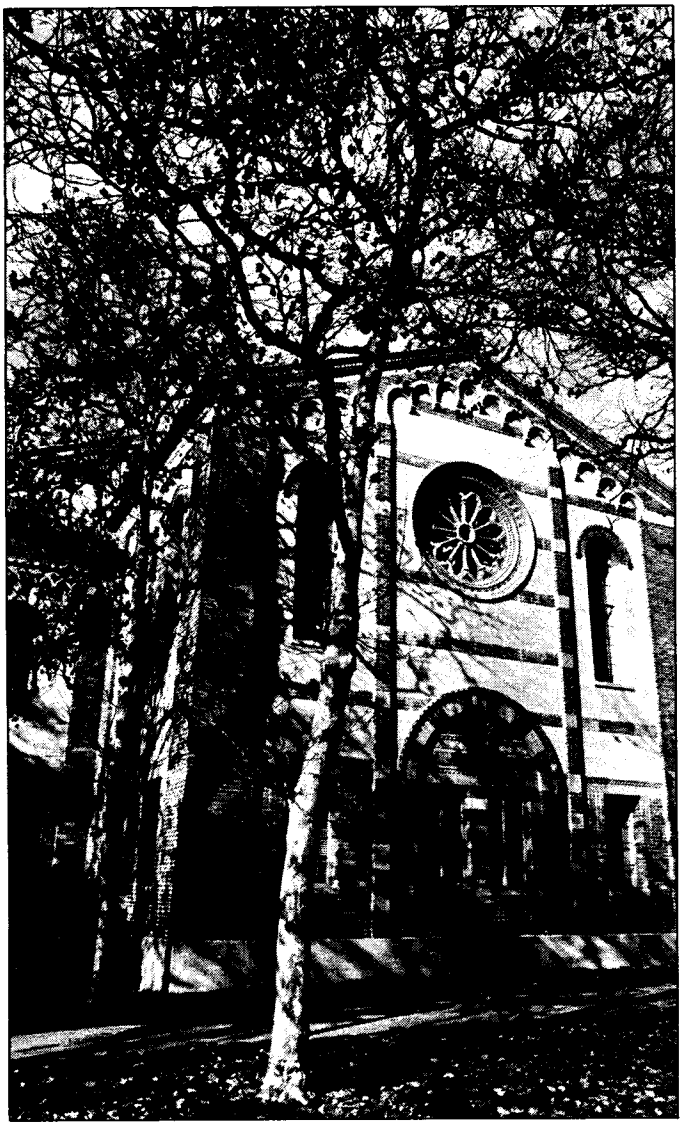
The Filing Fee

If you have completed all requirements for a degree except filing the thesis or dissertation and/or taking the master's comprehensive or doctoral final oral examination, you may be eligible to pay a filing fee of one-half the registration fee instead of registering and paying all required fees. Applications are available at the Graduate Division, Student and Academic Affairs Section, 1225 Murphy Hall. For eligibility conditions and further information on the filing fee and registration in the final quarter, please consult *Standards and Procedures for Graduate Study at UCLA,* available in 1225 Murphy Hall or in individual departments.

Health Evaluation

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

All new and reentering foreign students must obtain clearance in person at the Student Health Service by completing and returning a Health Evaluation form, by verifying adequate health insurance coverage, and by establishing absence of active tuberculosis. In addition, all foreign students must obtain an annual health 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 returning student is required to submit a Statement of Legal Residence to the Registrar's Office. Students classified as nonresidents must pay tuition of $1,120 per quarter (see the Appendix for the nonresident tuition fee statement).

On registering each quarter, all graduate students (except Law School students*) must pay the following fixed fees. Fees for Fall Quarter 1983, current as of publication date, are subject to change without notice by The Regents.

Quarterly Expenses, Fall 1983

University registration fee	$178
Education fee	284
Ackerman Student Union fee	4
Graduate Students Association fee	5
Wooden Recreation Center fee	3
Total for California residents	**$474**
Nonresident tuition fee	$1,120
Total for nonresidents	**$1,594**

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

Other Fees

Miscellaneous fees for UCLA graduate students include a $50 late charge for late payment of registration fee or late filing of the Study List (after the tenth day of classes); $25 for advancement to doctoral candidacy; and $5 or less for most petitions and other special requests. A complete list of fees may be found in the *Schedule of Classes.*

Fee Refunds

Students who formally withdraw or take an approved leave of absence 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.*

Nonresident Tuition Waivers

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

Late Payment of Fees

All payments made after published deadlines or which are retroactive to a previous quarter will be subject to a $10 penalty fee in addition to the normal processing fee. To avoid such penalties, you should fulfill all requirements before the deadlines listed in the Calendar.

Lapse of Status

Your status may lapse if you fail to settle financial obligations when due (or make satisfactory arrangements with the Main Cashier if payment cannot be made), or if you fail to respond to official University notices.

Estimated Annual Budget for California Residents

	Single, Commuter, Living at Parents' Home	Single, Living at UCLA Residence Hall, Co-Op, Sorority, or Fraternity	Single, Living in Off-Campus Apartment or House	Married, Living in UCLA Family Student Housing	Married, Living in Off-Campus Apartment or House
University Fees	$ 1,423	$ 1,423	$ 1,423	$ 1,423	$ 1,423
Books & Supplies	450	450	450	450	450
Food & Rent	1,200	2,400	4,625	5,620	7,215
Transportation (local bus)	235	235	235	470	470
Personal	992	1,282*	1,087	1,857	1,862
Total Budget	**$ 4,300**	**$ 5,790**	**$ 7,820**	**$ 9,820**	**$11,420**

*Includes $100 for extra meals during breaks.

For more information on housing, see Chapter 1 or contact the UCLA Housing Office in 78 Dodd Hall (825-4491).

With lapsed status you are not entitled to any University services except assistance toward reinstatement. After you have satisfied the obligation, a petition for reinstatement must be approved by the office recommending the lapse of status and filed with the Registrar's Office with a $10 reinstatement fee.

Living Expenses

Printed on the previous page is an estimated yearly budget for graduate California residents. Nonresidents must add the $3,360 annual tuition fee to their total expenses for an accurate estimate. Expenses cover the three regular session quarters of the 1983-84 academic year and do not include Summer Session. (Budgets for the Schools of Medicine, Dentistry, and Nursing are higher, reflecting the expense of specialized books and supplies. Figures are available from your health professions counselor.)

Financial Support

Information:
Graduate Fellowship and Assistantship Section
1228 Murphy Hall
825-3521

As a major center for graduate study, UCLA offers its qualified graduate students substantial support through several types of financial assistance. Awards are based on either academic merit or financial need, but the two types are not mutually exclusive. You are strongly urged to apply in all categories for which you may qualify.

Entering graduate students interested in University-administered awards should complete the *Application for Graduate Admission, Fellowship and Financial Aid.* Readmitted students should request the Graduate Application for Readmission form, and continuing graduate students should complete the Fellowship and Assistantship Application for Continuing Students. Completed applications must be returned by **December 30.** (Some departments have earlier deadlines; consult the application packet for details.)

Graduate Student Support Resources, a booklet describing the full range of financial assistance available, is published annually by the Graduate Fellowship and Assistantship Section. Contact that office 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 the Fellowship and Assistantship Section.) **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 to cover registration fees for qualified students. Nonresident tuition waivers cover the tuition, for periods of one to three quarters, of selected graduate students who are not California residents.

In-Candidacy Fee Offset Grant Program

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

Graduate Affirmative Action Awards

These programs were established to increase the graduate enrollment of students from groups which, as a result of societal inequities, have been traditionally underrepresented in graduate education. These include American Indians, Blacks, Chicanos, and Puerto Ricans. In addition, Asian Americans are eligible for fields in which they are underrepresented.

There is one need-based financial aid program (GAP), as well as several merit-based fellowship programs (three are listed below, but from year to year some programs terminate and others are initiated). Students are encouraged to apply for both need- and merit-based support; fellowship awards will reduce the size of financial aid grants. All applicants must be U.S. citizens or long-term permanent residents. For more information on these programs, contact the Graduate Affirmative Affairs Office, 1248 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. These awards differ from ordinary financial aid in that grants may be slightly larger and work-study grants do not require matching by employers.

(2) Graduate and Professional Opportunity Program (G*POP) — Awards provide stipends and fees to entering students in the fields of archaeology, management, and urban planning. Continuation of this program is contingent upon further 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 physics, among others).

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

Awards Based on Financial Need

Because the cost of a graduate education may present a financial hardship, students who require assistance in meeting educational costs are encouraged to apply for aid based on their financial need. Need is defined as the difference between allowable school-related expenses and your financial resources.

Financial aid awards include educational grants, low-interest loans, and work-study employment. Students are usually awarded a financial aid "package" which is a combination of these forms of assistance. Further information is available at the Financial Aid Office, A107 Murphy Hall.

Requirements for Graduate Degrees

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

The Master's Degree

University Minimum Standards

The requirements described here are minimum standards set by the University. Individual schools or departments may set higher standards and may require additional courses and/or examinations for their master's degree. You are advised to consult the appropriate school announcement or your graduate adviser.

Academic Residence

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

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

University Minimum Standards For Advanced Degrees*

REQUIREMENT	MASTER'S DEGREE	DOCTORAL DEGREE
ACADEMIC RESIDENCE	1 year (3 quarters) in graduate status at University of California, 2 quarters at UCLA.	2 years (6 quarters) in graduate status at University of California, including 3 consecutive quarters at UCLA.** In most cases a longer period of residence is necessary.
PROGRAM OF STUDY	9 graduate and upper division courses (36 units) in graduate status, including at least 5 graduate courses.	No specific course requirements. Program is planned with adviser and guidance committee.
SCHOLARSHIP	B average required in all courses taken in graduate status at UC and in all courses applied toward the master's degree.	B average required in all courses taken in graduate status at UC.
FOREIGN LANGUAGE	Requirements are determined by individual departments and programs.	Requirements are determined by individual departments and programs.
ADVANCEMENT TO CANDIDACY	All requirements for advancement, including foreign language examinations, must be satisfied. Forms must be filed by second week of the quarter in which degree is to be awarded.	The University Oral Qualifying Examination must be passed; additional departmental and language requirements must be completed. Advancement is officially granted when you pay the $25 fee and return the application to the Graduate Division.
FINAL REQUIREMENT FOR THE DEGREE	Master's thesis, or comprehensive examination (written, oral, or both).	Doctoral dissertation. A final oral examination in defense of the dissertation may also be required.

* 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 status, 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 status at the University and in all courses applied toward the master's degree.

Transfer of Credit

There are two 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 apply 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 accepted 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.

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 higher in graduate status at institutions outside the University of California may apply to UCLA master's programs. A maximum of two courses (eight quarter units or five semester units) may apply, but they cannot be used to reduce either the five-graduate-course requirement or the academic residence requirement.

From Summer Session — Regular session courses offered in UCLA Summer Session 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 Session 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 apply.

Extension courses taken *after* July 1, 1969, can be applied only if they were **concurrent** courses (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 counted 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 apply toward one-half the course requirements over the minimum of nine.

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

Foreign Language Requirements

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

You may fulfill foreign language requirements either by passing the Educational Testing Service Graduate School Tests in French, German, Russian, or Spanish, or (in languages not offered by ETS) by passing examinations given by UCLA language departments. You may register for the ETS examination at the University Extension Cashier's Office, 10995 Le Conte Avenue. UCLA enrollment is not required. Consult University Extension for registration procedures.

Some departments allow students to fulfill language requirements either by passing departmental examinations or by completing the lower division course level five (with a minimum grade of C) or the equivalent (five quarters of study in one language with a C or better in each course). Certain departments may require additional languages, special competence, or special procedures such as substitute programs of coursework. 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 detail 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 Manuscript Adviser, Office of the University Archivist, 134 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 Manuscript Adviser approximately two weeks before the degree is to be awarded. Deadlines for this academic year are:

December 5 for Fall Quarter 1983
March 12 for Winter Quarter 1984
June 4 for Spring Quarter 1984

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 upon 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. Further details are available in *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. Please consult your graduate adviser for details.

Academic Residence

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

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

Program of Study and Scholarship

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

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

Foreign Language Requirements

Most departments require doctoral candidates to demonstrate proficiency in one or more foreign languages, so that you can acquire broad knowledge in your field of study and keep abreast of foreign developments in the field.

You are urged to complete language requirements as early as possible in your graduate career. If your department requires two or more foreign languages, you must complete at least one before the Oral Qualifying Examination. See "Foreign Language Requirements" under the Master's Degree for information on fulfilling these requirements.

Examinations Before Advancement to Candidacy

A doctoral program generally involves two stages, separated by advancement to candidacy. The first stage is spent in fulfilling the coursework, teaching, and/or examinations required by the major department or group. You are supervised during this period by a departmental adviser and/or departmental guidance committee. This committee administers a departmental written and, in some cases, oral examination (not to be confused with the University Oral Qualifying Examination) after you complete the recommended or required work. Once all departmental and foreign language requirements are met, the department chair consults with you and then nominates a doctoral committee.

University Oral Qualifying Examination

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

Advancement to Candidacy

You are eligible for advancement to doctoral candidacy after passing the University Oral Qualifying Examination with no more than one negative vote, completing any additional departmental requirements, and maintaining a 3.0 grade-point average in graduate status. 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 mandatory $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 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 Manuscript Adviser, Office of the University Archivist, 134 Powell Library.

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

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

When your final dissertation has been approved by the doctoral committee and you are ready to file it, you must submit the original signature (approval) page and title page to the Graduate Division, Student and Academic Affairs Section, where completion of degree requirements will be verified. After final approval by the Dean of the Graduate Division, you must file two paper copies of the dissertation with the Manuscript Adviser approximately two weeks before the degree is to be awarded. Deadlines for this academic year are:

December 5 for Fall Quarter 1983
March 12 for Winter Quarter 1984
June 4 for Spring Quarter 1984

Individual Ph.D. Programs

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

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

Interdepartmental Degree Programs

In addition to graduate degree programs offered within schools and departments, UCLA also offers interdisciplinary programs involving two or more participating departments. At UCLA today 26 interdepartmental programs offer bachelor's, master's, and doctoral degrees in some combination; several units offer all three degrees. These programs are administered by interdepartmental committees made up of faculty whose membership is determined by research interest, not by departmental affiliation. By cutting across the usual lines of faculty division, a subject area is studied from the perspectives of different disciplines and a greater degree of program flexibility is achieved.

Interdepartmental degree programs which currently lead to advanced degrees are listed below. They are described more fully in this catalog under the college or school which offers them. For further information, contact the chair or graduate adviser of the specific program that interests you.

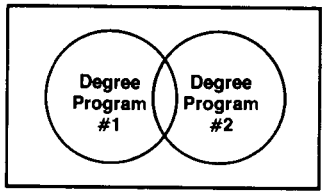
African Area Studies (M.A.)
Afro-American Studies (M.A.)
American Indian Studies (M.A.)
Applied Linguistics (Ph.D.)
Archaeology (M.A., Ph.D.)
Asian American Studies (M.A.)
Comparative Literature (M.A., Ph.D.)
Environmental Science and Engineering (D.Env.)
Folklore and Mythology (M.A., Ph.D.)
Indo-European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

All interdepartmental degree programs are described in Chapter 5 under the College of Letters and Science with the exceptions of Environmental Science and Engineering which is in the School of Public Health, and Neuroscience in the School of Medicine.

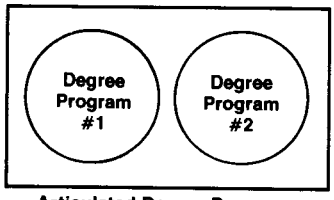
Concurrent and Articulated Degree Programs

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

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



Concurrent Degree Program
(Certain courses may apply to both degrees)



Articulated Degree Program
(No credit overlap)

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

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

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

African Area Studies, Interdepartmental M.A. — Public Health, M.P.H.
Latin American Studies, Interdepartmental M.A. — Architecture and Urban Planning, M.A.
Latin American Studies, Interdepartmental M.A. — Education, M.Ed. in Curriculum
Latin American Studies, Interdepartmental M.A. — Engineering and Applied Science, M.S.
Latin American Studies, Interdepartmental M.A. — Library and Information Science, M.L.S.
Latin American Studies, Interdepartmental M.A. — Public Health, M.P.H.
Medicine, M.D. — Graduate Division health science major, Ph.D.
Oral Biology, M.S. — Dentistry, D.D.S. or Certificate

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

Special Programs and Training

Defense Language Institute — Presidio of Monterey

University of California faculty and currently enrolled graduate students who have completed one quarter of graduate work have a unique opportunity to acquire fluency in one of 34 foreign languages taught at the U.S. Defense Language Institute, Presidio of Monterey. Each year 30 people are admitted on a space-available basis.

Applications and instructions are available from the Graduate Fellowship and Assistantship Section, 1228 Murphy Hall. For further information, write to the Administrative Assistant, Language Training Advisory Committee, Cowell College, University of California, Santa Cruz, CA 95064, or call UC Santa Cruz at (408) 429-2054 (message center 429-2609).

Graduate Cross-Enrollment Program with USC

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

If you have completed at least a year of graduate study at UCLA and have obtained the necessary approvals, you may sign up for a 501 course with your UCLA adviser. When you have completed the course at USC, your grade will be forwarded to UCLA to be recorded for the 501 course. Only eight units of cross-enrollment courses may be applied toward requirements for the master's degree, and these courses may not be used to satisfy the five-graduate-course requirement. Applications, available in the Graduate Division, Student and Academic Affairs Section, should be completed before the start of the term in which the course is offered.

Intercampus Exchange Program

As a graduate student registered on any campus of the University, you may attend another campus as an Intercampus Exchange Graduate Student with the approval of your department chair, the chair of the department or group in which you wish to study on the host campus, and the Dean of the Graduate Division on both the home and host campuses. The privilege should be used only by students whose graduate study may be enhanced by work with certain faculty or use of facilities and resources accessible only on another campus.

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

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

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

Postdoctoral and Visiting Scholars

The University makes opportunities and facilities available to qualified scholars — those holding doctoral degrees or foreign equivalents — to continue advanced study and research under faculty guidance. Postdoctoral Scholar status, which does not lead to any degree, is limited to a maximum of three years from the date the doctoral degree is awarded. Interested candidates should make advance arrangements with the relevant department or research unit and enroll through the Graduate Fellowship and Assistantship Section.

The same opportunities are made available to Visiting Scholars — senior scholars and distinguished visitors holding doctoral degrees or foreign equivalents — who wish to pursue independent research or advanced study at UCLA for a limited time, normally one year. Visiting Scholars are distinguished from Postdoctoral Scholars and academic appointees in that they usually have adequate support funds from sources outside the University.

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

General Policies and Regulations

Standards of Scholarship

To maintain satisfactory progress toward a graduate degree, UCLA requires at least a B (3.0) average in all courses taken in graduate status on 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.

Scholarship Probation

You are on probation and are subject to dismissal if your cumulative average in all work attempted in graduate status 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 (a) procedural error, (b) judgments based on nonacademic criteria, (c) personal bias, or (d) 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 then are required to submit a written statement on the basis for your appeal, and are entitled to a personal appearance before the committee. After obtaining information on the matter from any appropriate person or office, the committee makes a recommendation to the Dean of the Graduate Division, who makes the final decision. In reporting the decision, the committee includes the basis for the decision, its effective date, and any specific recommendations.

Graduate Student Complaints

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

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

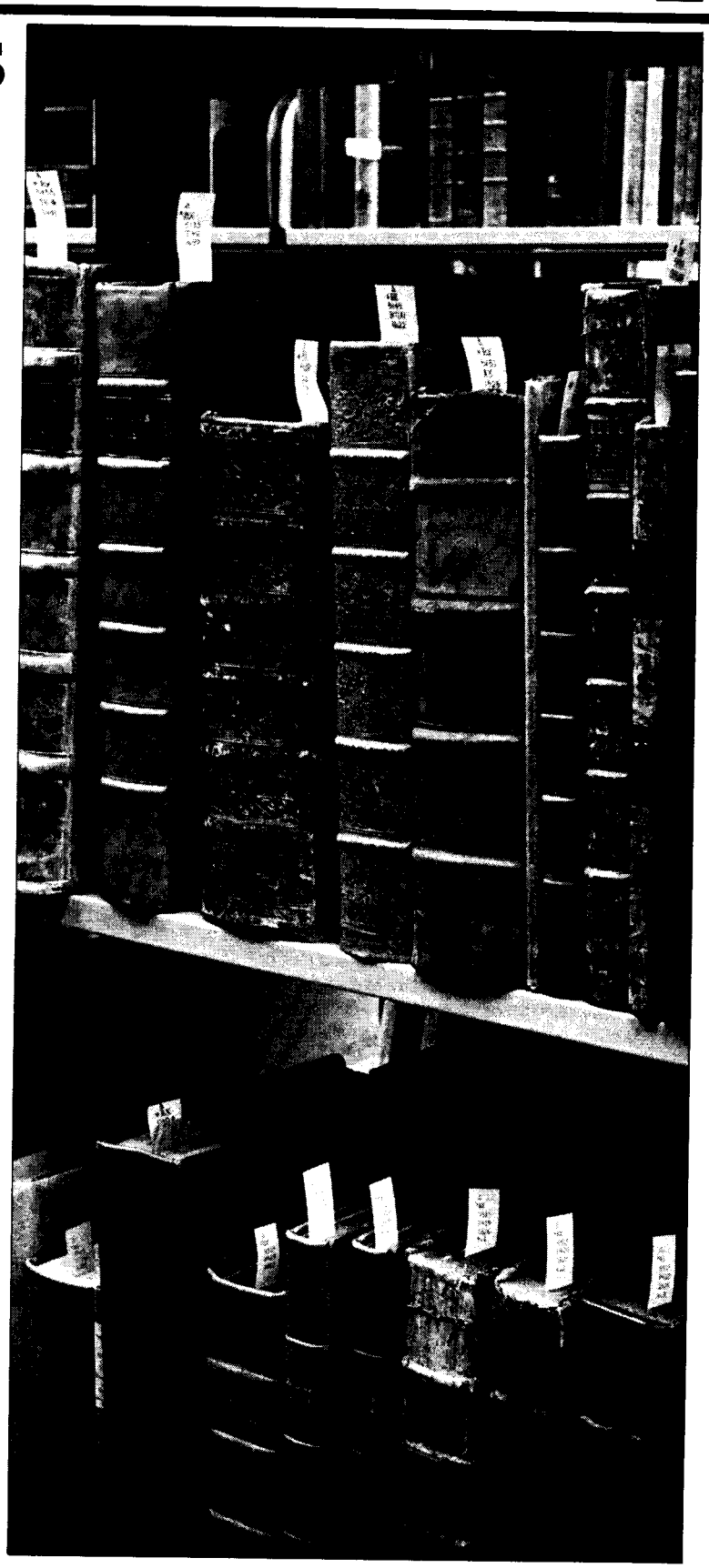
Complaints of misconduct against a student or group of students should be made at the Dean of Students Office, 2224 Murphy Hall.

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

Complaints about a violation of University policy regarding the conduct of one or more faculty members should be made to the Charges Committee of the Academic Senate, 3125 Murphy Hall.

4

Academics



Units and Grading Policy

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

Grades

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

Undergraduate Students

A = Superior
B = Good
C = Fair
D = Poor
F = Failure
P = Passed (equal to grade C or better)
NP = Not Passed
I = Incomplete
IP = In Progress
DR = Deferred Report

Graduate Students

A = Superior Achievement
B = Shows good potential for professional achievement
C = Passed but shows little potential for professional achievement
F = Failure
S = Satisfactory (equal to grade B or better)
U = Unsatisfactory
I = Incomplete
IP = In Progress
DR = Deferred Report

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:

A+ = 4.0	C+ = 2.3
A = 4.0	C = 2.0
A− = 3.7	C− = 1.7
B+ = 3.3	D+ = 1.3
B = 3.0	D = 1.0
B− = 2.7	D− = 0.7

F, NP, U = 0

Courses in which you receive a P or S grade may count toward satisfaction of degree requirements, but these grades, as well as DR, I, and IP, are disregarded in determining your grade-point average. (If an I grade is later removed and a letter grade assigned, units and grade points are included in subsequent grade-point averages.)

Computing Your Grade-Point Average

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

Grade Points	× *Course Units*	= *Total Grade Points*
A− = 3.7	4	14.8
B− = 2.7	4	10.8
C+ = 2.3	4	9.2
	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 Session at any UC campus will be computed in your UCLA grade-point average. Grades earned at another institution or in UCLA Extension do not affect your GPA.

Class Status

Undergraduate classification is determined by the number of units completed:

Classification	Completed Units
Freshman	0 - 44.9
Sophomore	45 - 89.9
Junior	90 - 134.9
Senior	135 or more

You are required to earn a minimum of 180 units from all college coursework for the bachelor's degree. A maximum of 208 units is allowed. (If you have credit for English 1 taken Fall Quarter 1979 or later at UCLA, the minimum and maximum unit requirements are increased to 182 and 210 respectively. In the School of Engineering and Applied

Science, the minimum and maximum units allowed are 185 and 213 respectively.) 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 for 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 Session courses without an approved petition. Your department or school may require that you take some or all courses in your major for a letter grade. Certain other courses or programs may also be exempt from the P/NP option; consult your college or school for details.

You may make program changes to or from P/NP grading through the sixth week of instruction (see the 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 each quarter outside the major field, in addition to any courses offered only for S/U grading within the major. The grade S is assigned for a letter grade of B or better, but units earned in this manner will not be counted in computing the GPA. You will receive neither units nor degree credit for a U grade. You may not elect the S/U option for Summer Session courses without an approved petition.

Courses taken on an S/U basis outside the major, and 500-series courses within the major, are applicable toward degree and/or academic residency requirements if so approved. Interdepartmental majors may not apply S/U courses to degree requirements, except for 500-series courses. Program changes to or from S/U grading may be made through the tenth week of instruction (see the Calendar at the beginning of this catalog); changes after the first two weeks of class require a petition ($3), available in the Graduate Division Office.

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

Incomplete (I) Grades

Your instructor may assign the I grade when your work is of passing quality but is incomplete for a good cause (illness or other serious problems). It is your responsibility to discuss with the instructor the possibility of receiving an I grade as opposed to a nonpassing grade.

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

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

In Progress (IP) Grades

For certain courses extending over more than one quarter (identified by T1, T2, T3, or T4 in the *Schedule of Classes),* evaluation of student performance is deferred until the end of the final quarter of the course. Provisional grades of IP are assigned in the intervening quarter(s) and are replaced with the final grade when you complete the full sequence. The school or college faculty or the Graduate Council will determine credit if you do not complete the full sequence and petition for partial credit.

Deferred Report (DR) Grades

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

Repetition of Courses

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

(1) To improve your grade-point average, you may repeat only those courses in which you receive a grade of C – or lower; NP or U grades may be repeated to gain unit credit. Courses in which you received a letter grade may not be repeated on a P/NP or S/U basis. Courses originally taken on a P/NP or S/U basis may be repeated either on the same basis or for a letter grade.

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

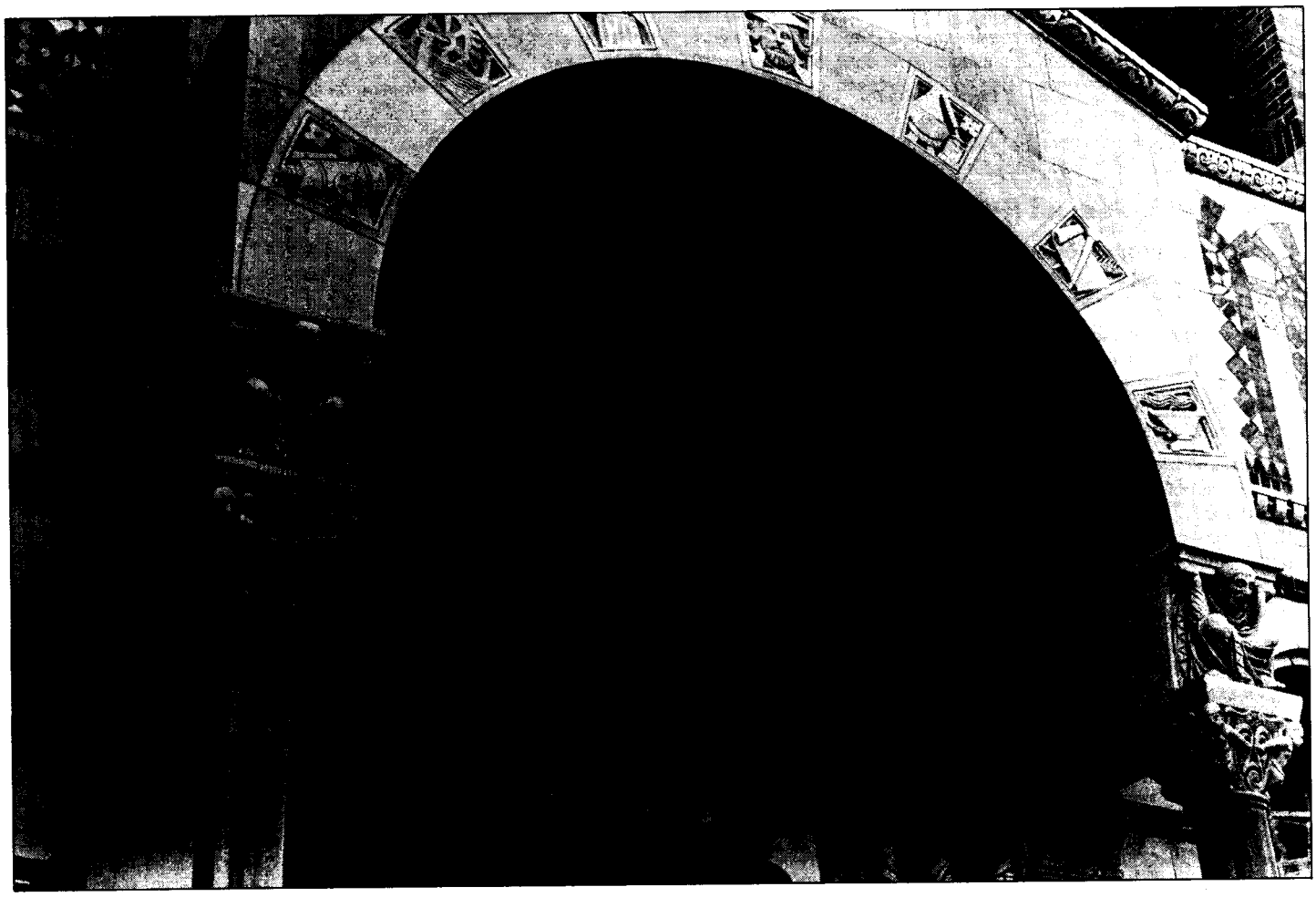
(3) Degree credit for a course will be given only once, but the grade assigned each time you take the course will be permanently recorded on your transcript.

(4) For undergraduates who repeat a total of 16 units or less, only the most recently earned letter grades and grade points will be computed in the grade-point average. After repeating 16 units, however, your GPA will be based on all letter grades assigned and total units attempted.

(5) For graduate students, all courses in which a letter grade was given, including repeated courses, will be used in computing the grade-point average.

Correction of Grades

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



Credit by Examination

Students with high scholastic standing may earn credit for regular University courses by taking examinations rather than enrolling in the courses. This is accomplished by setting up, 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 Session (see "Summer Session" in Chapter 1).

Undergraduates

During the summer or during a quarter when you are not registered at UCLA, you may elect to take courses for credit at UCLA Extension, a community college, or another four-year institution (see limitations below). The Office of Undergraduate Admissions and Relations with Schools makes the final decision on credit transferability, but it is your responsibility to select courses with catalog descriptions similar to courses offered in regular session at UCLA. You should also avoid courses that are closely related to those you have already taken, as you cannot receive credit twice for the same or similar courses. If you wish to apply a specific course from another college toward satisfaction of degree requirements at UCLA, consult your college, school, or department counselor before taking the course.

Only grades earned in regular session or Summer Session 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 for evaluation.

UCLA Extension — If you wish to receive degree credit for work taken through UCLA Extension, you should take courses that correspond in number to the undergraduate courses offered in regular session. The designation XL or XLC before the number of the Extension course signi-

fies that the course is equivalent to the regular session course bearing the same number. No degree credit is given for courses numbered X300 through X499. Remember that concurrent enrollment in Extension and regular session is not permitted.

Community Colleges — The maximum number of community college units allowed toward the bachelor's degree is 105 quarter units (70 semester units). The UCLA Admissions Office 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 apply 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 Session. It lists chronologically your courses, units, grades, cumulative grade-point average, transfer credits, and total units.

An unofficial copy of your transcript is available at no charge from the Registrar's Office at Window A, Murphy Hall, 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. The Registrar verifies current quarter registration and full-time enrollment status for loan forms and other noncampus certifications, beginning on the 12th day of classes.

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. Transcripts required for intercampus transfer within the University are provided at no charge. Transcripts of work completed elsewhere must be requested directly from the campus or institution concerned.

Certificate of Resident Study for Foreign Students

In addition to a formal transcript, the Registrar may issue a Certificate of Resident Study to a registered foreign student. To obtain this certificate, you must have completed a program of at least nine courses with a minimum 2.0 grade-point average, or have satisfactorily completed a research project over a period of nine months or more. The chair of your major department recommends the award of this certificate, but you must request it from the Registrar (1105 Murphy Hall) at least a week before the final examination period opens.

Registration Card

Your valid Registration Card (Reg Card) is your official student identification and is required, along with your UCLA Student I.D. Card, for all University services. 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 have not received your Reg Card before the first day of the quarter, a temporary verification card (good for five days) will be issued without fee at the Registrar's Office, 1134 Murphy Hall. After the quarter begins, you may replace lost, destroyed, or mutilated cards at the Registrar's Office for a $3 fee. You must show proof of identity for verification or replacement cards.

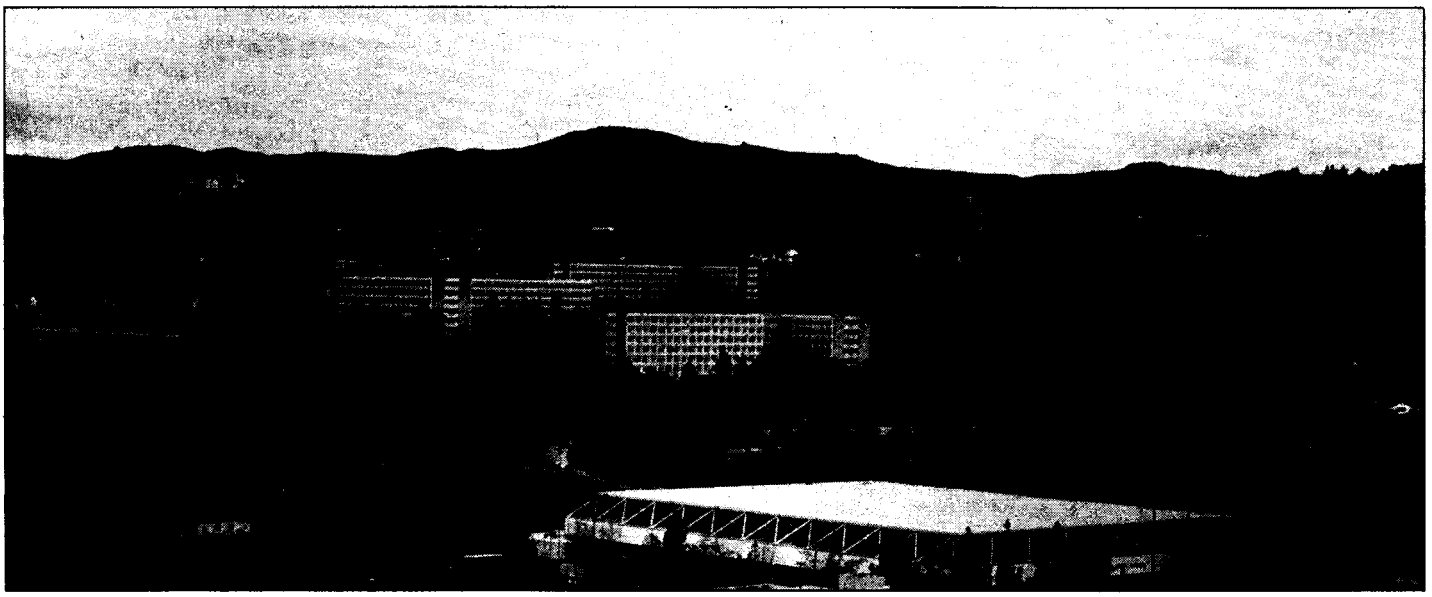
UCLA Student I.D. Card

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

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

Change of Name or Address

If you change your name or address, please notify the Registrar's Office, 1134 Murphy Hall, as soon as possible. Veterans receiving benefits must also notify the Office of Special Services/Veterans Affairs, A255 Murphy Hall. Financial aid recipients should notify Financial Aids Central Records.



Leaving UCLA

Intercampus Transfer

Undergraduate students registered in a regular session (or those previously registered who have not since registered at any other school) may apply for transfer to another campus of the University. There is a $30 nonrefundable fee, and deadlines are the same as admission application deadlines (see "Undergraduate Admission" in Chapter 2). Intercampus Transfer Applications and further information on requirements and procedures are available from the Registrar's Office at Window A, Murphy Hall.

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

Absence During a Quarter

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

One Quarter Absence for Undergraduates

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

Leave of Absence for Graduate Students

Graduate students in good standing may be granted leaves of absence, normally for periods of one to three quarters, upon approval from the appropriate department and the Graduate Division. Leaves, which may be extended up to five years at the discretion of your department, must be requested before the end of the second week of class. Request forms are available at the Graduate Division, Student and Academic Affairs Section, 1225 Murphy Hall. For details on leaves of absence, see *Standards and Procedures for Graduate Study at UCLA,* available in the Graduate Division offices or in individual departments. 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, Student I.D. Card, and a $10 service charge, to the Registrar's Office, 1134 Murphy Hall.

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

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

Withdrawal

Withdrawing from the University means discontinuing attendance in all courses in which you are enrolled. If you withdraw during a quarter, you need to file a Notice of Withdrawal, available from your college, school, or Graduate Division office. Submit your Registration Card and Student I.D. Card along with the form or a fee will be deducted from any refund.

When you withdraw officially during the first five weeks of instruction, a percentage of your registration fee will be refunded as follows:

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

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 status. Before withdrawing, you are urged to consult faculty, departmental, or college advisers to consider the full implications of this action.

If you register and subsequently discontinue coursework or stop payment on registration checks without an approved petition for withdrawal, leave of absence, or cancellation, you will receive F, NP, or U grades, as appropriate, for all courses in which you are enrolled for that quarter. No fees will be refunded and future registration privileges may be curtailed or revoked.

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 ten UCLA freshmen eventually receive a baccalaureate degree, either from UCLA or from another campus or institution. According to a 1978 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) **Student Data Card** is included in your registration packet. Check the information on this card each quarter.

(2) **Degree Candidate Card** is also part of your registration packet. Complete and file this card as a junior (minimum 90 quarter units earned) and each quarter thereafter, to let the Registrar's Office know when you intend to graduate. Cards filed after the fourth week of instruction are subject to a $3 fee. See the Calendar at the beginning of this catalog for filing dates.

(3) **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 Candidate Card, you should receive your first degree check ("Status in Reference to the BA/BS Degree") about three quarters before you graduate and an updated one each subsequent quarter. Consult your college or school, or the Registrar's Office at Window A, Murphy Hall, if you have any questions or problems.

(4) **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 in your final quarter. If not, inform the degree clerk at Window A.

(5) **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.

(6) **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 satisfactorily 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.

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. There is no diploma fee, although if the original is lost or stolen there is a $25 charge for a duplicate diploma ($38 for Law, Medicine, or Dentistry). If you wish, the diploma can be sent to you by certified mail at a cost of $3 ($6 outside the U.S.).

Commencement

Commencement exercises honoring candidates for undergraduate and graduate degrees are held in mid-June. Students earning degrees in September, December, or March are welcome to participate in the Commencement ceremony held the preceding or following June.

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

Academic regalia (caps, gowns, and hoods) become available through ASUCLA two weeks prior to Commencement. The rental fee is $13 for baccalaureate candidates; $22 for master's and doctoral candidates. For further information, consult the *Commencement Handbook,* which is mailed to each candidate by the end of May. You may purchase graduation announcements at the Campus Photo Studio (150 Kerckhoff Hall).

Colleges and Schools

Organization

This catalog is organized into the 13 colleges and schools which are the University's component parts. Each of the following chapters is devoted to a single college or school. Each is introduced by general information on scope and emphasis, the academic departments it encompasses, admission standards, and requirements for undergraduate and graduate degrees.

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

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

Courses of Instruction

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

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

Academic Credit

A course has a credit value of four quarter units unless otherwise specified in parentheses after the course title (½ course = 2 units; ¼ course = 1 unit).

A listing such as **History 1A-1B-1C, Introduction to Western Civilization,** indicates three full four-unit courses, 1A, 1B, and 1C. The listing **Dance 114A-114F, Advanced Contemporary Dance (½ course 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 upon 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 do not apply toward graduate degrees.

Upper division courses (numbered 100-199) are open to all students who have met the prerequisites indicated in the course description. Preparation generally includes at least one lower division course in the subject or two years of college work. With approval of the major department, graduate students may take 100-series courses toward satisfaction of master's degree requirements.

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

Individual special studies courses (numbered 199) 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 courses per quarter. After completing 16 units of 199 credit on a letter grade basis, you must take any additional 199 courses on a Passed/Not Passed basis. If you have an outstanding Incomplete grade in a 199 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.

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

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 examinations; 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.

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

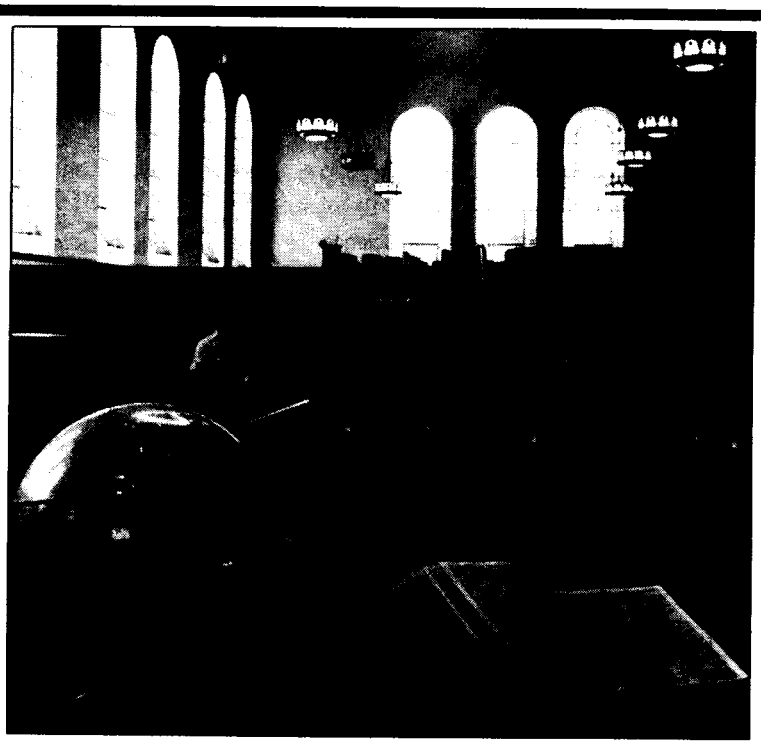
The faculty rosters in most departments are listed in two groups, separated by a horizontal line. The first and major group is the department's "core" faculty, i.e., faculty members whose Academic Senate appointment is in that department. Those below the line are adjunct, visiting, and other instructional personnel.

In the case of interdepartmental degree programs, all participating faculty members have Senate appointments in other departments. One list of all participating faculty is provided with the home department or specialty of each member indicated in parentheses.

5

College of Letters and Science

Raymond L. Orbach, Provost



"'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 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 divisions of humanities, physical sciences, social sciences, and life sciences provide the academic framework for more than 70 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 participate in the creation of knowledge through research.

College of Letters and Science

A316 Murphy Hall, 825-1965

In 1982 the College of Letters and Science was reorganized under the leadership of the Provost. Academic support services were consolidated under the direction of an associate provost; three offices provide a network of student assistance: Academic Resources Center, Counseling Services, and Preparatory Programs. The heart of the college lies in its academic departments which are grouped in four divisions: humanities, physical sciences, social sciences, and life sciences, each division headed by a dean.

Undergraduate Study

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

You are expected to select a major by the beginning of your junior year. This may be a program of related upper division courses within a single department (departmental major) or a group of related courses involving a number of departments (interdepartmental major) or, under certain circumstances, a group of courses chosen to meet your special need (individual major). The pursuit of such definite courses of study often requires knowledge of courses known as *prerequisites*. With the assistance of a departmental adviser, you are expected to select lower division courses related to the advanced studies you propose to follow.

Counseling Services

College Counseling Services are located in A316 Murphy Hall. A staff of academic counselors is readily available to assist you with questions pertaining to academic regulations and procedures, selection of courses, options and alternatives, etc.

Many questions can be answered at the college information window or by phoning the Information Desk at 825-1687 or 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 by calling 825-3382. Group counseling sessions on a variety of academic issues are offered throughout the year.

For information on the Academic Resources Center (ARC) and Preparatory Programs, see Chapter 2.

Choosing a Major

Entering freshmen who are unsure about specific academic goals may request to be admitted to the college as an "undeclared major." These students often take introductory courses in the natural sciences, social sciences, and humanities to search for 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 major. When you are ready to do so, obtain approval from the department or interdepartmental degree committee which governs your intended major and file a Petition for Declaration of Major at the College Counseling Services Office.

There are a variety of sources that can help you with academic planning, including the College Counseling Services in A316 Murphy Hall (825-1687 or 825-1965), Academic Resources Center in 80 Powell Library (206-1248), 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.

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). A departmental major may be increased by three more upper division courses (12 units) in other departments with the approval of the Executive Committee of the college. 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 73 departmental majors currently offered by the college.

Interdepartmental Majors

An interdepartmental major consists of at least 13 related upper division courses, of which no more than eight are in one department. These programs are administered by interdepartmental committees made up of faculty whose membership is determined by research interest, not by departmental affiliation. By cutting across the usual lines of departmental division, a subject area is studied from the perspectives of different disciplines and a greater degree of program flexibility is achieved.

The College of Letters and Science currently offers 24 interdepartmental majors. Although most lead to bachelor's degrees, there are some which lead to graduate degrees only. Check the chart of majors and degrees for the programs which interest you.

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
East Asian Studies
Economics/System Science
Ethnic Arts
Folklore and Mythology
Indo-European Studies
Islamic Studies
Latin American Studies
Mathematics/Computer Science
Mathematics/System Science

(continued)

Majors and Degrees Offered

Humanities Division

African Languages (B.A.)
Ancient Near Eastern Civilizations (B.A.)
Applied Linguistics (C.Phil., Ph.D.)*
Arabic (B.A.)
Chinese (B.A.)
Classical Civilization (B.A.)
Classics (B.A., M.A., C.Phil., Ph.D.)
Comparative Literature (M.A., C.Phil., Ph.D.)*
English (B.A., M.A., C.Phil., Ph.D.)
English/Greek (B.A.)
English/Latin (B.A.)
Ethnic Arts (B.A.)
Folklore and Mythology (M.A., Ph.D.)*
French (B.A., M.A., C.Phil., Ph.D.)
French and Linguistics (B.A.)
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.)*
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.)
Latin (B.A., M.A.)
Linguistics (B.A., M.A., C.Phil., Ph.D.)
Linguistics and Computer Science (B.A.)
Linguistics and English (B.A.)
Linguistics and French (B.A.)
Linguistics and Italian (B.A.)
Linguistics and Oriental Languages (B.A.)
Linguistics and Philosophy (B.A.)
Linguistics and Psychology (B.A.)
Linguistics and Scandinavian Languages (B.A.)
Linguistics and Spanish (B.A.)
Luso-Brazilian Language and Literatures (M.A.)*
Near Eastern Languages and Cultures (M.A., C.Phil., Ph.D.)*
Near Eastern Studies (B.A.)
Oriental Languages (M.A., C.Phil., Ph.D.)*
Philosophy (B.A., M.A., C.Phil., Ph.D.)
Portuguese (B.A.)
Romance Linguistics and Literature (M.A., C.Phil., Ph.D.)*
Russian Civilization (B.A.)
Russian Linguistics (B.A.)
Scandinavian Languages (B.A., M.A.)
Slavic Languages and Literatures (B.A., M.A., C.Phil., Ph.D.)
Spanish (B.A., M.A.)
Spanish and Linguistics (B.A.)
Study of Religion (B.A.)
Teaching English as a Second Language (M.A.)*

Physical Sciences Division

Applied Mathematics (B.S.)
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.)
Chemistry (B.S., M.S., C.Phil., Ph.D.)
Chemistry/Materials Science (B.S.)
Cybernetics (B.S.)
Economics/System Science (B.S.)
General Chemistry (B.S.)
General Physics (B.A.)
Geochemistry (B.S., M.S., C.Phil., Ph.D.)
Geology (B.S., M.S., C.Phil., Ph.D.)
Geology — Engineering Geology (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.)
Mathematics (B.A., M.A., M.A.T., C.Phil., Ph.D.)
Mathematics/Applied Science (B.A.)
Mathematics/Computer Science (B.S.)
Mathematics/System Science (B.S.)
Physics (B.S., M.S., M.A.T., Ph.D.)

Social Sciences Division

African Area Studies (M.A.)*
Afro-American Studies (B.A., M.A.)
American Indian Studies (M.A.)*
Anthropology (B.A., M.A., Ph.D.)
Archaeology (M.A., Ph.D.)*
Asian American Studies (M.A.)*
Chicano Studies (B.A.)
Communication Studies (B.A.)
East Asian Studies (B.A.)
Economics (B.A., M.A., C.Phil., Ph.D.)
Economics/Business (B.A.)
Economics/International Area Studies (B.A.)
Geography (B.A., M.A., C.Phil., Ph.D.)
Geography/Ecosystems (B.A.)
History (B.A., M.A., C.Phil., Ph.D.)
Latin American Studies (B.A., M.A.)
Political Science (B.A., M.A., C.Phil., Ph.D.)
Sociology (B.A., M.A., C.Phil., Ph.D.)

Life Sciences Division

Biology (B.S., M.A., C.Phil., Ph.D.)
Kinesiology (B.S., M.S., Ph.D.)
Microbiology (B.A., M.A., Ph.D.)
Molecular Biology (Ph.D.)*
Psychobiology (B.S.)
Psychology (B.A., M.A., C.Phil., Ph.D.)
Quantitative Psychology (B.A.)

*Graduate programs only; not applicable on breadth requirements

Molecular Biology
Near Eastern Studies
Romance Linguistics and Literature
Study of Religion

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 higher, you may plan an individual major. The consent of the Dean, 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 memoranda 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 also offers seven different programs which are not degree-granting majors, but are sequences of supplemental courses designed to enhance your work in certain areas. Each of these programs must be taken jointly with an organized departmental or interdepartmental major:

African Studies
Asian American Studies
Business and Administration
Diversified Liberal Arts
International Relations
Urban Studies or Organizational Studies
Women's Studies

Detailed descriptions of each program are given under their respective headings later in this chapter.

Double Majors

If you are in good academic standing, you may be permitted to have a double major consisting of two departmental majors in this college. They must both be completed within the maximum limit of 208/210 units, and you must obtain the approval of both departments.

With few exceptions, double majors in the same department are unacceptable. If the majors are not in the same division of the college, you must designate one of the two majors as the principal one for the purpose of satisfying breadth or 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 breadth requirements. Courses required for the secondary major (including preparation for the major) may satisfy any set of breadth 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 208/210-unit limit. Petitions must be approved by the department or committee in charge of the new major and forwarded to the college for final approval. 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 recommended study load for undergraduate students in the College of Letters and Science is 12 to 16 units (three to four courses) per quarter. 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 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.

Requirements for the Bachelor's Degree

Each student must meet four levels of requirements for the Bachelor of Arts or Bachelor of Science degree: University requirements, college requirements, department requirements (including preparation for the major), and major requirements. For details on the latter two levels, see the department and major of your choice.

University Requirements

For information on the Subject A and American History and Institutions requirements, see "Undergraduate Degree Requirements" in Chapter 2.

College Requirements

The College of Letters and Science has six types of requirements which must be satisfied for the award of the degree: unit, major and scholarship, residence, foreign language, English composition, and breadth or 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 208 units is allowed. After having credit for 208 units, you will not be permitted to continue except in rare cases approved by the college. If you have credit for English 1 taken Fall Quarter 1979 or later, you will be required to complete satisfactorily 182 units (45½ courses); a maximum of 210 units is then allowed. If you have advanced placement (transfer) credit, you may petition to exceed the 208/210-unit maximum by the amount of this credit.

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

Credit Limitations

> **Note:** Transfer students with credit from other institutions (advanced standing credit) will 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 Letters and Science counselor regarding these limitations.

The following credit limitations apply for all students enrolled in the college:

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

(2) No more than four units in **physical education** activities courses may be applied toward the bachelor's degree.

(3) 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.

(4) No more than 12 units of **music and/or dance performance** courses may be applied

toward the bachelor's degree whether taken at UCLA or another institution. Dance 70, 71, and 171 and Music 80 and 81 taken at UCLA may be applied toward the bachelor's degree but must be taken on a Passed/Not Passed basis. The music courses are limited to one per quarter and will not be applied in the limits on Passed/Not Passed enrollment. For further information on these limits, see "Passed/Not Passed Grades" in Chapter 4.

(5) Credit earned through the **College Level Examination Program (CLEP)** after June 30, 1974, will not be applied toward the bachelor's degree.

(6) Advanced Placement Test (AP) credit earned after June 30, 1974, will not be applied toward a degree unless you had less than 36 units of credit at the time of the examination.

(7) No more than 24 units of credit in **aerospace studies, military science, or naval science** may be applied to the 180/182-unit minimum required for the degree.

(8) No more than two courses (eight units) of credit may be taken per quarter in special **independent study courses.** The total number of units allowed in such courses for a letter grade is 16; see specific restrictions under each departmental listing.

(9) For students entering Fall Quarter 1978 or later, no unit credit will be granted toward the degree for **Chemistry 2** (taken Fall Quarter 1978 or later at UCLA or another institution) if one year of high school chemistry was completed with a grade of C or better. The maximum deduction will be four units. (Students enrolled in UCLA before Fall Quarter 1978 may take Chemistry 2 with full unit and grade-point credit, without petition.)

(10) For students entering Fall Quarter 1978 or later, no unit credit will be granted toward the degree for **foreign language courses** (taken Fall Quarter 1978 or later at UCLA or another institution) equivalent to quarter level 1 and/or 2 if two years of the same language were completed in high school with grades of C or better. The maximum deduction will be eight units. (Students enrolled in UCLA before Fall Quarter 1978 may repeat high school language with full unit and grade-point credit, without petition.)

(11) No credit will be allowed for more than one lower division course in **statistics** or for more than one sequence of such courses.

(12) 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.

Scholarship and Major Requirements

You must have attained 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 have satisfied both the course and scholarship requirements of a major (including preparation for the major) in the College of Letters and Science.

Residence Requirements

For students entering UCLA in Fall Quarter 1982 or later, 68 units of the last 80 units completed for the degree must be earned in residence in the College of Letters and Science at UCLA. No more than 16 of the 68 units may be completed in UCLA Summer Session. While enrolled in the college you must complete at least 10 upper division courses (40 units), including six courses in the major. For students entering UCLA before Fall Quarter 1982, the residence requirements are as indicated in the 1981-82 *UCLA Undergraduate Catalog.*

These residence requirements apply to all students, both continuing and transfer. If you transfer from a College of Letters and Science at another UC campus, you may petition for an exception.

Foreign Language Requirements

The College of Letters and Science does not have a collegewide requirement for foreign language at this time (see "General Education Requirements" below), although specific departments or majors within the college may impose such requirements. Credit will not be allowed for a less advanced course in grammar and/or composition after you have completed a more advanced course. For other credit limitations, see item 10 under "Credit Limitations" above.

College credit for a foreign 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.

English Composition Requirement

You may satisfy this requirement with 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. Courses in this group may be applied toward the humanities breadth requirement if they are not used to satisfy the English Composition requirement.

The composition requirement may also be satisfied by scoring 4 or 5 on the CEEB Advanced Placement Test in English or by passing the English Department's proficiency examination. Students scoring 660 or better on the CEEB English Achievement Test are eligible for this proficiency exam.

You should satisfy the composition requirement within the first three quarters of residence.

Transfer Students: If you have completed an English composition course graded Passed, you may take the English proficiency examination upon presenting a letter of authorization from the college to the Freshman Writing Program. If you have received a grade of C or better in a college composition course that has not satisfied the requirement, you may be eligible for the proficiency examination after an English Department interview. Eligible students must register for the examination in the English Department 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 in the Study List of your first quarter of residence in the college. If you are required to take English 1 to satisfy the Subject A requirement, you should, upon completion of that requirement, take an acceptable composition course in your second quarter of residence.

Students from abroad who have learned English as a foreign language and who were taught in a language other than English in secondary school may satisfy this requirement by completing English 3 or English as a Second Language 36 or 106J with a grade of C or better (C – or a Passed grade is not acceptable).

Units which Admissions has evaluated as English composition, but which are not sufficiently advanced to satisfy the college requirement, may be applied on the Letters and Science breadth requirement as humanities only if specifically approved by the college. Advanced Placement English with a grade of 3 has such approval and requires no petition. ESL 33A, 33B, 33C, and advanced standing English for foreign students courses may not be applied toward the humanities breadth requirement.

General Education and Breadth Requirements

The college breadth requirements have been superseded by a new set of general education (GE) requirements effective Fall Quarter 1983. Students in the College of Letters and Science who completed **fewer than 16 quarter units** before Fall Quarter 1983 must meet the following general education requirements. Those who completed **16 or more units** before Fall Quarter 1983 may meet either these requirements or any of the previous breadth plans for which they are eligible (see "Breadth Requirements" following this section). Effective Fall Quarter 1986, all entering students will be required to fulfill the general education requirements. For assistance in determining the set of requirements for which you will be held responsible, contact a college counselor.

I. General Education Requirements

The new general education requirements represent a departure in philosophy from the older breadth requirements. They are intended to define, in a more structural way than breadth, a "core" of knowledge necessary to a liberal arts education. Although majors are classified in the same four divisions of the college as for breadth, GE requirements specify a limited number of courses within smaller subgroups. This arrangement is designed to provide a conceptual overview of core areas without a formal core curriculum.

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

A. Basic Proficiency Levels

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

(1) *Quantitative Reasoning:* May be satisfied by achieving an SAT mathematics score of 600, a CEEB mathematics score of 550, or by completing one of the following courses: Economics 40; Engineering 10C, 10F, or Computer Science 10S; Mathematics 2 or any higher numbered course except 38A-38B; Philosophy 31; Political Science 6; Public Health 100A, 100B, 100C, 100D; or Sociology 18.

(2) *Foreign Language:* (This requirement becomes effective for students entering Fall Quarter 1986 and thereafter.) May be satisfied by passing college-level language instruction through course 3 or by achieving a score indicating competence equivalent to course 3 on the Educational Testing Service (ETS), Advanced Placement (AP), or UCLA departmental placement examination.

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

B. Course Requirements

As specified on the chart labeled "Courses to Fulfill GE Requirements" on the next page, you must pass four courses from 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.

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

Advanced Placement Credit: For application of advanced placement (AP) credit on the general education requirements, consult the College Counseling Services.

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).

Group A: Humanities

A1: Literature

African Languages
Arabic
Chinese
Classics
English
English/Greek
English/Latin
Ethnic Arts
French
German
Greek
Hebrew
Italian (including Italian and Special Fields)
Japanese
Latin
Portuguese
Scandinavian Languages
Slavic Languages and Literatures
Spanish

A2: Philosophy

Philosophy

A3: Language and Linguistics

French and Linguistics
Linguistics (including all Linguistics and special fields majors)
Russian Linguistics
Spanish and Linguistics

A4: Culture and Civilization

Ancient Near Eastern Civilizations
Classical Civilization
Jewish Studies
Near Eastern Studies
Russian Civilization
Study of Religion

Group B: Physical Sciences

Applied Mathematics
Astronomy
Atmospheric Sciences
Biochemistry
Chemistry
Chemistry/Materials Science
Cybernetics
Economics/System Science
General Chemistry
General Physics
Geochemistry
Geology (including all specialization options)
Geophysics (including all specialization options)
Mathematics
Mathematics/Applied Science
Mathematics/Computer Science
Mathematics/System Science
Physics

Group C: Social Sciences

C1: Historical Analysis

History

C2: Social Analysis

Afro-American Studies
Anthropology
Chicano Studies
Communication Studies
East Asian Studies
Economics (including all specialization options)
Geography
Geography/Ecosystems
Latin American Studies
Political Science
Sociology

Group D: Life Sciences

Biology
Kinesiology
Microbiology
Psychobiology
Psychology
Quantitative Psychology

II. Breadth Requirements*

Under the Letters and Science breadth requirements, you must satisfactorily complete nine courses (36 units) distributed among the three divisions outside the division of your major, with at least two courses in each division. Acceptability of courses to meet these requirements is subject to the following general conditions:

*Continuing students who completed less than 36 units before Fall Quarter 1978 must meet these breadth requirements. Continuing students who completed 36 units or more before Fall Quarter 1978 (or who completed 110 units before Fall Quarter 1980) may fulfill either these requirements, or Plan A or Plan B as described in the 1981-82 *UCLA Undergraduate Catalog.*

Courses taken prior to Fall Quarter 1978 may be applied according to the list in the catalog of the year the course was taken. Students reentering the college after an extended absence may petition the college to graduate under the breadth requirements of catalogs published before Fall Quarter 1979.

Courses to Fulfill GE Requirements

A. Humanities

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

(1) Literature

Classics 141, 142, 143, 144
English 10A, 10B, 10C, 70, 75, 80, 85, 90, 100A, 100B, 100C, 100D, 102
French 12, 114A, 114B, 114C, 144A, 144B, 144C
German 101A, 101B, 101C
Humanities 1A, 1B, 1C, 2A, 2B, 2C
Italian 50A, 50B
Oriental Languages 140A, 140B, 140C, 141A, 141B
Portuguese 120A, 120B, 121A, 121B, 140A, 140B
Russian 100, 119, 120, 125, 126
Spanish 120A, 120B, 121A, 121B, 160A, 160B, 160C

(2) Philosophy

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

(3) Language and Linguistics

Linguistics 1, 100
Language: Formal University foreign language instruction at level 4 or higher; no more than one course at level 4 or higher may be used for breadth.

(4) Culture and Civilization

Classics M70
Folklore and Mythology 15, 101
German 100A, 100B, 100C
Italian 42A, 42B
Near Eastern Languages and Cultures: Berber 130, Iranian 169, 170, Jewish Studies 110, Turkic 160A, 160B
Oriental Languages 40A, 40B, 42, 46
Slavic Languages: Slavic 99, Bulgarian 99, Russian 99, Romanian 99
Spanish and Portuguese M42, M44

(5) The Arts

Art 22, 30A, 50, 51, 54, 55, 56
Classics 151A, 151B, 151C, 151D
Dance 140A, 140B, 140C, 151A, 151B
Music: No more than one course from a single grouping

(a) 2A, 2B, 137A, 137B, 138
(b) 130, 133, 134, 135A, 135B, 135C, 139, 188A through 188F, 189
(c) 131A, 131B, 140A, 140B, 140C, 141, 145, 152, 157
(d) 144

Theater Arts 5A, 5B, 5C, 102A, 102B, 102D, 102E, 104D, 104E, 104F, 106A-106E

B. Physical Sciences

Three courses chosen from the following:
Astronomy 3, 3H, 4, 4H, 101
Atmospheric Sciences 2, 3
Chemistry 2, 11A, 11B
Earth and Space Sciences 1 or 100, 2, 3, 5, 9, 15
Engineering 11
Geography 1
Mathematics 3A, 3B, 3C, 3E, 4A, 4B, 31A, 31B, 32A, 32B
Physics 3A, 3B, 3C, 6A, 6B, 6C, 8A through 8E, 10, 11

C. Social Sciences

Four courses, two from each group:

(1) Historical Analysis

(Two courses from a single sequence recommended):
Classics 10, 20
Economics 107
History 1A, 1B, 1C, 2, 3A, 3B, 3C, 4, 6A, 6B, 6C, 7A, 7B, 8A, 8B, 9A, 9B, 9C, 9D, 10A, 10B
Political Science 111A, 111B, 111C, 114A, 114B

(2) Social Analysis

Anthropology 5 or 22, 6, 33
Communication Studies 10
Economics 1 and/or 2 or 100, 10, 110
Geography 3, 4
Political Science 1, 2A, 2B, 3
Psychology 10
Sociology 1 or 101

D. Life Sciences

Three courses chosen from the following:
Anthropology 1 and/or 2 or 11
Biology 2, 5, 6, 7, 8, 10, 13, 20, 25
Earth and Space Sciences 115
Geography 2, 5
Kinesiology 12, 13, 14
Microbiology 6
Psychology 15

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

(1) All language courses level 4 or above (other than conversational courses) may be applied as humanities courses. Level 1, 2, and 3 courses may be applied provided that you have completed the level 4 course in the same language. Breadth requirement credit for courses in languages not offering level 4 courses is contingent on the approval of the college. For other limitations, see Credit Limitation number 10 under "Unit Requirements" above.

(2) The course used to satisfy the English Composition requirement may not also be applied toward breadth requirements.

(3) Courses required to satisfy the major or other courses taken in the major department may not be applied toward breadth requirements. However, courses outside the division of the major which are required as preparation for a major may be applied. For information on satisfying breadth requirements if you are following a double major, see the section on "Double Majors" earlier in this chapter.

(4) Courses in other colleges and schools at UCLA may be used to satisfy breadth requirements if approved by the Letters and Science Executive Committee.

(5) Freshman and sophomore seminars taught in Letters and Science departments may be applied. For students entering in Fall Quarter 1981 or later, a maximum of eight units of freshman and sophomore seminar credit may be applied toward breadth requirements according to quarterly determination by the college. Courses in the 300 and 400 series may not be applied; courses numbered 199 and in the 200 series may be applied only by petition approved by the college.

(6) Council on Educational Development (CED) courses taken Fall Quarter 1978 and thereafter are not applicable on breadth. Consult the college counselors regarding application of CED courses taken before Fall Quarter 1978.

Transfer students should consult the college concerning application of advanced standing courses on breadth requirements.

To learn the division in which each major is classified for purposes of breadth, see the chart of "Majors and Degrees Offered" at the beginning of this chapter. (Note: Not all courses within a department apply on breadth in the division of the major; e.g., psychology is listed as a life science major, yet many psychology courses apply on breadth in the social sciences division.) You can determine which — and how — UCLA courses satisfy breadth requirements by studying the following list of courses.

Courses Applicable on Breadth

(A) Humanities

Any courses for which you are eligible in classics, Communication Studies 142, 175, English (except English 136A, 136B, 136C), English as a second language (except English as a Second Language 33A, 33B, 33C, 34, 103J, 103K, 106K, 107K, 109K, 111K, 122K), folklore, French, Germanic languages, humanities, Indo-European Studies M150, Italian, linguistics (except 100, 103, 170), Near Eastern languages, Oriental languages, philosophy (except 128A, 128B, 134, 135), Slavic languages, Spanish and Portuguese, speech, Women's Studies M158. (Foreign language conversation courses may be applied under the old requirements to Plan A breadth only.)

The following courses in the College of Fine Arts are applicable on breadth in humanities:

Art 50, 51, 54, 55, 56, 57, 101A, 101B, 101C, 102, 103A-103E, 104B, 104C, 104D, 105A-105E, 106A, 106B, 106C, 108A, 108B, 109A-109D, 110A-110E, 112A, 112B, 112C, 114A-114D, C115A, C115B, C115C, 118A-118D, C119A, C119B, 120A, 120B, 120C, 121A, 121B, 122

Dance 140A, 140B, 140C, 151A, 151B

Music 2A, 2B, 130, 131A, 131B, 132A, 132B, 133, 134, 135A, 135B, 135C, 137A, 137B, 138, 139, 140A, 140B, 140C, 141, 142A, 142B, 143A, 143B, 144, 145, 147A, 147B, 152, M154A, M154B, 157, 159, M180, M181, 188A-188F, 189

Theater Arts 5A, 5B, 5C, 102A, 102B, 102D, 102E, 103A, 103B, 104D, 104E, 104F, 105, 106A-106E, 108, 110A, 113, 114, 130A, 130B

(B) Physical Sciences

Any courses for which you are eligible in astronomy, atmospheric sciences, chemistry, earth and space sciences (except Earth and Space Sciences 20 if used on life science, 115, M117, M118), mathematics (except Mathematics 1A, 38A, 38B, 104), and physics. Also applicable: Computer Science 20, Engineering 11, Geography 1, 100, 104, 105, 106, Economics 141, 144, 145, 146, 147A, 147B, Philosophy 128A, 128B, 134, 135. Also, either History 3A *or* History 3B if not applied on the social science breadth requirements. (Note: No more than one of History 3A, 3B, or Physics 10 may be applied toward the breadth requirement in the physical sciences.)

(C) Social Sciences

Any courses for which you are eligible in anthropology (except Anthropology 1, 2, 11, 125A, 125B, 186A, 186B), Asian American studies, communication studies (except Communication Studies 142, 175), economics (except Economics 40, 141, 144, 145, 146, 147A, 147B), geography (except Geography 1, 2, 5, 6, 100, 104, 105, 106, 108, 109, 110, 112, 171), history (History 3A or 3B may be applied toward the social science or physical science breadth requirements, but not toward both; History 3C may be applied toward the social science or life science breadth requirements, but not toward both), Indo-European Studies 131 and 132, political science, psychology (except Psychology 15, 41, 110, 111, 115, 116, 117, 118A through 118E, M118F, M119, 120, 121, 142), sociology (except Sociology 18). Also applicable: Afro-American Studies 100B, 145, 197B, UCLA journalism courses (except Journalism 101A, 101B, 182A), Kinesiology 106, Linguistics 100, 103, 170, Music 149, Women's Studies 100, M148.

(D) Life Sciences

Any courses for which you are eligible in biology (except Biology 30), kinesiology (except physical education activities courses and Kinesiology 106), and microbiology. Also applicable: Anthropology 1, 2, 11, 125A, 125B, Earth and Space Sciences 20 (if not applied as physical science), 115, M117, M118, Geography 2, 5, 108, 109, 110, 112, Psychology 15, 110, 111, 115, 116, 117, 118A through 118E, M118F, M119, 120, 121. Also applicable: History 3C (course may also be applied toward the social science breadth requirements, but not toward both).

Advanced Placement

You may fulfill a part of the college breadth requirements with credit allowed at the time of admission for College Entrance Examination Board (CEEB) Advanced Placement Tests with scores of 5, 4, or 3. You will receive Advanced Placement Test credit only if you have completed fewer than 36 quarter units at the time of the examination. See the chart below for AP credit allowed.

Credit for Advanced Placement Tests

TEST	CREDIT ALLOWED ON BREADTH REQUIREMENTS
Art History	10 units toward humanities
Biology	Credit for Biology 2 (4 units) plus 6 units toward life science
Chemistry	10 units toward physical science
English	Composition and Literature: Score 3 — satisfaction of Subject A requirement and 10 units toward humanities
	Score 4 or 5 — satisfaction of Subject A requirement and English 3 and 4 (10 units)
	Language and Composition: Score 3 — satisfaction of Subject A requirement and 10 units toward humanities
	Score 4 or 5 — satisfaction of Subject A requirement and English 3 (5 units) plus 5 units toward humanities
Foreign Language	Credit for course 5 (10 units toward humanities)
Foreign Literature	10 units toward humanities

History, American	Credit for History 7A-7B (satisfies American History and Institutions requirement and counts as 10 units toward social science)
History, European	Credit for History 1C (4 units) plus European history (6 units) toward social science
Mathematics (AB test)	Credit for Mathematics 31A (5 units toward physical science)[1]
Mathematics (BC test)	Credit for Mathematics 31A, 31B (10 units toward physical science)[1]
Music, Literature	10 units toward humanities
Physics (B test)	10 units toward physical science[2]
Physics (C test)	5 units for C1 and 5 units for C2 toward physical science[2]

Some portions of Advanced Placement Test credit are evaluated by corresponding UCLA course number. If you take the equivalent UCLA course, a deduction of UCLA unit credit will be made prior to graduation.

[1]Students who take both the Mathematics AB and BC examinations will receive a maximum of 10 units of credit.

[2]Students who take both the Physics B and C examinations will receive a maximum of 10 units of credit.

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 college counselor. Approval is given or withheld by the Dean, 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 program of College Honors under the direction of the Dean, Division of Honors, provides the exceptional UCLA undergraduate the organization and environment within which to pursue individual excellence.

College Honors will be awarded by the Provost of the College of Letters and Science to graduating seniors who have completed approximately 44 units of honors-designated courses as approved by the Dean, Division of Honors. Such courses will include, among others, courses in the Honors Collegium, honors sections of regular courses, honors-contract courses, Freshman/Sophomore Seminars, Senior Seminars, Graduate Colloquia and Seminars, and research and thesis preparation courses.

Students in the College Honors program enjoy the same library privileges as graduate students, preferential preenrollment, eligibility for honors research awards, and special counseling within the Division of Honors. Admission to the program facilitates taking exceptionally heavy course loads if so desired, receiving credit for courses pursued by independent study (see "Credit by Examination" in Chapter 4), and applying for concurrent work for both undergraduate and graduate degrees in the Departmental Scholar Program (see "Academic Excellence" in Chapter 2). College Honors will be recorded on the transcript and a Certificate of College Honors awarded upon graduation.

Entering freshmen with both an exceptional grade-point average (3.5 or above) and SAT scores (a combined 1270 score) are invited by the Dean, Division of Honors, to participate in the College Honors program. Those entering freshmen who have graduated in the top 3% of their class may apply for admission to College Honors. Other students with at least 12 or more graded units at UCLA and a cumulative grade-point average of 3.5 or above are encouraged to apply. Interested students with a lower grade-point average, who feel they could benefit from and contribute to the program, are invited to discuss admission with the Dean, Division of Honors.

You may apply for admission at A311 Murphy Hall. For further information, attend one of the group meetings offered regularly by the Division of Honors.

Honors Status

A student in the College of Letters and Science who has demonstrated superior academic achievement is eligible to apply for admission to Honors Status, which is recorded on the transcript. Admission may be granted by the Dean, Division of Honors, after completion of 12 or more graded units at UCLA with a cumulative grade-point average of no less than 3.5. Continued superior academic achievement is requisite for remaining in Honors Status. Apply at A311 Murphy Hall.

Admission facilitates taking exceptionally heavy course loads (see "Study List Limits" earlier in this chapter) and receiving credit for courses pursued by independent study.

Students with Honors Status are usually eligible for admission to the honors programs offered by a number of the departments in the college, including honors sections of regular courses, honors courses of a seminar type, honors thesis programs, and supplementary and advanced directed study. For details on these programs, consult the Dean, Division of Honors, or the department of your major.

Honors with the Bachelor's Degree

Honors with the Bachelor's Degree will be awarded according to your overall grade-point average at the beginning of the last quarter of academic work or, if not then eligible, at graduation. To be eligible, you must have completed 90 or more units for a letter grade 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. Marginal cases will be decided by the Committee on Honors, which grants petitions for waiver of these requirements only in extraordinary cases.

Dean's Honor List

The Dean's Honor List recognizes high scholastic achievement in any one quarter. The following criteria are used to note Dean's Honor 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 Honor List is automatically recorded on your transcript. If you wish to receive a personal acknowledgment of appearance on the Dean's Honor List for the fifth and tenth time, you may request it from the Dean, Division of Honors.

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. For further details on this program, see "Academic Excellence" in Chapter 2.

The Honors Collegium

The Honors Collegium is a unique educational alternative designed primarily for students in their freshman and/or sophomore years. The courses offered through the Collegium concern the interdisciplinary study of broad topics pertinent to contemporary society, and feature dynamic discussion and the exchange of ideas among students, as well as between students and professors. Students thus participate actively in the educational process, constantly interacting with a group of distinguished professors who have varying and sometimes contradictory insights into the topic at hand.

Each course is under the direction of one faculty member, with other distinguished faculty

and occasionally professionals from outside the college contributing their particular expertise. The advantages of the Collegium are the challenge, interdisciplinary approach to learning, small size of the classes, close student/faculty relations, and distinguished faculty. Honors Collegium courses are also applicable on breadth requirements and on preparation for several Letters and Science majors. Honors counselors are available to assist with academic problems and with the planning of an integrated academic program which reaches far beyond the Collegium.

Enrollment in Collegium courses is open to (1) entering freshmen who have satisfied the Subject A/English 1 requirement and have an SAT verbal score of 550 or above, and (2) continuing freshmen and sophomores who have a UCLA grade-point average of 3.0 or above and have satisfied the Subject A/English 1 requirement.

In 1983-84 the Honors Collegium will offer the following one-quarter courses carrying from 4 to 12 units of credit each:

Fall Quarter

HC 1* — "Freedom and Control" (12 units), Mr. Parducci, Psychology

HC 26 — "Film, Culture, Society: Text and Context" (4 units), Ms. Sippl, Honors Collegium

HC 27 — "Cultural Analysis of Literature: The American Novel and Social Change" (4 units), Ms. Sippl, Honors Collegium

HC 28 — "American Popular Culture" (4 units), Mr. Paredes, English

HC 190 — "An Interdisciplinary Colloquium on Mathematics in the Behavioral Sciences" (4 units), Mr. Intriligator, Economics

Winter Quarter

HC 10 — "Literature and Science: The Idea of Interrelation" (8 units), Mr. Rousseau, English

HC 14* — "Moonshine and Magnolias: Fiction and Photography of the South" (8 units), Ms. Wilson, Honors Collegium

HC 29 — "The Structure of Physical Reality" (4 units), Mr. Huffman, Physics

HC 30 — "Echoes of the Ancient Skies" (4 units), Mr. Krupp, Griffith Observatory

HC 31 — "Art and Politics in Barcelona, Mexico, and Contemporary Los Angeles" (4 units), Ms. Kaplan, History

Spring Quarter

HC 9* — "Social Theory in the Twentieth Century" (8 units), Mr. Alexander, Sociology

HC 24 — "Human Physiology" (4 units), Mr. Mommaerts, Physiology

HC 32 — "Language, Ideology, and Freedom" (4 units), Mr. Otero, Spanish

HC 33 — "Science and Society: The Trial of Galileo" (4 units), Mr. Westman, History

For more information about the Honors Collegium, contact the Division of Honors, A311 Murphy Hall (825-1553, 825-3786).

*Courses include an English seminar

Division of Honors Office

The Division of Honors Office provides academic counseling and services for Regents' Scholars, National Merit Scholars, Alumni Scholars, students in the High School Scholars Program, the Education Abroad Program, and the Departmental Scholar Program, students enrolled in the Honors Collegium, and those students who have qualified for Honors Status and College Honors. Services offered include academic counseling, informal degree checks, petitions, and letters of recommendation to graduate and professional schools.

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 208 units.

New students entering in these curricula will be listed as "undeclared majors" and will be 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, predents, 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) sciences: 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, 138, 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 UC School of Dentistry in San Francisco. Admission to UCSF is by competitive application.

The 90 quarter units of work required for admission to the School of Dentistry in San Francisco 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 UC 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, 11C/11CL, 21, 23, 25; (5) Biology 5, 7, 8, 8L; (6) Physics 3A, 3B, and 3C or 6A, 6B, and 6C or 8A, 8B, and 8C; (7) Psychology 10 and one additional psychology course; (8) 16 units in social sciences and humanities (including foreign language).

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

*The UC School of Dentistry reserves the right to limit enrollment if applications exceed available facilities and to require interviews and aptitude tests if they are necessary in the selection of the class. For further information, see the *Announcement of the School of Dentistry, UC San Francisco.*

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. *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 chosen 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) English, 12 quarter units 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) biology: 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 biology courses are 5, 7, 8, 8L; suggested upper division courses are selected from the following: 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, USA and Canada,* Association of American Medical Colleges, 1 Dupont Circle NW, Washington, DC 20036; *The Education of Osteopathic Physicians,* AACOM, 4720 Montgomery Lane, Suite 609, Washington, DC 20014; and *The New MCAT Student Manual* (also an AAMC publication available at the above AAMC address). **Open counseling sessions are held weekly;** call 825-1817 for details.

Prenursing Curriculum: Two Years

The University offers a four-year course leading to the Bachelor of Science degree in Nursing. The prenursing curriculum in the College of Letters and Science is designed to prepare you for the program in the 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 will be 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 School of Nursing must declare a major and be able to complete all degree requirements within 208 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 10; (7) Physics 10 or one year of high school physics; (8) Psychology 10, 15; (9) Public Health 160 or 161; (10) Sociology 1 or 101; (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 the Dean of the School of Optometry, University of California, Berkeley, CA 94720, 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 a single foreign language.

The 135 quarter units of work required for admission to the School of Optometry, Berkeley, include the following: (1) Subject A; (2) American History and Institutions.

Specific UCB School of Optometry Requirements: (1) English 3, 4; (2) Chemistry 11A, 11B/11BL, 11C/11CL, 21; (3) Physics 3A, 3B, and 3C or 6A, 6B, and 6C or 8A, 8B, and 8C; (4) Biology 5, 6, 8, 8L; (5) Psychology 10; (6) Mathematics 3A, 3B, and 3C or 31A, 31B, and 50A or Psychology 41; (7) Microbiology 10; (8) Kinesiology 12, 13; (9) two upper division courses in the biological sciences.

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) electives: 28 quarter units selected from courses in foreign language, social sciences, and humanities (within the two-year preparation).

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

For further information, contact Robert LeWinter, Director of Pharmaceutical Services, A7-222 Center for Health Sciences (206-6555). **Open counseling sessions are held weekly;** call 825-1817 for details.

*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 94122, (415) 666-2732. For further information, see the *Announcement of the School of Pharmacy, San Francisco,* which may be obtained from the Dean, School of Pharmacy, University of California Medical Center, San Francisco, CA 94122.

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 12, and 13 or 14; Biology 5, 7; Chemistry 11A, 15, 15L; Physics 10 or 3A, 3B; Psychology 10, 115, 127, 130. Recommended: one course in statistics. 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, 212 Men's Gym (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.

Prepublic Health Studies

The professional and academic fields of public health need individuals from many disciplines. Candidates for graduate study may come from a wide variety of academic backgrounds and training, including mathematics and the physical, biological, and social sciences. Preparation typically includes a minimum of two courses each in mathematics, biological sciences, and social sciences, and one course in physical sciences.

Interested students and those who wish to apply to the UCLA School of Public Health should review the school's announcement booklet for additional requirements or recommendations for entry into the various programs of study.

Prelaw Studies

Law schools have no preference with regard to specific majors or particular courses. Admission to law school is based on the quality of your academic work, LSAT scores, and other qualities as reflected in letters of recommendation, in the written application, and in interviews. The College of Letters and Science offers advising on preparing for and applying to law schools through **weekly drop-in counseling sessions.** For the time and place of the drop-in sessions, see the "What's Bruin" section of the *Daily Bruin* or call 825-1965. Students in the Division of Honors can make counseling appointments in A311 Murphy Hall.

For additional information, see the *Law School Admission Bulletin* within the "Law School Admission Service Packet" (available at the Admissions Office, UCLA Law School) and *The Prelaw Handbook* (available at local bookstores).

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.

African Area Studies
(Interdepartmental)

10244 Bunche Hall, 825-3686

Professors

Richard L. Abel, LL.B., Ph.D. *(Law)*
Edward A. Alpers, Ph.D. *(History)*
James S. Coleman, Ph.D. *(Political Science)*
Christopher Ehret, Ph.D. *(History)*
John Friedmann, Ph.D. *(Architecture and Urban Planning)*
Victoria A. Fromkin, Ph.D. *(Linguistics)*
John S. Galbraith, Ph.D. *(History)*
Edward Gonzalez, Ph.D. *(Political Science)*
Peter B. Hammond, Ph.D. *(Anthropology)*
Hassan el Nouty, Docteur ès Lettres *(French)*
Richard C. Hawkins, M.A. *(Theater Arts)*
Derrick B. Jelliffe, M.D. *(Public Health)*
Frederick C. Kintzer, Ed.D. *(Education)*
Peter Ladefoged, Ph.D. *(Linguistics)*
Michael F. Lofchie, Ph.D. *(Political Science)*
Jacques Maquet, Ph.D. *(Anthropology)*
Peter Marris, B.A. *(Architecture and Urban Planning)*
Henry W. McGee, Jr., J.D., LL.M. *(Law)*
Alfred K. Neumann, M.D. *(Public Health)*
Charlotte G. Neumann, M.D. *(Public Health)*
Boniface I. Obichere, Ph.D. *(History)*
Antony R. Orme, Ph.D. *(Geography)*
Merrick Posnansky, Ph.D. *(History and Anthropology)*
John F. Povey, Ph.D. *(English)*
Georges Sabagh, Ph.D. *(Sociology)*
John F. Schacher, Ph.D., *in Residence (Public Health)*
Richard L. Sklar, Ph.D. *(Political Science)*
Allegra Snyder, M.A. *(Dance)*
Edward W. Soja, Ph.D. *(Architecture and Urban Planning)*
Hartmut Walter, Ph.D. *(Geography)*
Walter Goldschmidt, Ph.D., *Emeritus (Anthropology)*
Hilda Kuper, Ph.D., *Emeritus (Anthropology)*
Leo Kuper, Ph.D., *Emeritus (Sociology)*
Wolf Leslau, Ph.D., *Emeritus (Hebrew and Semitic Languages)*
Benjamin E. Thomas, Ph.D., *Emeritus (Geography)*

Associate Professors

Pamela J. Brink, Ph.D. *(Nursing and Anthropology)*
Pierre-Michel Fontaine, Ph.D., *Acting (Political Science)*
Gerry A. Hale, Ph.D. *(Geography)*
John N. Hawkins, Ph.D. *(Education)*
Thomas J. Hinnebusch, Ph.D. *(Linguistics and African Languages)*
Robert S. Kirsner, Ph.D. *(Germanic Languages)*
Mazisi R. Kunene, M.A. *(Linguistics)*
Dwight Read, Ph.D. *(Anthropology)*
Arnold Rubin, Ph.D. *(Art History)*
Hans Schöllhammer, D.B.A. *(Management Theory and International Business)*
Russell G. Schuh, Ph.D. *(Linguistics and African Languages)*
Nathan Shapira, Dottore in Architettura *(Design)*

Assistant Professors

Jacqueline C. DjeDje, Ph.D. *(Music)*
Sebastian Edwards, Ph.D. *(Economics)*
Teshome H. Gabriel, Ph.D. *(Theater Arts), Chair*
Robert A. Hill, M.Sc. *(History)*
Gail E. Kennedy, Ph.D. *(Anthropology)*
Joseph J. Lauer, Ph.D., *Adjunct (Library Science)*
Eugene L. Mendonsa, Ph.D. *(Anthropology)*
Beverly J. Robinson, M.A. *(Theater Arts)*
Robert J. Russell, Ph.D. *(Anthropology)*

Lecturer

Margaret FitzSimmons, M.A. *(Architecture and Urban Planning)*

Lecturers

J. Alfred Cannon, M.D., *Visiting (Psychiatry)*
Patrice Jelliffe, M.P.H., *Adjunct (Public Health)*
Kobla Ladzekpo, B.F.A., *Visiting (Music)*

Scope and Objectives

The basic objective of the African Area Studies Program is an intellectual one — to provide interested students with the opportunity to engage in intensive study and research on Africa on an interdisciplinary basis. The program offers high quality African area courses in a wide range of fields, including not only the social sciences and humanities, but increasingly in the professional fields as well. The Master of Arts is not a professional degree, but students are encouraged to enroll in courses in the several professional schools on campus.

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% of African Area Studies graduates are continuing study at the postgraduate level, 25% are employed in higher education, and 24% 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, (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 resume 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 master's 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 pro-

gram, contact the Assistant Graduate Adviser, African Studies Center, 10244 Bunche Hall.

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 3 or above in an African language.

Course Requirements

A minimum of nine courses are required for the M.A., at least five of which must be at the graduate level. The courses must be distributed between disciplines as follows: (1) major discipline — a minimum of four courses of which two 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 two courses of which one must be at the graduate level; (3) third discipline — a course on Africa, preferably of the survey type, in a third discipline (e.g., African Languages 190).

No more than one course graded on an S/U basis may be applied toward the minimum of nine courses required for the degree, except by consent of the graduate adviser. One course in the 500 series may be applied toward the nine-course minimum and toward the minimum of five graduate courses required for the degree. By consent of the graduate adviser, another 500-level course may be allowed, but may not be applied toward the five-graduate-course minimum.

Thesis Plan

African Studies normally requires written comprehensive examinations for the M.A. degree. In exceptional cases, and with the consent of the graduate adviser, a thesis may substitute for the comprehensive examinations. If you wish to follow the thesis plan, you should select, in consultation with the graduate adviser, a faculty committee to supervise your thesis. The thesis must reflect both the major and minor areas of emphasis. Normally the thesis should be submitted to the committee at the beginning of your fourth quarter in residence and should be approved before the end of that quarter. If the committee does not approve the thesis, you will have failed the requirement and will not be allowed to resubmit the thesis.

Comprehensive Examination Plan

If you choose the comprehensive examination plan, you will be required to take a written examination administered by a three-person committee. It is your responsibility to make arrangements for this examination with faculty members in appropriate departments. Exceptions will be granted only by consent of the graduate adviser. The examination will normally be four hours in length with major and minor fields given equal time. For grading purposes the major field will count 60 percent; the minor field, 40 percent. An oral examination may be held at the discretion of the examining committee after it has read the written examination. If you fail the comprehensive examination, you may retake it only once with the consent of the graduate adviser.

African Development Studies within the M.A. in African Area Studies

Students interested in an interdisciplinary program in African development studies within the existing master's program should consult the graduate adviser.

Cooperative Degree Programs

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 Assistant Graduate Adviser, M.A. Program in African Area Studies.

M.P.H./M.A.-African Area Studies

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 a master's degree in 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.

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 chosen 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.) The course will explore the problems and techniques of research methodologies related to Africana studies. Emphasis will be 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 (¼ to 1 course). 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 Course List

All courses are not offered every academic year. Students should verify courses with respective departments.

African Languages (Linguistics) 1A-1B-1C. Elementary Swahili
2A-2B-2C. Intermediate Swahili
7A-7B-7C. Elementary Zulu
8A-8B-8C. Intermediate Zulu
9A-9B-9C. Elementary Xhosa
10A-10B-10C. Intermediate Xhosa
11A-11B-11C. Elementary Yoruba
12A-12B-12C. Intermediate Yoruba
13A-13B-13C. Elementary Igbo
14A-14B-14C. Intermediate Igbo
31A-31B-31C. Elementary Bambara
32A-32B-32C. Intermediate Bambara
41A-41B-41C. Elementary Hausa
42A-42B-42C. Intermediate Hausa
103A-103B-103C. Advanced Swahili
133A-133B-133C. Advanced Bambara
143A-143B-143C. Advanced Hausa
150A-150B-150C. African Literature in English Translation
190. Survey of African Languages
192. Comparative Studies in African Languages
201A-201B. Comparative Niger-Congo
202A-202B-202C. Comparative Bantu
270. Seminar in African Literature
Anthropology 112. Old Stone Age Archaeology
121A. Fossil Man and His Culture
121B. The Australopithecines
133P. Social and Psychological Aspects of Myth and Ritual
133R. Aesthetic Anthropology
135Q. The Individual in Culture
158. Hunting and Gathering Societies
161. Development Anthropology
M168. Health in Culture and Society
171. Civilization of Sub-Saharan Africa
250. Social Anthropology
255. Comparative Political Institutions
M263. Medical Anthropology
271. African Cultures
280. Anthropology Theory
Arabic (Near Eastern Languages) 1A-1B-1C. Elementary Arabic
102A-102B-102C. Intermediate Arabic
103A-103B-103C. Advanced Arabic
111A-111B-111C. Spoken Arabic
220A-220B-220C. Islamic Texts
240A-240B-240C. Arab Historians and Geographers
Architecture and Urban Planning 232. Spatial Planning: Regional and International Development
234. Seminar in Spatial Development Policy
235A-235B. Regional Approaches to National Development
236A, 236B. Urban and Regional Economic Development
Art 118C. The Arts of Sub-Saharan Africa

C119A. Advanced Studies in African Art: Western Africa
C119B. Advanced Studies in African Art: Central Africa
220. The Arts of Africa, Oceania, and Pre-Columbian America
Berber (Near Eastern Languages) 101A-101B-101C. Elementary Berber
102A-102B-102C. Advanced Berber
120A-120B-120C. Introduction to Berber Literature
130. The Berbers
Dance 140A. Dance Cultures of the World — Africa
171B. Dance of Ghana
226A-226B-226C. Dance Expression in Selected Cultures
Dutch-Flemish and Afrikaans (Germanic Languages) 101B. Elementary Afrikaans
101E. Intermediate Readings in Afrikaans
112. Dutch, Flemish, Afrikaans Literature in Translation
135. Introduction to Afrikaans Literature
Economics 101A, 101B. Microeconomic Theory
110. Economic Problems of Underdeveloped Countries
111. Theories of Economic Growth and Development
112. Policies for Economic Development
211. Economic Development
212. Applied Topics in Economic Development
213A-213B. Selected Problems of Underdeveloped Areas
Education 204A. Topics and Issues in International and Comparative Education
204B. Introduction to Comparative Education
204C. Education and National Development
207. Politics and Education
238. Cross-National Analysis of Higher Education
253A. Seminar: Current Problems in Comparative Education
253B. Seminar: African Education
253F. Seminar: Education in Revolutionary Societies
261D. Seminar: The Community College
English 114. World Literatures in English
M271. Studies in African Literature in English
English as a Second Language 222K. Language Testing for Teachers of English as a Second Language
284K. English for Specific Purposes
French 121A. Franco-African Literature
221A. Introduction to the Study of French-African Literatures
221B. French-African Literature of Madagascar and Bantu Africa
221C. French-African Literature of Berbero-Sudanese and Arabo-Islamic Africa
257A-257B. Studies in the French-African Literature
Geography 117. Animal Geography: Cultural Aspects
122. Man and Environment in Africa
188. Northern Africa
189. Middle and Southern Africa
288. Northern Africa
289. Middle and Southern Africa
History 109A-109B. History of North Africa from the Moslem Conquest
142A-142B. The British Empire since 1783
175A. Topics in African History: Prehistoric Africa — Technological and Cultural Traditions
175B. Topics in African History: Africa and the Slave Trade
175C. Topics in African History: Africa in the Age of Imperialism
176A-176B. History of West Africa
177. Ethiopia and the Horn of Africa
178A-178B. History of East and Central Africa
179A-179B. History of Southern Africa
244A-244B. Seminar in British Empire History
275. Introduction to the Professional Study of African History
276. African Archaeology: Field Techniques
277. African Archaeology: Data Analysis
278A-278B. Seminar in African History
Linguistics 220. Linguistic Areas (Africa)
225. Linguistics Structures
Music 143A-143B. Music of Africa
M154A-M154B. The Afro-American Musical Heritage
C190A-C190B. Proseminar in Ethnomusicology
255. Seminar in Musical Instruments of the Non-Western World
280. Seminar in Ethnomusicology
287. Seminar in African Music
Political Science 139A-139Z. Special Studies in International Relations
165. Government and Politics in North Africa
166A-166B-166C. Government and Politics in Sub-Saharan Africa
167. Ideology and Development in World Politics
C250E. Seminar in African Studies
250K. North African Studies
C271. Seminar in Political Change
Public Health 111. Human Disease and Public Health
113. Infectious Diseases and Public Health
161. Nutrition and Health
179A. Health Problems and Programs in Africa
179B. African Health Sector Analysis Seminar
186. The World's Population and Food
214. Infectious and Tropical Disease Epidemiology
216A. Ecology of Exotic Diseases
216B. Viral Diseases of Man
218A, 218B. Protozoal Diseases of Man
220A, 220B. Helminthic Diseases of Man
272. Seminar on Current Issues in Maternal and Child Health
472A. Maternal and Child Health in Developing Areas
472B. Recent Developments in Maternal and Child Health in Disadvantaged Countries
472D. Overseas Refugee Health Programs
Sociology 130. Social Processes in Africa
140. Political Sociology
213A-213B. Techniques of Demographic and Ecological Analysis
256. Demography
274. Selected Problems in the Sociology of Africa
Theater Arts 102E. Theater of the Non-European World
106C. History of African, Asian, and Latin American Film
108. History of Documentary Film
112. Film and Social Change
202P. Seminar in Traditions of African Theater
M209C. Ethnographic Film
221. Seminar in Film Authors
M265A-M265B. Ethnographic Film Direction
276. Seminar in Non-Western Films
298A. Special Studies in Theater Arts

African Studies
(Interdepartmental)

10244 Bunche Hall, 825-2944

Scope and Objectives

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

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

Special Undergraduate Program

Preparation for the Program

The introductory courses listed here in three of the following departments are required: Anthropology 5 and 6; Economics 1 and 2 or 100; Geography 1 and 3; History 10A-10B; Linguistics 5; Sociology 1 or 101. 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 of which must be African Languages 190. African Languages 190 and one of the other three required upper division courses 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).

Afro-American Studies
(Interdepartmental)

3111 Campbell Hall, 825-7403

Professors

Alden Ashforth, Ph.D. *(Music)*
Gordon L. Berry, Ed.D. *(Education)*
Stanley Coben, Ph.D. *(History)*
Boniface I. Obichere, Ph.D. *(History)*

Associate Professors

Pierre-Michel Fontaine, Ph.D., *Acting (Political Science)*
J. Eugene Grigsby, Ph.D. *(Architecture and Urban Planning)*
Mazisi R. Kunene, Ph.D. *(Linguistics)*
Claudia Mitchell-Kernan, Ph.D. *(Anthropology)*
Hector F. Myers, Ph.D. *(Psychology)*
Alfred E. Osborne, Jr., Ph.D. *(Management)*
Gloria J. Powell, M.D., *in Residence (Psychiatry)*
Romeria Tidwell, Ph.D. *(Education)*
Gail E. Wyatt, Ph.D., *in Residence (Psychiatry)*

Assistant Professors

Margaret W. Creel, Ph.D. *(History)*
Jacqueline C. DjeDje, Ph.D. *(Music)*
Halford H. Fairchild, Ph.D. *(Psychology), Chair*
Roderick J. Harrison, Ph.D. *(Sociology)*
Robert A. Hill, M.Sc. *(History)*
James H. Johnson, Ph.D. *(Geography)*
Vickie M. Mays, Ph.D. *(Psychology)*
Melvin Oliver, Ph.D. *(Sociology)*
Warren Pinkney, M.F.A. *(Music)*
Beverly J. Robinson, M.A. *(Theater Arts)*
Richard A. Yarborough, Ph.D. *(English)*

Associate Professor

Karen Hill-Scott, Ed.D., *Adjunct (Architecture and Urban Planning)*

Lecturers

Barbara A. Bass, M.S.W., *Adjunct (Social Work)*
Kenny Burrell, B.A., *Visiting*

Scope and Objectives

The Afro-American studies major is a relatively new major at UCLA. Originally born during the late 1960s and early 1970s, the program was designed to fill a void that existed at UCLA in terms of social science material relevant to the Black experience. Students and faculty currently associated with the program see the Afro-American studies major as meeting a number of academic, personal, and social needs.

The program offers both a Bachelor of Arts and a Master of Arts degree. While it is important that students become expert within a traditional discipline, it is even more important that students examine both the truth and the fiction regarding the Afro-American experience in the United States. For Afro-American students, this leads to a heightening of self-awareness and self-pride. For non-Afro-American students, such a major provides a broadening of perspectives to take into account more than a singular cultural view.

The fundamental goal of the curriculum is to provide students with a comprehensive and multidisciplinary introduction to the crucial life experiences of Afro-Americans. This goal is achieved in two primary ways. First, it provides an interdisciplinary exposure to particular features of the Afro-American experience. Majors gain an in-depth understanding of the historical, anthropological, sociological, psychological, economic, and political aspects of Afro-America. The curriculum also provides opportunities to study the literary, musical, and artistic heritage of peoples of African descent. Second, students gain expertise in the concepts, theories, and methods of a traditional academic discipline. Majors are required to select an area of concentration in one of the following fields: anthropology, economics, English, history, philosophy, political science, psychology, or sociology (concentrations in departments not listed must be approved by the program adviser).

Bachelor of Arts Degree

The B.A. program in Afro-American Studies made a number of changes in the degree requirements for the 1983-84 academic year. Students declaring an Afro-American studies major after Spring Quarter 1983 must satisfy the requirements that follow. Students who declared the major prior to Spring Quarter 1983 may satisfy either the new requirements or those described in the 1982-83 *UCLA Undergraduate Catalog.* Because of the evolving nature of the program, you should periodically check with the program office for additional changes and/or updates. Majors should also closely consult the 1983-84 *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 enrolling in a given course; this is especially important for the quantitative courses in economics and psychology): *anthropology:* Anthropology 1 (or 11), 2, 5, 6; *economics:* Economics 1, 2, 40, Mathematics 3A, 3E (or 3A, 3B or 31A, 31B); *English:* English 3, 4, 10A, 10B, 10C (all must be taken in sequence); *history:* History 1A-1B-1C, 6A-6B-6C, 10B, and 99 (or 100 or 101); *philosophy:* Philosophy 4, 21, 22, 31; *political science:* Political Science 1, 2A (or 2B), 6, Sociology 1, Economics 1; *psychology:* Mathematics 2, Psychology 10, 41, 42 (or 100), Biology 2, Anthropology 11, Physics 10 (or 3A or 6A or 8A), one year of high school chemistry (or Chemistry 2 or 11A); *sociology:* Mathematics 2, Sociology 1 (or 101), 18, Linguistics 1, Anthropology 22. You are strongly urged to complete the required lower division courses within the first two years of the major.

The Major

Required: (1) Afro-American Studies M164, English 104, History 158B-158C; (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 list of courses; (4) two upper division electives outside the department of concentration selected from the following list of approved courses. Note: You may petition the committee which administers the degree program to have a course not on the approved list accepted for the major. In arranging a course of study, you should select a combination of courses that will best meet your current and future educational and career goals.

Approved courses (recommended courses are in bold):

Afro-American Studies **M100A, 100B, 145, M164, M172, M197, 197B;**

Anthropology 110, **111,** 115P, 115Q, 120, 122, 123, 124, **125A, 125B, 130,** 131, 133P, 134, 135P, **135Q,** 135R, **136P,** M136Q, 137, 138, **M140,** 142A, 142B, **C145, 150, 151, 152, 153A, 153B,** 155, 158, 161, M163, **M164, 166, 167,** M168, **171,** 182, 186A, 186B, 187, **199;**

Economics **101A, 101B, 102, 103A-103Z, 106,** 107, **110,** 111, 112, **120, 121,** 130, 133, M135, 141, 144, 147A, 147B, 150, **151,** 160, 161, **180,** 183, 190, 191, 192, **199;**

English 80, 85, 100A, 100B, 100C, 100D, **104,** 105, 106, M107, 108A, 108B, **109, M111A,** 114, 115, 118, 131, 136A, 136B, 136C, 140A, 140B, 141A, 141B, 142A, 142B, 143, 171, 172, 173, 174, **175,** 188, 189, **190, M197, 199;**

History 100, 101, M104A, M104B, 107A, 107B, 109A, 109B, 135A, 135B, **145A, 145B, 146A, 146B, 147A,** 147B, 148A, 148B, 148C, 149A, 149B, **154A, 154B, 156A, 156B,** 156C, 156D, 156E, **158A, 158B, 158C, 158D, 158E,** 159A, 159B, 160, 161, 166, **175A, 175B, 175C,** 176A, 176B, 177, 178A, 178B, 179A, 179B, 193A, **199;**

Philosophy 100A, 100B, 101A, 101B, 102, **104,** 126A, 126B, **126C,** 129, **150,** 151A, 151B, 153A, 156, 166, **172,** 178, 182, **190, 192, 199;**

Political Science **C102, M103, 104A, 104B, 110,** 111A, 111B, 111C, 113, **114A, 114B,** 115, **116,** 119A, 119B, 120, 124, 125, 126, 131, **137,** M139, **M140,** 141, **142,** 145, **146, 147, 165, 166A, 166B, 166C, 167, 168L,** M169B, 170, 172A, 172B, 173, 174, 175A, 175B, 180, 181, 182A, 182B, 186, 187, 188A, **188B,** 191, **199;**

Psychology **100,** 102, **110, 111,** 112B, **115,** 116, 118B, 119, **120,** 121, 123, **125, 127,** 129A, 129B, **130, 132A, 132B, 133B, 135, 136A,** C136B, 137C, 137D, M138, **139, 142,** 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, 142, and 151 should be taken by students planning to pursue graduate study in psychology);

Sociology 101, 102A-102Z, **109,** 110, **112, 113, 114, 115, 118, 120,** 122, **123, 124, 125,** 126, 128, 129, **130,** 131, **136, 138,** 140, 142, M143, 145, 146, **147, 150, 151,** 152, 153, 154, **155,** 157, M158, 160, 161, 162, 163, **197, 199.**

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 208/210 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 not 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 of 3.0 or 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; (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 1984-85 academic year is January 31, 1984 (earlier for foreign students). Prospective students may request applications from the M.A. Degree Program in Afro-American Studies, Center for Afro-American Studies, 3111 Campbell Hall.

Major Fields

The M.A. in Afro-American Studies is interdepartmental, 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 Art, Dance, Economics, Geography, Psychiatry and Biobehavioral Sciences, Theater Arts, 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 year's 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 the Afro-American Studies 200B through 200F series. These courses should normally be taken in the 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, Afro-American Studies 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.

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 1983-84 *Afro-American Studies Catalog* for details concerning thesis requirements.

Comprehensive Examination Option

If you do not intend to continue your graduate career at the Ph.D. level, you may elect to complete the M.A. degree through the comprehensive examination option. The examination is administered by a committee consisting of at least three faculty members appointed by the program and is conducted in two phases. First, you meet with the committee members to review, revise, and approve the proposed examination. After completion of the written portion, a final oral examination is required.

Upper Division Courses

M100A. Special Studies in Comparative Government: Race, Class, and Politics in Latin America. (Same as Political Science M169B.) Intensive examination of one or more special problems appropriate to comparative government. Sections are offered on a regular basis, with topics announced in the preceding quarter. Mr. Fontaine (F)

100B. Psychology from an Afro-American Perspective. A survey of psychological literature relevant to Afro-Americans. Contributions of Afro-American psychologists are emphasized. Topics include the history of psychology, testing and intelligence, the family, personality and motivation, racism and race relations, education, community psychology, and the future of Afro-American psychology. Mr. Fairchild (Sp)

145. Ellingtonia. The course will explore 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. The course will also cover the many contributions of other artists who worked with Ellington, such as composer Billy Strayhorn and musicians Johnny Hodges, Cooties Williams, and Mercer Ellington. Mr. Burrell (W)

M164. The Afro-American Experience in the United States. (Same as Anthropology M164.) The course aims to promote 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. It is concerned with the utilization of anthropological concepts and methods in understanding the origins and maintenance of particular patterns of adaptation among Black Americans. Ms. Mitchell-Kernan (F)

M172. The Afro-American Woman in the U.S. (Same as Psychology M172 and Women's Studies M172.) Prerequisite: upper division standing. The course will focus on the impact of the social, psychological, political, and economic forces which impact upon the interpersonal relationships of Afro-American women as members of a large society and as members of their biological and ethnic group.

M197. Topics in Afro-American Literature. (Formerly numbered M197A.) (Same as English M197.) A variable specialized studies course in Afro-American literature. Topics include the Harlem Renaissance; Afro-American Literature in the Nadir: 1890-1914; Contemporary Afro-American Fiction. May be repeated for credit. Mr. Yarborough (Sp)

197B. 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, (2) "external" relationships (the ancestor, the kinsman, the other), and (3) form and language.

Graduate Courses

M200A. Advanced Historiography — Afro-American. (Same as History M200V.) May be repeated for credit. Ms. Creel (W)

200B. Seminar in the Political Economy of Race. Prerequisite: consent of instructor. This is a seminar on political economy with special reference to black political economy. The focus will be on the dynamics of allocation of wealth and power resources among social classes and racial and ethnic groups in the United States. This will be done in a context that is at once comparative and international. Thus, the seminar will emphasize internationalism and transnationalism, as well as the uniqueness of the Afro-American condition. It will attempt 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. Mr. Fontaine (Sp)

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

M200D. Afro-American Sociolinguistics: Black English. (Same as Anthropology CM243Q.) Lecture, three hours. Prerequisite: consent of instructor. This seminar aims to provide basic information on Black American English, an important minority dialect in the United States. The social implications of minority dialects will be examined from the perspectives of their genesis, maintenance, and social functions. General problems and issues in the fields of sociolinguistics will be examined through a case study approach. Students will be required to conduct research in consultation with the instructor, as well as participate in group discussion. Ms. Mitchell-Kernan (W)

M200E. Studies in Afro-American Literature. (Same as English M273.) Seminar. 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. Mr. Yarborough

200F. African-American Psychology. (Formerly numbered 220B.) Seminar. Prerequisite: consent of instructor. Survey of the psychological literature as it pertains to persons of African-American descent. The course provides a critical review of the implications of "mainstream" research on African-Americans. This approach includes a discussion of research on the family, academic achievement, and psychological assessment (testing). A second focus is concerned with theoretical approaches advanced by African-American scholars: African philosophy, perspectives on racism in psychology, and research in the Black community. Mr. Fairchild (Sp)

270A. Research Methods. (Formerly numbered 220A.) Seminar. Prerequisite: consent of instructor. An introduction to a variety of research methods, including experimental, quasi-experimental, observational, and survey research methodologies. The course will cover the functions of research, research proposal writing, theory development and hypothesis testing, sampling theory, data collection, data processing and analysis, and interpretation. Also included are the ethics of research and preparing the research report.

270B-270C. Research Seminar. (Formerly numbered 220B-220C.) 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 will meet under the direction of a faculty member and engage in a colloquium in which they will share conceptual schemata and research design. Students will spend the second quarter completing their projects.

596. Directed Readings and Tutorials. Directed readings. This course seeks to provide students with an umbrella under which they can pursue specialized interests from which there is insufficient demand to warrant offering a formal course.

American Indian Studies
(Interdepartmental)

3220 Campbell Hall, 825-7315

Professors

William Bright, Ph.D. *(Linguistics)*
Robert A. Georges, Ph.D. *(English)*
Carole Goldberg-Ambrose, J.D. *(Law)*
Thomas J. La Belle, Ph.D. *(Education)*
Gary B. Nash, Ph.D. *(History), Chair*
Melvin Seeman, Ph.D. *(Sociology)*

Associate Professors

Charlotte A. Heth, Ph.D. *(Music)*
Kenneth R. Lincoln, Ph.D. *(English)*
Pamela L. Munro, Ph.D. *(Linguistics)*
Arnold Rubin, Ph.D. *(Art History)*

Assistant Professors

David E. Draper, Ph.D. *(Music)*
Jennie Joe, Ph.D. *(Anthropology)*
Paul Kroskrity, Ph.D. *(Anthropology)*
Kenneth M. Morrison, Ph.D. *(History)*

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 in 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 will be 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 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.

Major Fields or Subdisciplines

The American Indian Studies M.A. is an interdepartmental program with ten participating academic schools and departments: Anthropology, Art, Dance, English, History, Law, Library and Information Science, Linguistics, Music, and Sociology. The ten disciplines are grouped into four areas of concentration: history and law; expressive arts; social relations; and language, literature, and folklore. Courses related to the American Indian Studies M.A. are also offered in the following schools and departments: Architecture and Urban Planning, Education, Political Science, Social Welfare, and Psychology.

Foreign Language Requirement

Students in the M.A. program must successfully complete Linguistics 114A or 114B. Both courses, to be offered in alternate years, have been designed to show how languages are primary vehicles for understanding American Indian culture.

Course Requirements

(1) A minimum of ten courses will be required, at least seven of which must be graduate courses. Four courses are required: American Indian Studies M200A, 200B, M200C (which must be taken in the first year), and Linguistics 114A or 114B, which must be taken by the end of the second year. In addition, one of the remaining six courses must be a graduate course concerned with research methodology.

(2) All M.A. candidates will select one of the following areas of concentration: (a) history and law, (b) expressive arts, (c) social relations, (d) language, literature, and folklore. In addition to the four required courses, you must complete a minimum of four courses in an 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 chosen from an approved list maintained by the program.

(3) Two courses in the 500 series may be applied toward the 10-course requirement. However, only one 596 course may be applied toward the program requirement of seven graduate courses.

Thesis or Comprehensive Examination Plan

You may choose either (1) a thesis plan or (2) a comprehensive examination plan to complete the degree program. The committee members supervising the thesis or administering the comprehensive examination will be selected by you with the consent of the program committee. Copies of the thesis must be submitted to each member of the committee by the fifth week of the quarter in which you expect to graduate. If you choose the comprehensive examination plan, you must demonstrate in written or oral examination your competency in the major and minor areas of study.

Graduate Courses

M200A. Advanced Historiography—American Indian Peoples. (Same as History M200W.)
Mr. Morrison

200B. Cultural World Views of Native America. The course will explore written literary texts drawn from oral cultures and expressive cultural forms—dance, art, song, religious and medicinal ritual—in selected Native American societies. The instructors will introduce and review methodological approaches to the study of native cultures, from structural anthropology through ethnomusicology and folklore to modern literary analyses and direct fieldwork.
Mr. Draper, Mr. Lincoln

M200C. Contemporary Issues of the American Indian. (Formerly numbered 200C.) (Same as Anthropology M269.) The seminar is designed to introduce students to the most important issues facing American Indians as individuals, communities, tribes, and organizations in the contemporary world. It builds upon the historical background presented in course M200A and the cultural and expressive experience of American Indians presented in course 200B.
Ms. Heth, Ms. Joe

201. Topics in American Indian Studies. Discussion, three hours. Prerequisite: consent of instructor.

Anthropology

341 Haines Hall, 825-2055

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

Associate Professors
Pamela J. Brink, Ph.D.
Timothy Earle, Ph.D.
Claudia Mitchell-Kernan, Ph.D.
Philip L. Newman, Ph.D.
Dwight Read, Ph.D.
Susan Scrimshaw, Ph.D.
Thomas S. Weisner, Ph.D.

Assistant Professors
Dorothy Cheney-Seyfarth, Ph.D.
Jennie Joe, Ph.D.
Gail E. Kennedy, Ph.D.
Paul V. Kroskrity, Ph.D.
Nancy E. Levine, Ph.D.
Eugene L. Mendonsa, Ph.D.
Robert J. Russell, Ph.D.
Robert M. Seyfarth, Ph.D.

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

Associate Professor
Carlos Velez-I., Ph.D., *Adjunct*

Assistant Professor
Larry Mai, Ph.D., *Adjunct*

Scope and Objectives

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

The department recognizes the following five fields in anthropology:

Archaeology is the study of cultures of the past, where knowledge of their characteristics is obtained primarily from material evidence left in the ground, supplemented in some cases by historical and inscriptional 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 and Ph.D. degrees. Studies in anthropology are particularly valuable for students planning careers in which an understanding of human behavior and cultural diversity is desirable, such as medicine, public health, nursing, law, education, and social welfare. Because of its breadth of outlook, anthropology also offers an ideal basis for those seeking a general education in our increasingly interdependent world.

Bachelor of Arts Degree

Preparation for the Majors

Required: Anthropology 1, 2, 5, 6. All courses taken in preparation for the major must be taken for a letter grade.

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 course in each of the five fields: archaeology, biological anthropology, cultural anthropology, linguistic anthropology, and social anthropology.

(2) One course in the category of regional cultures.

(3) Four additional upper division courses in anthropology.

(4) Four upper division courses in related fields drawn from a list maintained in the department.

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

(1) One course in each of the five fields: archaeology, biological anthropology, cultural anthropology, linguistic anthropology, and social anthropology.

(2) One course in the category of regional cultures.

(3) Two courses in the category of history and theory.

(4) One course in statistics (this requirement will normally be met by taking Anthropology 186A, but may also be met by courses drawn from a list maintained in the department).

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

(6) Three or four upper division courses 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 insure 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 in one of two ways: (1) by completion of the fifth quarter of one foreign language or (2) by a demonstration of foreign language proficiency at level 5. Courses taken to satisfy the foreign language requirements may be taken on a Passed/Not Passed basis and may be applied toward satisfaction of the college breadth requirements in the humanities.

Honors Program

The honors program is designed for majors who are interested in carrying out an independent research project that will culminate in an honors paper. A special honors seminar is also offered during the junior year. A 3.5 departmental grade-point average is normally required for admission, but students with a lower GPA may apply to the honors committee for admission. Application should be made at the beginning of the junior year. Anthropology 198A, 199HA, 199HB, and 199HC are required. Anthropology 199HA should be taken in the Spring Quarter of the junior year; honors students will then take Anthropology 199HB and 199HC in the Fall and Winter Quarters of their senior year (to write their honors paper).

Graduate Study

Admission

Admission to the graduate program in anthropology is ordinarily restricted to the Fall Quarter. For admission in the Winter or Spring Quarters, you must make a formal written request to the departmental admissions committee. The department does not require an undergraduate major in anthropology though this is desirable. Promising students with a B.A. or M.A. in another field may be admitted, in which case a program of background studies based on previous training and current objectives will be formulated. Knowledge of a foreign language is not required for admission, but completion of the language requirement before beginning work is highly recommended, and such students are at an advantage in the selection process.

Applications and all supporting material must be submitted by the following dates to be considered for admission for:

Winter Quarter 1984 — October 1, 1983
Spring Quarter 1984 — December 30, 1983
Fall Quarter 1984 — December 30, 1983

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

In addition, you must submit directly to the Graduate Counselor (Department of Anthropology, 341 Haines Hall, Los Angeles, CA 90024) three letters of recommendation (preferably from anthropologists), GRE scores, and 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.

Students whose native language is not English may petition to have the requirement waived. Formal written application for such waiver should be submitted to the guidance committee and the Graduate Division.

Core Course Requirements

You may demonstrate basic knowledge in the five fields by (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 status 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 two courses (eight units) per quarter, but it is highly recommended that students take three courses a quarter (12 units). An M.A. degree requires nine courses (36 units) taken for a letter grade with at least a 3.0 grade-point average.

(1) Four courses may be upper division (100 series).

(2) At least five must be graduate seminars (200 series).

(3) Three courses may be outside the major with the consent of the guidance committee.

(4) Two courses may be anthropology independent studies (see department for course numbers) with the consent of the 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 to the minimum graduate course requirement.

Comprehensive Examination Plan

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

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

Master's Paper: You submit an original paper based on field, laboratory, or library research by the end of the fifth quarter of residence. The guidance committee will assist you in formulating the research paper, monitoring its progress, and evaluating the paper when submit-

ted. In this assignment, you are urged to work closely with your adviser.

Ph.D. Degree

Admission

If you are entering the department with an M.A. in Anthropology from another university or in a field other than anthropology, you will have to fulfill all requirements, but have no course responsibilities with respect to the M.A. degree. You may submit your prior master's thesis or a research paper written as a graduate student (whether or not in anthropology) to fulfill this requirement. Only after satisfying these requirements will a student be admitted into the Ph.D. program.

Foreign Language Requirement

You must satisfy the Ph.D. language requirement before formally nominating the 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 committee a comprehensive annotated bibliography and demonstrate familiarity with its contents. The format of the examination is determined by your doctoral committee. Students who speak English as a second language may waive the language requirement by petition to their committee 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 eight units at all times unless on an official leave of absence.

Qualifying Examinations

The timing of the qualifying examinations will be set in consultation 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 qualifying examination is conducted by the doctoral committee who will examine you in three subfields of your choice. Two of these three subfields will be drawn from a list available in the department; the third will be specific to your needs and interests and dissertation plans. The format of the examination is to be determined by the doctoral committee. Written examinations must be completed at least four weeks before the last day of instruction in a quarter and must be taken no less than two weeks before the University Oral Qualifying Examination. Upon successful completion of the written examination, the doctoral committee administers the University Oral Qualifying Examination. The committee determines the conditions for reexamination should you fail either examination.

Final Oral Examination

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

Lower Division Courses

1. The Principles of Human Evolution: Genetic Basis. (Formerly numbered 1A.) Lecture, three hours; discussion, one hour. Required as preparation for the major. Human population biology in the conceptual framework of evolutionary processes. Emphasizes the genetic basis of evolution, population biology, and diversity among living populations. Students with credit for courses 1 and 2 will not receive credit for course 11.

2. The Principles of Human Evolution: Comparative Analysis. (Formerly numbered 1B.) Lecture, three hours; discussion, one hour. Required as preparation for the major. Human population biology in the conceptual framework of evolutionary processes. Emphasizes comparative primate behavior, structural anatomy, and the fossil record. Students with credit for courses 1 and 2 will not receive credit for course 11.

5. Principles of Cultural Anthropology. (Formerly numbered 5A.) Lecture, three hours; discussion, one hour. Required as preparation for the major. The character of culture and nature of social behavior as developed through anthropological study of contemporary peoples. Students with credit for course 22 will not receive credit for this course.

6. Culture History. (Formerly numbered 5C.) 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. Course does not satisfy major requirements. Emphasis is on evolutionary processes and the evolutionary past of the human species. Students with credit for courses 1 and 2 will not receive credit for this course.

22. General Cultural Anthropology. Lecture, three hours; discussion, one hour. An introduction to the cultural understanding of human behavior designed for students who do not plan further work in anthropology. Stress is placed 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 are counterpointed against studies of primitive life. Students with credit for course 5 will not receive credit for this course.

33. Culture and Communication. Lecture, three hours. The course examines the role of culture in structuring how people communicate with one another and emphasizes 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. The course thus emphasizes patterns of language use, rather than details of language structure. Mr. Kroskrity, Ms. Mitchell-Kernan

Upper Division Courses

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

Archaeology

110. World Archaeology. (Formerly numbered 123.) Prerequisite: upper division standing or consent of instructor. A broad survey of human culture history from its Stone Age beginnings to the establishment of the primary civilizations of the Old and New Worlds. Intended for students with a general interest in archaeology and in an anthropological approach to the study of the past. (Alternate core course for archaeology field.) Mr. Sackett

111. The Study of Archaeology. A survey of contemporary prehistoric archaeology. Emphasis is on what archaeologists do, and how and why they do it. Contributions of archaeology to the modern world are also examined. Intended for students with a desire to explore the nature of anthropological archaeology. (Alternate core course for archaeology field.) Mr. Hill

112. Old Stone Age Archaeology. (Formerly numbered 109.) Prerequisite: course 6 or consent of instructor. The development of Paleolithic cultural traditions in Europe, Africa, Asia, and the New World. Emphasizing the ordering and interpretation of archaeological data, Pleistocene geology and chronology, and the relationship between human cultural and biological evolution. Mr. Sackett

113P. Archaeology of North America. (Formerly numbered 106D.) Prerequisite: course 5, 6, or 22, or consent of instructor. Prehistory of the North American Indians; the evolution of Indian societies from earliest times to (and including) contemporary Indians; approaches and methods of American archaeology. Mr. Meighan

113Q. The Prehistory of California Indian Cultures. (Formerly numbered 106B.) 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. An examination of the prehistory of the American Southwest from Early Man to historic times. Emphasis is on describing and explaining cultural variation and change, employing an ecological and evolutionary perspective. The "Great Events" (agriculture, town living, and the Great Abandonment) are given special attention. Evolutionary processes are generalized and related to contemporary world problems. Mr. Hill

114P. Ancient Civilizations of Western Middle America (Nahuatl Sphere). (Formerly numbered 123C.) 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 Mixteca 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). (Formerly numbered 123D.) 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. (Formerly numbered 123E.) Prerequisite: course 5, 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. (Formerly numbered 170A.) Prerequisite: consent of instructor. Procedures of archaeological excavation, mapping, stratigraphy, collecting, and recording of archaeological data (field class conducted off campus).

115Q. Archaeological Research Techniques. (Formerly numbered 175B.) 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 is given to sampling, typology, and locational analysis. Techniques for the measurement of such important variables as population size, diet, seasonality, specialization, and exchange are also considered.
Mr. Hill

115R. Strategy of Archaeology. (Formerly numbered 175A.) 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. The focus is on how archaeological research is conceived and planned, with consideration of differing viewpoints and their usefulness. Mr. Hill

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. Posnansky

116P. Laboratory Analysis in Archaeology. (Formerly numbered 175E.) Prerequisite: consent of instructor. Description and classification of archaeological collections: cataloging, typology, documentation. Preparation of archaeological reports for publication. Mr. Meighan

M116Q. Dating Techniques in Environmental Sciences and Archaeology. (Formerly numbered M175C.) (Same as Geography M178.) Lecture, three hours; reading period, one hour. Prerequisite: consent of instructor. Introduction to scientific dating methods such as radiocarbon dating, radiation damage methods, biological dating techniques, and magnetic dating, and applications in environmental sciences, archaeology, and physical anthropology.
Mr. Berger

118A. Museum Studies. (Formerly numbered 178A.) Prerequisite: consent of instructor. Method and theory of museum operation. Acquisition accession, storage, photography, conservation, and exhibition are discussed and demonstrated. Museum research, publication, and teaching, as well as museum administration and funding, are analyzed. Lectures and demonstrations are structured to illustrate how the various aspects of museum operation are interrelated. Mr. Donnan and the Museum Staff

118B. Museum Studies. (Formerly numbered 178B.) Prerequisites: course 118A and consent of instructor. Two areas of museum operation are selected by the students from those discussed and demonstrated in course 118A. The student is then required to develop expertise in these areas through a combination of library research and a series of assignments carried out in the museum.
Mr. Donnan and the Museum Staff

119. Archaeology of Southern California: Field Studies. Saturday field class, 8-5. The course is designed primarily for nonmajors and is a survey of Southern California archaeology from the Historical or Mission period back to the hotly disputed time of Early Man. Classroom lectures will be combined with weekly field study trips to archaeological sites in the greater Los Angeles area, with the aim of exposing students to primary archaeological evidence in a variety of contexts. P/NP or letter grading.

Biological Anthropology

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

121A. Fossil Man and His Culture. (Formerly numbered 111A.) 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. (Formerly numbered 111B.) Prerequisite: consent of instructor. Recommended: courses 1, 2, 121A. The morphology, ecology, and behavior of the genus *Australopithecus*. The history of their discoveries and their place in human evolution will also be discussed.
Ms. Kennedy

121C. Evolution of the Genus Homo. (Formerly numbered 111C.) Prerequisite: consent of instructor. Recommended: courses 1, 2, 121A, 121B. The origin and evolution of the genus *Homo*, including archaic sapiens and the neanderthals. The morphology, ecology, and behavior of these groups will be included. The course will end with the appearance of modern man. Ms. Kennedy

122. Biology, Society, and Culture. (Formerly numbered 134.) Prerequisite: course 2. An investigation of the interaction between human biology and human behavior. Particularly emphasized are the influences of human biological evolution on human cultural evolution and human cultural evolution on human biological evolution.

123. Human Genetics. Recommended prerequisite: course 1. The course includes discussion of the nature and causes of human biological variation. Evolutionary models of genetic and phenotypic changes will be developed and compared. Geographical and cultural contributions to the development of observed patterns of human biological variation are emphasized.

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. Mr. Mai

124. Evolution and Biology of Human Behavior. (Formerly numbered 131.) A comparative survey of the behavior patterns of preliterate and Paleolithic peoples and those of nonhuman primates. The biological variables fundamental to human and prehuman behavior will be assessed with regard to theories on the evolution of human culture.

125A-125B. The Genetics of Human Diversity. (Formerly numbered 130A-130B.) Course 125A or equivalent is prerequisite to 125B. A survey of human biological diversity. Emphasis is on genetics at the population level for both discrete and quantitative variation. Analytic methods and evolutionary hypotheses are considered.

126P. Anatomy for the Humanities: Mind, Body, and Behavior. A discussion of the structure and workings of the human machine for students with little or no knowledge of biology. Human form and function will be taught from an evolutionary and developmental perspective, illustrated with relevant examples of behavior and disfunction (disease). Mr. Russell

127P. Primate Evolution. (Formerly numbered 135A.) Prerequisite: upper division standing. A survey of the primate paleontological and evolutionary record, encompassing prosimians, New and Old World monkeys, and hominoids. Attendant aspects of paleoecology and behavior will be discussed.
Mr. Russell

127Q. Introduction to Primate Anatomy (1½ courses). (Formerly numbered 135B.) Lecture, two hours; laboratory, four hours. Recommended prerequisite: course 127P. Laboratory includes anatomical terms and principles of dissection of a nonhuman primate cadaver, with the study of osteological material. Lectures introduce basic developmental anatomy; the evolution of gross structure; allometry, morphological and psychological scaling; and the morphological correlates of posture, locomotion, and diet.
Mr. Russell

127R. Introduction to the Comparative Morphology and Physiology of Primates (1½ courses). (Formerly numbered 135C.) Lecture, two hours; laboratory, four hours. Recommended prerequisites: courses 127P, 127Q. The series will cover the functional, evolutionary, and taxonomic studies of primate anatomy and physiology. Lectures compare functional systems (e.g., locomotion) through the primate series. In laboratory students will dissect regions of several unrelated specimens and perform their own comparative analysis. Mr. Russell

128A-128B. Primate Behavior Nonhuman to Human (2 courses). (Formerly numbered 133A-133B.) Prerequisite: upper division standing. Course 128A is prerequisite to 128B. Review of primate behavior as known from laboratory and field studies. Stresses theoretical issues and the evolution of causal processes, structure and function of animal behavior, with special reference to nonhuman primates. Human behavior will be discussed as the product of such evolutionary processes. In Progress grading.
Ms. Cheney-Seyfarth, Mr. Seyfarth

129P. Laboratory Methods in Biological Anthropology: Skeletal. (Formerly numbered 171A.) Prerequisites: courses 1 and 2, consent of instructor. Limited to majors and graduate students. Laboratory methodology and analysis of human variation on skeletal material.

129Q. Laboratory Methods in Biological Anthropology: Living Populations. (Formerly numbered 171B.) Prerequisites: courses 1 and 2, consent of instructor. Limited to majors and graduate students. Laboratory methodology and analysis of human variation in living populations.

129R. Laboratory Methods in Biological Anthropology: Biochemistry. (Formerly numbered 171C.) Prerequisites: courses 1 and 2, consent of instructor. Limited to majors and graduate students. Laboratory methodology and analysis of human variation involving biochemical methods.

Cultural Anthropology

130. The Study of Culture. The course will focus on the 20th-century elaboration and development of the concept of culture from the Boasian period to the present, thereby surveying the major schools of anthropological thought, such as historical particularism, psychological anthropology, functionalism, cultural materialism, structuralism, and symbolic anthropology. It will also examine the utility of the culture concept in more applied areas of anthropology. (Core course for cultural field.)

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

132. Technology and Environment. (Formerly numbered 122C.) Significance of material culture in archaeology and ethnology; problems of invention and the acceptance of innovations; the ecological and sociological concomitants of technological systems; selected problems in material culture.

133P. Social and Psychological Aspects of Myth and Ritual. (Formerly numbered 141.) The course is aimed at understanding the social and psychological significance of myth, ritual, and symbolism, with particular attention given to anthropological theories and interpretations of religious belief systems.
Ms. Levine, Mr. Mendonsa

133Q. Symbolic Systems. (Formerly numbered 138.) Prerequisite: upper division standing or consent of instructor. An analysis of the anthropological research and theory on the cultural systems of thought, behavior, and communication expressed in a symbolic mode (as distinguished from the discursive, instrumental, and causal modes). Methods for the study of symbolic meaning, including the experiential approach. Mr. Maquet

133R. Aesthetic Anthropology. (Formerly numbered 144.) Prerequisite: upper division standing. Elaboration of a cross-cultural notion of visual aesthetic phenomena that meets the requirements of anthropological research. Aesthetic phenomena as cultural; their integration in a cultural system; their relationships with other elements in the interplay of social forces. Mr. Maquet

134. Personality and Cultural Systems: Enculturation. (Formerly numbered 148.) Prerequisite: upper division standing or consent of instructor. The course examines the relationship between individual and culture by focusing on enculturative learning as modality of personality forms and internal dynamics of culture change. Major emphasis is on cultural influences of cognition, perception, thought processes, socialization, and development of value. Mr. Wilbert

135P. Introduction to Psychocultural Studies. Prerequisite: upper division standing or consent of instructor. A survey of the history and development of psychocultural studies. Topics are examined as they relate to the cross-cultural study of such things as personality, pathology and deviance, fantasy, altered states of consciousness, cognition, perception, motivation, and other similar phenomena.

135Q. The Individual in Culture. (Formerly numbered 143.) Prerequisite: upper division anthropology, sociology, or psychology standing. The course considers the balance for freedom and determinism for individuals and societies in the interrelation of personality, social structure, and culture. It surveys 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.

135R. Comparative Study of Socialization. (Formerly numbered 142.) Introduction to ethnographic data on socialization and child training. Theories explaining cross-cultural variability in socialization practices. Current methods and research topics in the field.

136P. Ethnology: Field Training. (Formerly numbered 170B.) Training in ethnographic field methods. Execution of individual and group ethnographic field research projects.

M136Q. A Laboratory for Naturalistic Observations: Developing Skills and Techniques. (Formerly numbered M176.) (Same as Psychiatry M112 and Psychology M155.) Prerequisite: consent of instructor. The skill of observing and recording behavior in natural settings will be taught, emphasizing field training and practice in observing behavior. Group and individual projects will be included. Some of the uses of observations and their implications for research in the social sciences will also be discussed. Mr. Gallimore, Mr. Levine, Mr. Turner (W)

137. Ethnography on Film. (Formerly numbered 179.) Intensive examination of filmed and written ethnographies of a wide range of the world's peoples, with the purposes of (1) comparing visual with written data and evidences and (2) developing criteria for adequate written and film ethnography. Mr. Moerman

138. Methods and Techniques of Ethnohistory. (Formerly numbered 172.) Introduction to the problems and procedures of extracting cultural data from documentary sources and their interpretation and analysis. The relevant documentary sources of various New World regions will be 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. Course 139L must be taken concurrently. The course introduces students to the skills and tools of data ascertainment through fieldwork in cultural anthropology. It focuses on techniques, methods, and concepts of ethnographical 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. Course 139 must be taken concurrently. The course provides a supervised practicum of field methods in cultural anthropology. Field methods and techniques presented in course 139 will be practiced and applied in simulated field situations. Styles of presenting ethnographical information will be discussed. Mr. Wilbert

Linguistic Anthropology

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

141. The Ethnography of Communication: Introduction and Practicum. (Formerly numbered 180.) Prerequisite: upper division standing or consent of instructor. The course has two interrelated objectives: (1) to introduce students to the ethnography of communication—the description and analysis of situated 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 Ethology. (Formerly numbered 149A-149B.) Prerequisite: consent of instructor. Course 142A is a strongly recommended prerequisite to 142B. Students will make primary records (sound tape, videotape, or film) of naturally occurring social interactions. These will be analyzed in class for the interactive tasks, resources, and accomplishments displayed. The course requires laboratory and fieldwork outside of class and minimal fees to offset costs of equipment maintenance and insurance. Mr. Moerman

143A. Field Methods in Linguistic Anthropology: Practical Phonetics. (Formerly numbered 177A.) Practice in elicitation from informants for the purposes of analysis of phonological systems and development of practical transcription, as a preliminary to learning to speak the native language and to the recording of ethnographic materials in native language. No prior experience in linguistics is assumed. Mr. Kroskrity

143B. Field Methods in Linguistic Anthropology: Syntax, Semantics, Textual Cohesion. (Formerly numbered 177B.) Prerequisite: course 143A, equivalent experience, or consent of instructor. The course attempts to supply students with the skills and strategies necessary for conducting investigations into the syntactic, semantic, and textual (or discourse) structures of field languages. Practice with native speakers of various non-Indo-European languages is an important aspect of student participation. Mr. Kroskrity

144. American Indian Ethnolinguistics and Sociolinguistics. Prerequisite: prior coursework in either anthropology, linguistics, or American Indian studies. The course provides an introduction and comparative analysis of the sociocultural aspects of language use in Native North American Indian speech communities. Specific foci include both micro- and macro-sociolinguistic topics. Micro-sociolinguistic topics are comprised of such issues as multilingualism, cultural differences regarding appropriate communicative behavior and variation within speech communities (e.g., male and female speech, baby talk, ceremonial speech, etc.). Macro-sociolinguistic 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. The course aims to provide basic information on Black American English, an important minority dialect in the United States. The social implications of minority dialects will be examined from the perspectives of their genesis, maintenance, and social functions. General problems and issues in the fields of sociolinguistics will be examined through a case study approach. Concurrently scheduled with course CM243Q. Ms. Mitchell-Kernan

Social Anthropology

150. Comparative Society. (Formerly numbered 122A.) 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 22. A survey of marital patterns, descent, and family structure in a range of societies. The emphases are on the relationship between kinship and other aspects of the sociocultural system and on the importance of kinship for general anthropological research. Ms. Levine

152. Traditional Political Systems. Prerequisite: course 150 or Sociology 101 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, Mr. Mendonsa

152P. Comparative Systems of Social Inequality. Lecture, three hours. Prerequisite: course 5 or 22 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

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

154. Principles of Social Structure. (Formerly numbered 150B.) Prerequisites: course 5 or 22 or Sociology 1 or 101 and upper division standing in anthropology or sociology. The course focuses on the methods and theory which derive from Emile Durkheim in France and Radcliffe-Brown in England. It also discusses the variety of approaches and concerns in social anthropology. Ethnographic material is used to illustrate the methods and concepts used by social anthropologists. Mr. Mendonsa

155. Illness in Non-Western Societies. Prerequisites: course 5 or 22 or Sociology 1 or 101 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 is on the social roles involved in the diagnosis and curing. Mr. Mendonsa

156. Comparative Religion. (Formerly numbered 140.) A survey of various methodologies in the comparative study of religious ideologies and action systems. These include 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

157. Intentional Communities. Prerequisite: upper division standing or consent of instructor. Communes and monasteries, ashram and kibbutz are voluntarily joined societal units, offering complete life-styles perceived as alternatives to the mainstream cultures and stressing the affective involvement of the members. Questions such as the following will be discussed in a comparative perspective: institutional goals stated in the community's "charter"; system of acquisition or production; internal organization; ideational configurations; individual experience; sociological and psychological functions; criteria of success and failure; subculture and counterculture. Mr. Maquet

158. Hunting and Gathering Societies. (Formerly numbered 112.) Prerequisite: course 5. A survey will be made of hunting and gathering societies. Their distinctive features will be examined from both an ecological and cultural viewpoint. The possibility of developing a general framework for synthesizing these two viewpoints will be discussed. This synthesis will be used as a basis for illustrating the relevance of hunting and gathering societies as an understanding of complex societies. Mr. Read

Social Action/Applied Anthropology

160. Introduction to Social Action Anthropology. Lecture, three hours. Prerequisites: course 5 or 22 and upper division standing, or consent of instructor. Application of anthropology to such domestic and international issues as poverty, discrimination, public health, mental health, child welfare, education, delinquency and drug abuse, aging, housing and community organization, economic development, environmental 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

161. Development Anthropology. Prerequisites: course 5 and upper division standing, or consent of instructor. Comparative study of the peasantization of tribal peoples, the proletarization of peasants, and the urbanization of ruralities. Particular emphasis on the relation between national, international, and localized sociocultural systems; the theory of social movements. Alternative theoretical constructs are critically discussed. Mr. Mendonsa

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. (Formerly numbered 163.) (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. Levine

M164. The Afro-American Experience in the United States. (Same as Afro-American Studies M164.) The course aims to promote 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. It is concerned with the utilization of anthropological concepts and methods in understanding the origins and maintenance of particular patterns of adaptation among Black Americans. Ms. Mitchell-Kernan (F)

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

166. Comparative Minority Relations. (Formerly numbered 139.) Prerequisites: courses 5 and 6. Comparative study of minority relations, social discrimination, and prejudice. The emphasis is on cross-cultural perspectives and psychocultural analysis. The cases are taken from the U.S., Latin America, India, and other areas. The factors responsible for discrimination and the cultural-psychological consequences of class, caste, or minority status of the individuals are discussed. Mr. Velez-I.

167. Urban Anthropology. (Formerly numbered 160.) Open to upper division majors in the social sciences, and others by consent of instructor. A survey of urbanization throughout the world, with emphasis on urban adaptation of rural migrants. Special focus on the problems of rural-urban migration of ethnic minority groups and subsequent adaptation of them within the United States explored in terms of the methods and perspectives of anthropology. Mr. Velez-I.

167P. Psychoanalysis and Anthropology. Lecture, three hours. Exploration of mutual relations between anthropology and psychoanalysis, considering both theory and method. History of and current developments in psychoanalysis; anthropological critiques of psychoanalytic theory and method, toward a cross-cultural psychoanalytic approach. Mr. Johnson

M168. Health in Culture and Society. (Formerly numbered M158.) (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 is on interaction networks in health care systems. Ms. Brink

Regional Cultures

Africa

171. Civilization of Sub-Saharan Africa. (Formerly numbered 113.) Prerequisite: upper division standing or consent of instructor. A comprehensive overview of the sociocultural world of Sub-Saharan Africa. This world is interpreted as a broad cultural unit with its specific African configurations and as a plurality 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, Mr. Mendonsa

North America

172P. North American Indian Cultures. (Formerly numbered 106C.) An examination of American Indian cultures from early historic time to modern development. Mr. Oswalt

172Q. Cultures of the California Indians. (Formerly numbered 106A.) 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. (Formerly numbered 106H.) Prerequisite: course 5, 6, 22, upper division standing, or consent of instructor. A survey of ethnographic and ethnohistorical research of the Pueblo Indians (Hopi, Zuni, Tanoan, and Keresan) and their immediate neighbors. The course provides basic information on the history, languages, social organization, and traditional cultural systems of these groups. Mr. Kroskrity

172S. Theory and Method in the Pueblo Southwest. (Formerly numbered 106I.) Prerequisite: course 172R or consent of instructor. The course focuses on selected problems in Southwestern ethnology, viewing the Pueblo Southwest as an important locus for anthropological theory and method. Such theories as early culture and personality theory, functionalism, and symbolic anthropology are explored 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. Kroskrity

M172T. Ethnohistory of Hispanic Cultures in the U.S. Southwest. (Formerly numbered 172T.) (Same as Chicano Studies M172T.) Prerequisite: course 5 or 22 or consent of instructor. An ethnography of the social and cultural adaptations of the Hispanic peoples in the U.S. Southwest: their respective social organization, economic and political institutions, sacred and secular belief systems, and expressive cultures.

172U. Eskimos. (Formerly numbered 106F.) Prerequisite: upper division standing. A survey on historical, ethnographic, and contemporary Eskimo life stressing their importance in anthropological theory and practice. Particular emphasis is placed in Eskimo origins, technology, and modern administration. Mr. Oswalt

Middle America

173P. Cultures of Middle America. (Formerly numbered 105B.) An introduction to the social and cultural anthropology of Middle America, with an emphasis on indigenous communities. Aspects of economics, society, politics, and religion are reviewed in light of their historical development and current distribution.

173Q. Latin American Communities. (Formerly numbered 105C.) An overview of the social and cultural anthropology of small communities in Latin America. Similarities and contrasts in social organization and interpersonal relations are described in the context of economic, political, and cultural environments. Mr. Johnson

South America

174P. Ethnography of South American Indians. (Formerly numbered 105A.) Introduction to the ethnography of South American Indians, with special emphasis on Lowland South America. The course surveys the history and development of man and society in this world area and examines exemplary cultures symptomatic of the various levels of cultural achievement. Mr. Wilbert

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

Asia

175P. Civilizations and Cultures of Southeast Asia. (Formerly numbered 103B.) An introduction to the understanding and appreciation of the peoples, cultures, and societies of Philippines, Indonesia, Malaysia, Thailand, Burma, Laos, Cambodia, and Vietnam seen against their historical and ecological backgrounds. Slides and other media will be used along with texts, lectures, and discussion. Mr. Moerman

175Q. Civilizations of South Asia. (Formerly numbered 103A.) Examination of the civilizations of Sri Lanka, India, Pakistan, Bangladesh, and the Himalayan states. Ideational systems, social institutions, and techniques of production will be discussed in the framework of a few contemporary civilizations, each focused on a major religious tradition (Hinduism, Buddhism, and Islam). Ms. Levine, Mr. Maquet

175R. Civilizations of Inner Asia. (Formerly numbered 103E.) The course will provide an overview of culture and society among the diverse peoples of Inner Asia, including Mongolia, Tibet, and Soviet Central Asia. Topics include environment and economic adaptation, politics in traditional isolation and within the framework of recent national integration, kinship, forms of marriage and the status of women, religion and the social order in Hindu-Buddhist culture contact zone, and current problems of modernization. Ms. Levine

175S. Japan. (Formerly numbered 103C.) Prerequisite: course 22. An overview of contemporary Japanese society. General introduction; kinship; marriage and family life; social mobility and education; norms and values; religions; patterns of interpersonal relations; social deviance.

Middle East

176. Cultures of the Middle East. (Formerly numbered 110.) Prerequisite: course 5 or consent of instructor. The course will delineate the area of "Arab Peoples" through an examination of their historical background, their language, and their belief system. It will attempt to uncover the structural principles shared by the Arab people of North Africa and Southwest Asia which underlie Arab culture.

Pacific

177. Cultures of the Pacific. (Formerly numbered 108.) The course covers the four major culture areas of Australia, Melanesia, Polynesia, and Micronesia. General geographical features, prehistory, and language distribution of the whole region are discussed. Distinctive sociocultural features of each culture area are presented in the context of their adaptive significance. Mr. Newman

History and Theory

182. The History of Anthropology. (Formerly numbered 182A-182B.) A brief survey of the development of Western social science, particularly anthropology, from Greek and Roman thought to the emergence of evolutionary theory and the concept of culture in the late 19th century. The course will examine the "root paradigm" of Western social science and examine its influence on such notables as Durkheim, Freud, Hall, Lombroso, Marx, Piaget, Terman, and others. It will in turn consider how this influences ethnocentrism and Eurocentrism, sexism, racism, the perception of deviance, and our view of culture in general.
Mr. Langness

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

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

185. History of Social Anthropology. (Formerly numbered 150A.) Prerequisites: course 5 or 22 or Sociology 1 or 101 and upper division standing in anthropology or sociology. A systematic survey of the development of social anthropology in France and Britain from the Enlightenment to the present. Reviews major early concepts of French sociology and British structuralist-functionalism and current concerns in social theory. Mr. Mendonsa

186A-186B. Quantitative Methods and Models in Anthropology. (Formerly numbered 173A-173B.) Prerequisite: upper division standing. The course is designed to provide an introduction to quantitative methods of data analysis and the modeling of sociocultural systems. **186A** emphasizes methods of data analysis and topics such as data description, sampling, estimation procedures, and hypothesis testing. **186B** covers topics from statistical modeling (e.g., linear regression models) and deterministic modeling (e.g., network models, kinship structures, systems, models). Mr. Read

187. Theory and Method in Sociocultural Anthropology. Prerequisite: at least eight units of upper division social and cultural anthropology. A review of the major theoretical orientations in sociocultural anthropology, with special emphasis on the research methods that have been found most useful in each. The relevance of philosophy of science to sociocultural anthropology is examined, and theoretical and methodological links to other social sciences are identified. Mr. Johnson

Special Studies

191. Writing for Anthropology. (Formerly numbered 181.) Prerequisite: course 5. Students learn writing skills in various academic forms, including term papers, essay examinations, journal articles, and reports. Class projects require student writing and evaluation of professional writing. Stress is placed on the organization and presentation of a scholarly argument. Mr. Earle

199. Special Studies in Anthropology (¼ to 2 courses). Prerequisite: consent of instructor. Eight units may be applied toward the upper division anthropology courses required for the major.

199HA. Directed Studies for Honors. Discussion, three hours. Prerequisite: honors major in anthropology. Discussion meetings with the adviser to help define the research and preparation for the project. Extensive reading and research in the field of the proposed honors thesis. The project will often involve summer fieldwork. In Progress grading. (Sp)

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

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

Graduate Courses

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

Archaeology

210. Analytical Methods in Archaeological Studies. (Formerly numbered 210A.) Prerequisites: one quarter of statistics and consent of instructor. This course will cover data analysis procedures in archaeology. The emphasis will be on the conceptual framework for the analysis of archaeological data. It will begin at the level of the attribute and end at the level of the region. Mr. Read

211. Regional Analysis in Archaeology. (Formerly numbered 210B.) Prerequisite: consent of instructor. Course 210 is not prerequisite to 211. The course surveys the analytical methods used in archaeology to study prehistoric settlement systems. Specific issues addressed include settlement distribution with respect to natural resources, settlement hierarchy, and patterns of exchange. Mr. Earle

212P. Selected Topics in Hunter-Gatherer Archaeology. (Formerly numbered 214E.) 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 will vary with each course offering. May be repeated for credit.

212Q. Problems in Southwestern Archaeology. (Formerly numbered 205.) 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 will 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 will be considered. Content may vary, but problems to be considered include the history and process of island occupation, island adaptation, and the evolution of social stratification. May be repeated for credit. Mr. Earle

213. Selected Topics in Problems in Old World Archaeology. (Formerly numbered 214F.) Prerequisite: consent of instructor. May be repeated for credit.
Mr. Sackett

214. Selected Topics in Prehistoric Civilizations of the New World. (Formerly numbered 214G.) Prerequisite: consent of instructor. The Mesoamerican and Andean civilizations will normally constitute the major focus of the seminar. May be repeated for credit. Mr. Donnan, Mr. Nicholson

215. Field Training in Archaeology (1 to 2 courses). (Formerly numbered 214J.) 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. (Formerly numbered M214I.) (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

217. Explanation of Societal Change. (Formerly numbered 234.) Prerequisite: consent of instructor. Examination of the processes of societal evolution, emphasizing the usefulness of a variety of explanatory models drawn from general systems theory, ecology, anthropology, and other sources. Specific research questions will vary with each course offering. May be repeated for credit. Mr. Hill

218. Historical Reconstruction and Archaeology. (Formerly numbered 214H.) Prerequisite: consent of instructor. Interpretation of historical development through archaeological research. Application of ethnohistory to archaeological problems. May be repeated for credit. Mr. Meighan, Mr. Nicholson

M219A-M219B. Graduate Core Seminar in Archaeology (1½ courses each). (Same as Archaeology M201A-M201B.) Prerequisite: consent of instructor. Required of anthropology students in the archaeology field. Seminar discussions based on a carefully selected list of 30-40 major archaeological works. These core courses provide the student with a foundation in the breadth of knowledge required by a professional archaeologist. The courses comprise archaeological historiography, a survey of world archaeology, and archaeological techniques. Emphasis will be placed on an appreciation of the multidisciplinary background of modern archaeology and of the relevant interpretative strategies.

Biological Anthropology

220. Current Problems in Biological Anthropology. Prerequisite: consent of instructor. A detailed examination of current research in biological anthropology (specific topics to be announced). Emphasis on the nature of hypotheses and their testing in ongoing student and faculty research. May be repeated for credit.

221A-221B. The Fossil Evidence for Human Evolution. Prerequisite: consent of instructor. Course 221A is prerequisite to 221B. No credit will be allowed for course 221A without 221B. An examination and analysis of the fossil evidence for man's evolution.
Ms. Kennedy

222P. Population Genetics of Man. (Formerly numbered 222A.) Prerequisite: consent of instructor. An introductory course in statistics. The study of population concepts, probability, the conditions of gene frequency equilibria, and factors causing gene frequency change. Mr. Williams

M222Q. Probability Models and Statistical Methods in Genetics. (Formerly numbered M222B.) (Same as Biomathematics M246.) Lecture, three hours. Prerequisites: course 222P, 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 will be introduced and discussed in detail. Mr. Read (F)

M222R. Modeling in Genetic Analysis. (Formerly numbered M222C.) (Same as Biomathematics M207.) Lecture, three hours. Prerequisites: course M222Q and graduate standing, or consent of instructor. Basic concepts of human genetics with emphasis on methods of computer-oriented genetic analysis. Topics include segregation analysis, genetic linkage, polygenic (quantitative) models, and population structure. Ms. Spence (F)

222S. Population Genetics. (Formerly numbered 229E.) Prerequisite: consent of instructor. A consideration of some of the special methods of the genetics of human populations and their current application in research. May be repeated for credit. Mr. Williams

223. The Roots of Human Behavior. (Formerly numbered 291.) 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.

224. Selected Topics in Field Training in Biological Anthropology. Prerequisite: consent of instructor. Examination of current hypotheses in student and faculty field research. Emphasis upon 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. Mr. Russell

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

226. Biological Anthropology Colloquium. (Formerly numbered 229F.) Selected topics on the status of current research in biological anthropology. May be repeated for credit. S/U grading.

227. Monkeys, Apes, and Language. Lecture, three hours. Prerequisite: consent of instructor. A review of recent research on animal communication and its relation to the evolution of human language will be studied. Topics range from the neurophysiological control of vocalizations in a variety of species to the social function of communication, particularly among free-ranging primates. The "ape-language" projects will be examined in detail. Mr. Seyfarth

228. Mating Systems in Birds and Mammals. Lecture, three hours. Prerequisite: consent of instructor. The seminar will survey the evolution of different mating systems in birds and mammals with a special focus on nonhuman primates. Emphasis will be placed on social and ecological selective pressures acting on male and female reproductive behavior and partial investment. The course will also consider the validity of applying evolutionary theory to human reproductive behavior. Ms. Cheney-Seyfarth

M228A-M228B. Seminar in Behavioral Biology. (Same as Biology M252A-M252B, Education M229A-M229B, Physiology M252A-M252B, Psychiatry M291A-M291B, and Psychology M230A-M230B.) Discussion, six hours. Prerequisite: consent of instructor. Basic seminar for graduates interested in behavioral biology. An interdisciplinary course dealing with behavioral research in anthropology, biology, psychology, and the medical sciences. Proximate causation, development, and evolution in animal behavior. Physiology and the organization of behavior. Vertebrate social organization. Animal communication. The application of natural selection theory to human social behavior. In Progress grading.

M229A-M229B-M229C. Seminar: Selected Topics in Human Ethology. (Same as Education M281A-M281B-M281C and Psychiatry M279A-M279B-M279C.) Ethologists now use successful animal behavior methodology to study human behavior. When is this appropriate, how can it contribute? Each quarter will cover one level of analysis: describing and recording behavior; causation; development, especially longitudinal studies; adaptation; evolutionary origins. Mr. Blurton Jones (F,W,Sp)

Cultural Anthropology

230P. Ethnology. (Formerly numbered 269F.) Prerequisite: consent of instructor. A seminar on ethnological method and theory concentrating on ideational systems. May be repeated for credit. Mr. Wilbert

230Q. Cultural Anthropology. (Formerly numbered 269E.) Prerequisite: consent of instructor. Special problems in cultural anthropology. May be repeated for credit. Mr. Goldschmidt

231. Asian Americans: Personality and Identity. (Formerly numbered 253.) Prerequisite: graduate standing. This seminar will examine the effect of class, caste, and race on the Asian American personality within the framework of anthropological theories.

M232P. Cultural Modes of Thought. (Formerly numbered 232P.) (Same as Psychiatry M212.) Lecture, three hours. Prerequisite: consent of instructor. An examination of the influences of culture on learning, perception, thinking, and intelligence. The course covers the fields of cross-cultural psychology in addition to cognitive anthropology. The focus is on learning and thinking in non-Western cultures but would include problems of education in ethnic areas within the U.S. Mr. Gallimore, Mr. Price-Williams

232Q. Myth and Ritual. (Formerly numbered 269Q.) Prerequisite: consent of instructor. This seminar discusses nature and function of myth and ritual in non-industrialized societies. Its associated value systems and philosophies are examined as infrastructure of culture rather than as phenomena proposed by structuralist rationalism and cultural material empiricism. May be repeated for credit. Mr. Wilbert

M232R. South American Folklore and Mythology Studies. (Formerly numbered M252.) (Same as Folklore M257.) Prerequisite: course 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

233P. Symbolic Anthropology. (Formerly numbered 269P.) Prerequisite: course 133R or consent of instructor. Nature of symbolic relations (as distinguished from other referential ones), significance of symbolic systems (in terms of action, cognition, affectivity, contemplation), symbolic and isomorphic logic (as opposed to the causal one) are among the questions to be selected for analysis and discussion in this course. May be repeated for credit. Mr. Maquet

233Q. Aesthetic Anthropology. (Formerly numbered 269R.) Prerequisite: course 133R or consent of instructor. Selected questions concerning the visual aesthetic phenomena in their relationships with the sociocultural context will be examined in depth. May be repeated for credit. Mr. Maquet

M234A-M234B. Seminar in Psychocultural Studies. (Formerly numbered 234A-234B.) (Same as Psychiatry M210A-M210B.) Lecture, three hours. Prerequisite: consent of instructor. This two-quarter sequence is devoted to the present state of research in psychocultural studies. It will survey work in child development and socialization, personality, psychobiology, transcultural psychiatry, deviance, learning, perception, cognition, and psychocultural perspectives on change. Mr. Edgerton, Mr. Price-Williams

M234P. Transcultural Psychiatry. (Formerly numbered M244.) (Same as Psychiatry M222.) Lecture, three hours. Prerequisite: consent of instructor. Consideration of psychiatric topics in cross-cultural perspective, such as studies of drug use, deviance, suicide, homicide, behavioral disorders, "culture specific" syndromes, non-Western psychiatries, and the questions of "sick" societies. May be repeated for credit. Mr. Kennedy

M234Q. Psychological Anthropology. (Formerly numbered M269K.) (Same as Psychiatry M272.) Lecture, three hours. Prerequisite: consent of instructor. The course will deal with various psychological issues in anthropology, both theoretical and methodological. Areas of interest include such things as culture and theory, culture and personality, and culture psychiatry. The course will deal with questions relating to symbolic and unconsciousness process 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. (Formerly numbered 234R.) (Same as Psychiatry M211.) Lecture, three hours. Prerequisite: consent of instructor. The seminar will explore concepts such as "intelligence," "competence," and "adaptive behavior" in varying non-Western societies as background to the study of the phenomenon 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." Also to be discussed are topics such as communicative competence, work, crime, deviance, sexuality, and marriage. May be repeated for credit. Mr. Edgerton

M235A-M235B. The Individual in Culture. (Formerly numbered 235A-235B.) (Same as Psychiatry M213A-M213B.) Lecture, three hours. Course M235A is prerequisite to M235B. In Progress grading.

M236P. Selected Topics in the Cross-Cultural Study of Socialization and Child Training. (Formerly numbered 236P.) (Same as Psychiatry M214.) Lecture, three hours. Prerequisite: consent of instructor. Methods, ethnographic data, and theoretical orientations. Emphasis is on current research. May be repeated for credit. Mr. Weisner

M236Q. A Laboratory for Naturalistic Observations: Developing Skills and Techniques. (Formerly numbered M260.) (Same as Education M222A and Psychiatry M235.) Lecture, three hours. Prerequisite: consent of instructor. The skill of observing and recording behavior in natural settings will be taught, emphasizing field training and practice in observing behavior. Some of the uses of observations and their implications for research in the social sciences will also be discussed. Students will be expected to integrate observational work into their current research interests. May be repeated for credit. Mr. Gallimore, Mr. Turner (W)

M237A-M237B. Basic Core Courses in Mental Retardation Research (½ course each). (Same as Psychiatry M219A-M219B.) Lecture, two hours; discussion, two hours. Prerequisite: consent of instructor. Required of all MRRC trainees. The course provides a systematic overview of mental retardation and the sciences basic to this field of study. It acquaints students with 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

239P. Selected Topics in Field Training in Ethnography (1 to 2 courses). (Formerly numbered 265.) Prerequisite: consent of instructor. Supervised collection of ethnographic information in the field. Students will spend full time in the field for most of the period.

239Q. Analysis of Field Data. (Formerly numbered 263.) Prerequisite: course 239P or other field training course. Supervised analysis of ethnographic materials by students who have participated in a related field training course. Students will 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. (Formerly numbered 200.) 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 world view, comparative historical linguistics to prehistory, lexico-statistics, semantic analysis, linguistic acculturation, sociolinguistics, and ethnolinguistics. Mr. Kroskrity

M241. Topics in Linguistic Anthropology. (Formerly numbered M201C.) (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. This course represents a seminar devoted to examining representative scholarship from the fields of sociolinguistics and the ethnography of communication. Particular attention is devoted to theoretical developments including the relationship of the ethnography of communication to such disciplines as anthropology, linguistics, and sociology. Topical foci include style and strategy, speech variation, varieties of noncasual speech genres, languages and ethnicity, and nonverbal communication behavior.
Mr. Kroskrity

243P. American Indian Ethnolinguistics and Sociolinguistics. Prerequisites: prior coursework in either anthropology, linguistics, or American Indian studies, and consent of instructor. This course examines the social and cultural aspects of language use in Native North American speech communities. Specific foci include both micro-sociolinguistic topics (such as multilingualism, cultural differences regarding appropriate communicative behavior, and variation within speech communities) and macro-sociolinguistic topics (such as language contact, language change, and language in American Indian education). Graduate students will conduct library and/or other research and participate in group discussion.
Mr. Kroskrity

CM243Q. Afro-American Sociolinguistics: Black English. (Same as Afro-American Studies M200D.) Lecture, three hours. Prerequisite: consent of instructor. The seminar aims to provide basic information on Black American English, an important minority dialect in the United States. The social implications of minority dialects will be examined from the perspectives of their genesis, maintenance, and social functions. General problems and issues in the fields of sociolinguistics will be examined through a case study approach. Students will be required to conduct research in consultation with the instructor, as well as participate in group discussion. Concurrently scheduled with course C145. Ms. Mitchell-Kernan

244. Topics in Language Socialization. (Formerly numbered 202.) 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. (Formerly numbered 203.) Prerequisite: consent of instructor. The course addresses the problem of variation as it impinges on the disciplines of anthropology and linguistics. Among the objectives of the course are the following: to acknowledge the importance of speech variation in anthropological linguistics research, to critically assess a broad and representative sample of modern scholarship devoted to the study of intra- and inter-individual variation, and to evaluate the utility and potential applicability of recent linguistic models to anthropological linguistics and anthropological theory. Mr. Kroskrity

246. Research Design and Field Training in Linguistic Anthropology. (Formerly numbered 204A.) Prerequisite: consent of instructor. Supervised collection of linguistic information in the field. Students will spend full time in the field for most of the period. May be repeated for credit. S/U or letter grading.

247. Analysis of Linguistic Field Data. Prerequisite: course 246, other field training course, or consent of instructor. Supervised analysis of linguistic field data by students who have participated in a related field training course. Students will work with their own as well as general project data in the preparation of articles for professional journals. May be repeated for credit. S/U or letter grading.

M247A. Ethnographic Film. (Same as Theater Arts M209C.) Prerequisites: graduate standing and consent of instructor. The ethnographic film as a form of realist cinema and its relation to cultural anthropology.
Mr. Boehm, Mr. Hawkins, Mr. Moerman (F)

248. Practicum in a Field Language (1 to 2 courses). (Formerly numbered 266.) Prerequisite: consent of instructor. Intensive training in an indigenous language as preparation for work in the field.

Social Anthropology

250. Social Anthropology. (Formerly numbered 231.) Prerequisite: consent of instructor. Intensive examination of current theoretical views and literature.
Mr. Mendonsa

251P. Cultural Ecology. (Formerly numbered 269H.) Prerequisite: consent of instructor. May be repeated for credit. Mr. Johnson

251Q. Cultural Ecology of Lowland South America. (Formerly numbered 251.) Prerequisite: consent of instructor. Seminar on traditional adaptations to the lowland environment, with special emphasis on the tropical forest. Explanatory principles accounting for cultural differences are explored and special attention is given to effects of modern changes on the people and their environment. Mr. Johnson

252. Special Topics in Social Process. (Formerly numbered 237.) Prerequisite: consent of instructor. Selected aspects of the literature on cultural and social process. The significance of repeated and/or cumulative sequences of events in a variety of social and cultural contexts. Understanding approaches compared with normative concepts and ideal models. May be repeated for credit.

252P. Social Inequality. Lecture, three hours. Prerequisites: course 152P, upper division standing with consent of instructor. Seminar participants analyze particular problems in understanding systems of structured social inequality based on rank, caste, class, ethnicity, or sex. Participants will serve as seminar discussion leaders and present a research paper. S/U or letter grading. Mr. Hammond

253. Economic Anthropology. (Formerly numbered 269L.) Prerequisite: consent of instructor. May be repeated for credit.

254. Kinship. (Formerly numbered 269M.) Prerequisite: consent of instructor. May be repeated for credit.
Ms. Levine, Mr. Mendonsa

255. Comparative Political Institutions. (Formerly numbered 269T.) Prerequisite: consent of instructor. May be repeated for credit. Mr. Mendonsa

257. Social Interaction. (Formerly numbered 270F.) Prerequisite: consent of instructor. The course will focus 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.
Mr. Moerman

258. Comparative Studies of Intentional Communities. (Formerly numbered 269S.) Prerequisite: course 157 or consent of instructor. Questions concerning the ideational, societal, and individual significance of intentional communities will be selected and discussed in depth, with reference to particular collectivities. May be repeated for credit. Mr. Maquet

Social Action/Applied Anthropology

260. Urban Anthropology. (Formerly numbered 236.) Prerequisite: course 167 or consent of instructor. An intensive anthropological examination of the urban setting as a human environment.

261. Comparative Minority Relations. (Formerly numbered 269O.) Prerequisite: consent of instructor. An analysis of the major theoretical and methodological issues in the study of minority relations from a comparative perspective. Consensus, conflict, and pluralistic constructs will be analyzed and their strengths as explanatory devices investigated as they pertain to dependent populations in North America, Latin America, Southern Africa, India, Asia, and the Euro-Slavic continent. May be repeated for credit.
Mr. Velez-I.

261P. Issues in Development Anthropology. Lecture, three hours. Prerequisite: course 160 or 161 or consent of instructor. Seminar participants will analyze selected problems in economic development in Third World countries in the context of such related issues as health and education, environmental protection, housing and urbanization, promotion of local participation, women's roles, protection of indigenous minorities, infrastructural development, diplomacy, warfare and revolution, and migration and refugee resettlement, with recommendations for action.
Mr. Hammond

262. The Cultural Context of Health Care. (Formerly numbered 241.) Prerequisite: consent of instructor. Concepts and treatment of illness and disease in cross-cultural perspectives, with an emphasis on research problems and methods. The course introduces the anthropological approach to health-related research, then explores the intersections of anthropology and problem areas in public health and psychiatry (such as epidemiology, fertility regulation, socialization, and developmental disabilities).
Mr. Johnson

M262P. Culture and Human Reproduction. (Same as Public Health M276.) Lecture, two hours; discussion, two hours. Prerequisites: Public Health 110, 112, 172, 474, or equivalent, and consent of instructor. Exploration of human behavior related to reproduction. Cross-cultural exploration of biological and behavioral factors with particular reference to human adaptation. Ms. Scrimshaw

M263. Medical Anthropology. (Formerly numbered M269N.) (Same as Nursing M217.) Lecture, three hours. Prerequisite: course M168 or consent of instructor. Any of the topics covered in course M168 will be selected each quarter for intensive literature review and independent projects. May be repeated for credit. Ms. Brink

264. Ethnography of the Mexican/Chicano People in North America. (Formerly numbered 269Z.) Prerequisite: graduate standing or consent of instructor. Course 172T is recommended but not required. 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 adaptations, and individuals and their cultural contexts. Topics vary according to interest and are announced prior to the beginning of the quarter. May be repeated for credit. Mr. Velez-I.

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

M266. Medical Anthropology in Public Health. (Same as Public Health M271.) Prerequisites: Public Health 110 and 112, one upper division course in psychology, sociology, or anthropology, or equivalent, and consent of instructor. Cross-cultural aspects of human behavior as they relate to perception, treatment, incidence, and prevalence of disease and illness. Ms. Scrimshaw

M267B-M267C. Ethnographic Film Direction (1 or 2 courses each). (Formerly numbered M294B-M294C.) (Same as Theater Arts M265A-M265B.) Prerequisites: course M247A, graduate standing, and consent of instructor. Advanced study of problems in the production of ethnographic films.
Mr. Boehm, Mr. Hawkins, Mr. Moerman
(W, M267B; Sp, M267C)

268. Issues in Social Action Anthropology. Prerequisites: course 160, upper division standing with consent of instructor. Seminar participants analyze specific problems in social action anthropology and make recommendations for their resolution. Emphasis is on professional preparation for careers in applied anthropology. Mr. Hammond

M269. Contemporary Issues of the American Indian. (Same as American Indian Studies M200C.) The seminar is designed to introduce students to the most important issues facing American Indians as individuals, communities, tribes, and organizations in the contemporary world. It builds upon the historical background presented in American Indian Studies M200A and the cultural and expressive experience of American Indians presented in American Indian Studies 200B. Ms. Heth, Ms. Joe

Regional Cultures

271. African Cultures. (Formerly numbered 254.) Prerequisite: consent of instructor. Survey of the literature and problems of African culture.
Mr. Mendonsa

M272. Indians of South America. (Formerly numbered 250A.) (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. Mr. Wilbert

273. Cultures of the Middle East. (Formerly numbered 255.) 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. (Formerly numbered 269Y.) Prerequisite: consent of instructor. Topics in the contemporary sociocultural anthropology and classic ethnography for Melanesia, Polynesia, and Micronesia. May be repeated for credit.
Mr. Newman

History and Theory

280. Anthropology Theory. (Formerly numbered 230A-230B.) Prerequisite: graduate standing in anthropology or consent of instructor. The course examines 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, will be explored. Emphasis will be placed on up-to-date examples of different theoretical perspectives. Major perspectives include the following: evolutionism, cultural ecology, British functionalism, French functionalism, structuralism, cultural and personality, psychological anthropology (Freudian, neo-Freudian, non-Freudian), behavioral anthropology, cognitive anthropology, and ethnosemantics.

281. Selected Topics in the History of Anthropology. Prerequisite: consent of instructor. This seminar will deal in depth with 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. (Formerly numbered 261.) 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 are discussed. Lectures and readings review 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. (Formerly numbered 292.) Prerequisite: consent of instructor. The course will be organized around 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., will be presented and discussed. Mr. Read

M284. Qualitative Research Methodology. (Same as Public Health M273.) Discussion, three hours; laboratory, one hour. Prerequisites: Public Health 100A and 125 or 181, an undergraduate or graduate course in social psychology, anthropology, or sociology, and consent of instructor. Intensive seminar-field course in qualitative research methodology. Emphasis is on using qualitative methods and techniques in research and evaluation related to health care.
Ms. Scrimshaw

291. The Roots of Human Behavior. (Formerly numbered 299.) Prerequisite: consent of instructor. An examination of the behavior of living nonhuman primates and of the evolution and biological basis of human behavior.

Special Studies

375. Teaching Apprentice Practicum (¼ to 1 course). 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 (½ to 2 courses). Prerequisite: consent of UCLA adviser and Graduate Dean and host campus instructor, department Chair, and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596. Individual Studies for Graduate Students (½ to 2 courses). Prerequisite: consent of instructor. Directed individual studies. S/U or letter grading.

597. Preparation for Ph.D. Qualifying Examination (½ to 3 courses).

598. Research for and Preparation of M.A. Thesis (½ to 2 courses). Prerequisite: consent of instructor (faculty adviser). Preparation of research data and writing of M.A. thesis. S/U grading.

599. Research for Ph.D. Dissertation (½ to 3 courses). Prerequisite: consent of instructor. Ph.D. dissertation research or writing. Student will have completed qualifying examination and ordinarily will take no other coursework.

Applied Linguistics
(Interdepartmental)

3306 Rolfe Hall, 825-4631

Professors

Stephen R. Anderson, Ph.D. *(Linguistics)*
Raimo A. Anttila, Ph.D. *(Linguistics)*
J. Donald Bowen, Ph.D. *(English)*
William Bright, Ph.D. *(Linguistics)*
Russell Norman Campbell, Ph.D. *(English), Chair*
Victoria A. Fromkin, Ph.D. *(Linguistics)*
Evelyn R. Hatch, Ph.D. *(English)*
Edward L. Keenan, Ph.D. *(Linguistics)*
Peter Ladefoged, Ph.D. *(Phonetics)*
John Frederick Povey, Ph.D. *(English)*
Paul M. Schachter, Ph.D. *(Linguistics)*
Robert P. Stockwell, Ph.D. *(Linguistics)*
Sandra A. Thompson, Ph.D. *(Linguistics)*
Clifford Holmes Prater, Ph.D., *Emeritus (English)*

Associate Professors

Roger W. Andersen, Ph.D. *(English)*
George D. Bedell, Ph.D. *(Linguistics)*
Marianne Celce-Murcia, Ph.D. *(English)*
Thomas J. Hinnebusch, Ph.D. *(Linguistics)*
Pamela L. Munro, Ph.D. *(Linguistics)*
Earl James Rand, Ph.D. *(English)*
Russell G. Schuh, Ph.D. *(Linguistics)*
John H. Schumann, Ph.D. *(English)*

Assistant Professors

John W. DuBois, Ph.D. *(Linguistics)*
Bruce P. Hayes, Ph.D. *(Linguistics)*
Frances B. Hinofotis, Ph.D. *(English)*
Patricia A. Keating, Ph.D. *(Linguistics)*
Mary E. McGroarty, Ph.D. *(English)*

Assistant Professor

Peter Ambler Shaw, Ph.D., *Visiting (English)*

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 Section of the Department of English, 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 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 prepare; (3) copies of any relevant professional publications, M.A. theses, or substantial papers they may have written. The Aptitude Test of the Graduate Record Examination (GRE) should also be taken. 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 program office no later than February 15.

Admission criteria include graduate and undergraduate grade-point averages, relevant professional experience, command of foreign language, the quality of the M.A. thesis, and any language-related publications the candidate may have written.

Major Fields and Specializations

Four areas of specialization are available: language analysis, language education, language acquisition, and language use. For details on each specialization, contact the program office.

Foreign Language Requirement

Before advancement to candidacy, you must demonstrate effective knowledge of two foreign languages. For one language, an effective *reading knowledge* is required. For the other, effective *oral proficiency* may, at your option, be demonstrated instead of a reading knowledge. The languages chosen should be especially relevant to the intended dissertation topic or professional plans. Students whose native language is not English are exempted from this 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 choose 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 as a Second Language 122K. Students choosing the phonetics and phonology track would then take Linguistics C165A/C200A, followed by Linguistics 201A or 203. Students choosing the syntax and semantics track would take Linguistics C165B/C200B, followed by Linguistics 206A or 206B or 207. For basic preparation in TESL, you must take English as a Second Language 241K, 370K, and 380K. ESL 370K, which is organized as a general orientation to the ESL Section, must be taken at UCLA. If you have taken courses equivalent to any of the remaining courses at another institution, you will not be required to take them at UCLA. If you have at least one year of experience in teaching a second language, you may be exempted from ESL 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, ESL 400K, or Applied Linguistics 597 or 599. No more than eight of the 32 units may be in 596 courses, and these should be in Applied Linguistics 596, if possible.

The 32 units (eight courses) must include at least two courses in each of the specializations of language analysis and language education, as well as two courses in either language 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, unrequired undergraduate courses, reading courses in a foreign language, graduate courses taken in addition to the required 32 units, Applied Linguistics 501 and 597 through 599, ESL 400K, and Linguistics 275. All other courses must be taken for letter grades.

Research Papers

In lieu of a written qualifying examination, two original research papers of publishable quality in different areas of specialization are required. These may be revised or extended seminar papers but must be prepared after admission to the Ph.D. program. The topics of these papers are to be chosen by the student, in consultation with appropriate faculty members and with consent of the Ph.D. program adviser. Each of the finished papers is evaluated by two faculty members.

Dissertation

All candidates are required to prepare a dissertation as a demonstration of their ability to carry out original research under the guidance of their doctoral committee. The doctoral committee also administers the University Oral Qualifying Examination before advancement to Ph.D. candidacy.

Final Oral Examination

As the dissertation nears completion, you must make a public report on the results of your research. This may be done, at your choice, at a meeting of the colloquium of either the Department of Linguistics or the ESL Section. You must, therefore, enroll in either ESL 400K or Linguistics 275 during the appropriate quarter. The public report will determine whether a final oral examination will be required.

Candidate in Philosophy Degree

Upon application, this degree is conferred on any student who has been advanced to candidacy.

Graduate Courses

501. Cooperative Program (½ to 2 courses). Prerequisite: consent of UCLA Ph.D. program adviser and Graduate Dean and host campus instructor, department Chair, and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596. Directed Individual Study (1 to 2 courses). 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.

597. Preparation for Ph.D. Candidacy Examination (1 to 2 courses). 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.

599. Research for and Preparation of Ph.D. Dissertation (1 to 4 courses). 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.

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 as a Second Language 260K. Psycholinguistics and Language Teaching
261K. Second-Language Acquisition
269K. Current Issues in Language Acquisition
270K. Advanced Seminar in Psycholinguistics
Linguistics 254. Topics in Linguistics I
Psychiatry 257A-257B-257C. Diagnostics and Therapeutics of Language Disabilities
Psychology 240. Developmental Psychology
260A-260B. Proseminar in Cognitive Psychology
263. Psycholinguistics

Language Analysis

English M215. Advanced Seminar in the Structure of Present-Day English
English as a Second Language 249K. Current Issues in Language Analysis
M250K. Advanced Seminar in the Structure of Present-Day English
251K. Advanced Seminar in Interlanguage Analysis
Linguistics 201A, 201B. Phonological Theory
206A, 206B. Syntactic Theory
210A, 210B. Field Methods
220. Linguistic Areas
225. Linguistic Structures
251. Topics in Phonetics and Phonology I
252. Topics in Syntax and Semantics I
253. Topics in Language Variation I
254. Topics in Linguistics I
Spanish (Spanish and Portuguese) 256A. Studies in 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
262D. Seminar: Language Arts and English
262F. Seminar: Research Topics in Bilingual/Multicultural Education
264. Seminar: Teacher Education
English as a Second Language 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 Eduation
M224K. The Teaching of English for Minority Groups
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
204G. Planning Educational Language Policy Internationally
English 242. Language and Literature
M271. Studies in African Literature in English
M273. Studies in Afro-American Literature
275. Stylistics and the Teaching of English
English as a Second Language 223K. Role of English as a Second Language in Bilingual Education
280K. Language Policy in Developing Countries
281K. Language Policy in the United States
282K. Intercultural Communication and the Teaching of English as a Second Language
283K. Discourse Analysis
284K. English for Specific Purposes
M285K. Studies in African Literature in English
289K. Current Issues in Language Use
Linquistics 251. Topics in Phonetics and Phonology I
252. Topics in Syntax and Semantics I
254. Topics in Linguistics I
Sociology 216A-216B. Survey Research Methods
217A-217B. Ethnographic Fieldwork
238A-238B. Fieldwork in Minority Communities
266. Selected Problems in the Analysis of Conversation
267. Selected Problems in Communication
Spanish (Spanish and Portuguese) 209. Dialectology
256B. Studies in Dialectology

Archaeology
(Interdepartmental)

288 Kinsey Hall, 825-4169

Professors

C. Rainer Berger, Ph.D. *(Anthropology, Geography, and Geophysics), Chair*
Giorgio Buccellati, Ph.D. *(Ancient Near East and History)*
Christopher B. Donnan, Ph.D. *(Anthropology)*
Susan B. Downey, Ph.D. *(Art History)*
Marija Gimbutas, Ph.D. *(European Archaeology)*
James N. Hill, Ph.D. *(Anthropology)*
Leona M. Libby, Ph.D. *(Environmental and Archaeological Sciences)*
Clement W. Meighan, Ph.D. *(Anthropology)*
Henry B. Nicholson, Ph.D. *(Anthropology)*
Wendell H. Oswalt, Ph.D. *(Anthropology)*
Merrick Posnansky, Ph.D. *(History and Anthropology)*
James R. Sackett, Ph.D. *(Anthropology)*
Stanislav Segert, Ph.D. *(Near Eastern Languages and Cultures)*
Alexander Badawy, Ph.D., *Emeritus (Art)*
Paul A. Clement, Ph.D., *Emeritus (Classics and Classical Archaeology)*
Kan Lao, Academician, *Emeritus (Oriental Languages)*
Katharina Otto-Dorn, Ph.D., *Emeritus (Art History)*
Richard C. Rudolph, Ph.D., *Emeritus (Oriental Languages)*

Associate Professors

John Callender, Ph.D. *(Near Eastern Languages and Cultures)*
Elizabeth Carter, Ph.D. *(Near Eastern Languages and Cultures)*
Hung-hsiang Chou, Ph.D. *(Oriental Languages)*
Timothy Earle, Ph.D. *(Anthropology)*
Cecelia F. Klein, Ph.D. *(Art History)*
William Klement, Jr., Ph.D. *(Engineering and Applied Science and Archaeological Sciences)*
Steven Lattimore, Ph.D. *(Classics)*
Dwight Read, Ph.D. *(Anthropology)*
Arnold Rubin, Ph.D. *(Art History)*

Assistant Professors

Michael DeNiro, Ph.D. *(Geochemistry and Archaeological Sciences)*
Bernard D. Frischer, Ph.D. *(Classics)*
Gail E. Kennedy, Ph.D. *(Anthropology)*
Deborah Klimburg-Salter, Ph.D. *(Art History)*
Martin Powers, Ph.D. *(Art History)*

Scope and Objectives

The interdisciplinary program in archaeology 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 (Aptitude Test) report is required. The following application materials should be submitted directly to the Chair of the program: an acceptable plan of study (including a statement of objectives, an outline of projected coursework, and a general indication of an M.A. paper or dissertation topic); three letters of recommendation; a research paper preferably relevant to archaeology or comparable evidence of scholarly work. Applicants are accepted for admission for the Fall Quarter only. The program's "Study Guidelines" brochure will be sent to applicants upon request to the Chair, Archaeology Program, UCLA, Los Angeles, CA 90024.

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; Meso-America; Pacific; paleoenvironmental studies; Western North America.

Other areas of specialization are also available.

Fieldwork

No graduate degree will be awarded until you have worked in the field and have demonstrated your competency to direct field research in archaeology. Both theoretical and practical knowledge of methods and techniques used in the field are necessary.

This requirement may be met in several ways. Ordinarily you will take a regular UCLA field course such as Anthropology 115P (which satisfies the M.A. field course requirement) or Archaeology 259, Ancient Near East 261, or History 276 (which satisfy both the M.A. and Ph.D. field requirements), or similar courses offered by other departments. Comparable courses offered by other institutions may also be accepted. An informal report, submitted by the director of an excavation, describing work performed by the students under supervision, may be sufficient. Excepting the four courses listed above, any given formula to fulfill the requirement will have to be cleared in advance with the Chair of the program.

Master of Arts Degree

The structure of the M.A. program includes the successful completion within seven academic quarters of fieldwork (described above) plus the following requirements.

Foreign Language Requirement

The ability to read at least one modern foreign language, relevant to your field of interest and approved by your adviser, is required for the M.A. You may meet this requirement by (1) passing an examination administered by ETS with a score of 500 or better; (2) completing the third course in an introductory, regular sequence of the selected language at UCLA with a minimum grade of A; (3) taking a reading examination (in Spanish, French, or German) administered by the program.

The foreign language requirement must be completed by the end of the sixth quarter in residence, unless an earlier deadline is imposed by the adviser.

Course Requirements

A minimum of 42 units (at least nine courses, of which five must be graduate), taken for a letter grade, are required, to be distributed as follows: a minimum of five courses (26 units) in the 200 and 500 series, including Archaeology 200 (six units), M201A-M201B (six units each), and two elective graduate courses*, one of which may be course 596. Course 596 may be taken twice for a maximum of 12 units, but only six units may be applied toward the minimum graduate course requirement (a letter grade is given for the course). Four upper division elective courses* (a minimum of 16 units, excluding 199s) are also required.

*Of the six combined elective courses, no more than four may be offered by the same department. At least one must be *outside* the student's sphere of regional interest to be selected from a pool of eligible courses by the student's adviser.

Comprehensive Examination Plan

You will be required to take a comprehensive core examination during the third quarter of 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 will be graded as high pass, pass, or no pass and may be repeated once.

M.A. Paper

A master's-level research paper, normally no longer than 20-35 pages and graded by the three members of the 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 "General Requirements" above. Admission to the doctoral program for students completing a UCLA M.A. in Archaeology is based on (1) written recommendation by all three members of the M.A. committee; (2) submission of a plan of study, including projected coursework, choice of foreign language(s), description of qualifying examination components, and dissertation topics; and (3) quality of M.A. core examination results and M.A. paper.

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

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 (except item 2). When proficiency in two foreign languages is not mandated by your interest, you may petition to waive the second language.

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 will be 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.

Final Oral Examination

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

Upper Division Course

C110. Archaeological Materials Identification and Characterization (1½ courses). Lecture, three hours; laboratory, four hours. A laboratory-oriented introduction for archaeologists to the identification and quantitative description of solid materials, especially metals, ceramics, and other inorganic and some organic substances. Concurrently scheduled with course C210. Mr. Klement

Graduate Courses

Prerequisite for all courses: consent of instructor. All courses may be repeated for credit upon recommendation of the adviser.

200. Archaeology Colloquium (1½ courses). Seminar, 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.

M201A-M201B. Graduate Core Seminar in Archaeology (1½ courses each). (Same as Anthropology M219A-M219B.) Required of all M.A. students. Seminar discussions based on a carefully selected list of 30-40 major archaeological works. These compulsory core courses provide the student with a foundation in the breadth of knowledge required by a professional archaeologist. The courses comprise archaeological historiography, a survey of world archaeology, and archaeological techniques. Emphasis is on an appreciation of the multidisciplinary background of modern archaeology and of the relevant interpretative strategies.

C210. Archaeological Materials Identification and Characterization (1½ courses). (Formerly numbered 210.) Lecture, three hours; laboratory, four hours. A laboratory-oriented introduction for archaeologists to the identification and quantitative description of solid materials, especially metals, ceramics, and other inorganic and some organic substances. Concurrently scheduled with course C110.
Mr. Klement

211. Archaeological Applications of Stable Isotopes (1½ courses). Application of natural variations in stable isotope ratios in fossilized biological and nonbiological materials to a variety of archaeological problems. Topics include the basis for isotope distributions in archaeological 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, Ms. Libby

259. Fieldwork in Archaeology (½ to 3 courses). 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.

596. Individual Studies for Graduate Students (½ to 3 courses). Hours to be arranged. Prerequisite: consent of instructor.

597. Preparation for Ph.D. Qualifying Examinations (½ to 3 courses). Prerequisites: completion of formal coursework and passing of language examinations before enrollment. S/U grading.

598. M.A. Paper Preparation (½ to 3 courses). Prerequisite: consent of instructor. S/U grading.

599. Ph.D. Dissertation Research and Preparation (½ to 3 courses). Prerequisite: consent of instructor. S/U grading.

Related Courses in Other Departments

Related courses, not listed individually, include regional geography, ancient and regional history, ethnography, folklore, history of technology, and the earth sciences. Also recommended are the appropriate modern and ancient languages for your area of study.

Most archaeology courses are taught in the various departments. The following is a list of such courses, by topic and department. You are encouraged to examine the course listings of all departments for a truly interdisciplinary course of study.

Methodology and History

Ancient Near East (Near Eastern Languages) 261. Practical Field Archaeology.

Anthropology 115P. Archaeological Field Training

115Q. Archaeological Research Techniques

115R. Strategy of Archaeology

M115S. Historical Archaeology

116P. Laboratory Analysis in Archaeology

M116Q. Dating Techniques in Environmental Sciences and Archaeology

118A, 118B. Museum Studies

121A. Fossil Man and His Culture

121B. The Australopithecines

121C. Evolution of the Genus Homo

129P. Laboratory Methods in Biological Anthropology: Skeletal

132. Technology and Environment

138. Methods and Techniques of Ethnohistory

158. Hunting and Gathering Societies

183. History of Archaeology

186A-186B. Quantitative Methods and Models in Anthropology

210. Analytical Methods in Archaeological Studies

211. Regional Analysis in Archaeology

M216. Dating Techniques in Environmental Sciences and Archaeology

217. Explanation of Societal Change

218. Historical Reconstruction and Archaeology

221A-221B. The Fossil Evidence for Human Evolution

283. Mathematical Models in Anthropology

Art 203. Museum Studies

265. Fieldwork in Archaeology

Engineering 149C. Properties of Art Ceramic Materials

149E. Ceramic Materials in History and Archaeology

New World

Anthropology 113P. Archaeology of North America

113Q. The Prehistory of California Indian Cultures

113R. Southwestern Archaeology

114P. Ancient Civilizations of Western Middle America (Nahuatl Sphere)

114Q. Ancient Civilizations of Eastern Middle America (Maya Sphere)

114R. Ancient Civilizations of Andean South America

172P. North American Indian Cultures

212P. Selected Topics in Hunter-Gatherer Archaeology

212Q. Problems in Southwestern Archaeology

214. Selected Topics in Prehistoric Civilizations of the New World

215. Field Training in Archaeology

Art C117A. Advanced Studies in Pre-Columbian Art: Mexico

C117B. Advanced Studies in Pre-Columbian Art: Central America

C117C. Advanced Studies in Pre-Columbian Art: The Andes

118A. The Arts of Oceania

118B. The Arts of Pre-Columbian America

118D. The Arts of Native North America

220. The Arts of Africa, Oceania, and Pre-Columbian America

Old World — Africa

Art 118C. The Arts of Sub-Saharan Africa

C119A. Advanced Studies in African Art: Western Africa

C119B. Advanced Studies in African Art: Central Africa

220. The Arts of Africa, Oceania, and Pre-Columbian America

History

175A. Prehistoric Africa — Technological and Cultural Traditions

197. Undergraduate Seminars

201A-201U. Topics in History

276. African Archaeology: Field Techniques

277. African Archaeology: Data Analysis

Old World — Europe

Anthropology 112. Old Stone Age Archaeology

213. Selected Topics in Problems in Old World Archaeology

Art 103A. Greek Art

103B. Hellenistic Art

103C. Roman Art

103D. Etruscan Art

103E. Late Roman Art

221. Topics in Classical Art

223. Classical Art

Classics 151A. Classical Archaeology: The Aegean Bronze Age

151B. Classical Archaeology: Graeco-Roman Architecture

151C. Classical Archaeology: Graeco-Roman Sculpture

151D. Classical Archaeology: Graeco-Roman Painting

251A-251D. Seminar in Classical Archaeology

252. Topography and Monuments of Athens.

253. Topography and Monuments of Rome

Indo-European Studies 131. European Archaeology: Proto-Civilizations of Europe

132. European Archaeology: The Bronze Age

250A-250B. European Archaeology

Old World — India and the Far East

Art 114A. The Early Art of India

114B. Chinese Art

114C. Japanese Art

C115A. Advanced Indian Art

C115B. Advanced Chinese Art

C115C. Advanced Japanese Art

C259. Advanced Japanese Art

260. Asian Art

Oriental Languages 170A-170B. Archaeology in Early and Modern China

270. Seminar: Selected Topics in Chinese Archaeology

275. Seminar: Selected Topics in Chinese Cultural History

Old World — Islam

Art 104B-104C-104D. Architecture and the Minor Arts of Islam in the Middle Ages

213. Problems in Islamic Art

Old World — Near East

Ancient Near East (Near Eastern Languages) 160A-160B. Introduction to Near Eastern Archaeology

161A-161B-161C. Archaeology of Mesopotamia
162. Archaeology of Palestine
163A-163B. Archaeology of Iran
164A-164B-164C. The Archaeology of the Historic Periods in Mesopotamia
220. Seminar in Ancient Egypt
M250. Seminar in Ancient Mesopotamia
250X. Seminar in Ancient Mesopotamia
260. Seminar in Ancient Near Eastern Archaeology
262. Seminar in Object Archaeology
Anthropology 110. World Archaeology
Art 101A, 101B, 101C. Egyptian Art and Archaeology
102. Art of the Ancient Near East
210. Egyptian Art
History 105. History of Ancient Mesopotamia and Syria
193D. Religions of the Ancient Near East
200A-200U. Advanced Historiography
201A-201U. Topics in History

Asian American Studies
(Interdepartmental)

3232 Campbell Hall, 825-2974

Professors
Lucie Cheng, Ph.D. *(Sociology), Chair*
Patrick K. Ford, Ph.D. *(English)*
Stanley Sue, Ph.D. *(Psychology)*

Associate Professors
John N. Hawkins, Ph.D. *(Education)*
Philip C. Huang, Ph.D. *(History)*
Claudia Mitchell-Kernan, Ph.D. *(Anthropology)*
Leo M. Snowiss, Ph.D. *(Political Science)*

Assistant Professors
Robert A. Nakamura, M.F.A. *(Theater Arts)*
Don Nakanishi, Ph.D. *(Education)*

Scope and Objectives

The Asian American studies program, an interdepartmental program supported by the Asian American Studies Center, promotes the study of Asian and Pacific peoples in the United States from several disciplines. The undergraduate program provides a general introduction to Asian American studies for those who anticipate advanced work at the graduate level or careers in research and community work related to the Asian American. Although no undergraduate major is offered in Asian American studies, students may participate in the program through a departmental major or the interdepartmental major in East Asian studies. The graduate program in Asian American studies 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 values, and politics.

Special Undergraduate Program

Preparation for the Program

Required: Asian American Studies 100A-100B.

Upper Division

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

For further information on the undergraduate program, contact Tim Dong, 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 program as part of their application. Three letters of recommendation are also required.

Major Fields

Since the Asian American studies 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: Have 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 faculty guidance committee.

(2) Research Methods: Take 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 faculty guidance committee.

You must justify your choice of option in a written statement. The rationale must specify the courses chosen 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 synonymous with the guidance committee. It is normally constituted at the beginning of the second year of residence, at which time you are expected to submit a plan for approval. After the approval of the thesis, the committee will conduct an oral examination on its subject.

Upper Division Courses

100A-100B. Introduction to Asian American Studies. This survey sequence is an introduction to Asian American studies. **100A** deals with the history of Asians in America. **100B** examines contemporary Asian American communities.

103. Asian Americans and the Law. The course will survey 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-Asiatic labor legislation, legal prohibitions against Asians' right to testify, case law on Asian women, and equal educational opportunity for Asians.
Mr. Iwasaki

197. Topics in Asian American Studies.

Graduate Courses

200A-200B. Critical Issues in Asian American Studies. Prerequisites: graduate standing, consent of instructor. An interdisciplinary seminar which attempts to (1) review systematically and critically the literature on Asian Americans, (2) identify gaps of knowledge and controversial issues in the field, and (3) develop plans of research and investigation that focus on these issues. Ms. Cheng, Mr. Nakanishi

200C. Critical Issues in Asian American Communities. Lecture, three hours. Prerequisites: graduate standing, consent of instructor. Traditional and contemporary theories and models of community are evaluated for their appropriateness to understanding Asian Pacific American communities. Specific topics which explicate the development, structure, and dynamics of Asian Pacific American communities are considered in studying community issues and concerns. Ms. Cheng, Mr. Sue

297. Topics in Asian American Studies.

596. Directed Individual Study or Research (½ to 2 courses). Hours to be arranged. Prerequisite: consent of instructor.

598. Research for and Preparation of M.A. Thesis (½ to 2 courses). Prerequisite: consent of instructor. Preparation of research data and writing of M.A. thesis. S/U grading.

Related Courses in Other Departments

Anthropology M163. Women in Culture and Society
M164. The Afro-American Experience in the United States

166. Comparative Minority Relations
167. Urban Anthropology
172T. Ethnohistory of Hispanic Cultures in the U.S. Southwest
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 218A-218B. Urban Structure: Analysis and Modeling
251. Planning for Multiple Publics
255. Urban Morphology: Definitions and Consequences
History 153. The United States and the Philippines
154A-154B. United States Urban History
155A-155B. American and European Working Class Movements
159A-159B. History of the Chicano Peoples
160. The Immigrant in America
161. Asians in American History
163. History of California
183. Modern China, 1840-1920
187C. Modern Japanese History
200H. Advanced Historiography: United States
201H. Topics in History: United States
245. Colloquium in U.S. History
252A-252B. Seminar in Recent United States History to 1930
254A-254B. Seminar in United States Social and/or Intellectual History
256A-256B. Seminar in American Diplomatic History
257A-257B. Seminar in United States Urban History
258A-258B. Seminar in Working Class History
259A-259B. Seminar in Social History of Women in the U.S.
260A-260B. Seminar in Native American History
261A-261B. Seminar in Afro-American History
262A-262B. Seminar in Chicano History
263A-263B. Seminar in the History of the American West
M264. History of American Education
282A-282B-282C. Seminar in Chinese History
285A-285B. Seminar in Modern Japanese History
Political Science 135. International Relations of China
136. International Relations of Japan
147. Minority Group Politics
159. Chinese Government and Politics
160. Japanese Government and Politics
C250C. Chinese and East Asian Studies
C250D. Japanese and Western Pacific Studies
Psychology 175. Community Psychology
176. Experimental Community Psychology
225. Seminar: Critical Problems in Social Psychology
M228. Political Psychology
229A. Issues in the Social Development of the Minority Child
Sociology 124. Ethnic and Status Groups
125. Urban Sociology
134. Comparative Social Institutions of East Asia
155. Intergroup Conflict and Prejudice
234. Sociology of Community Organization
238A-238B. Fieldwork in Minority Communities
259. Social Structure and Economic Change: Historical and Comparative Perspectives
260. Industry and Society
261. Ethnic Minorities
M262. Selected Problems in Urban Sociology
276. Selected Topics in the Sociology of East Asia
291. Moral Solidarity in Communities

Astronomy

8979 Math Sciences, 825-4434

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

Assistant Professors
Steven A. Grandi, Ph.D.
William I. Newman, 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 and 4 are nonmathematical courses open to the general University student normally not intending to major in the physical sciences. Astronomy 4 covers special topics to a somewhat greater depth and requires some preliminary elementary background in astronomy (e.g., Astronomy 3).

Students who have had at least two courses in high school algebra and one course in trigonometry are strongly advised to take, instead of Astronomy 3, the parallel honors course, Astronomy 3H. Similarly, students who have already taken some college courses in physics and mathematics should take Astronomy 4H instead of 4. In particular, declared or potential majors in astronomy or in physical and related sciences should take courses 3H and 4H, not 3 or 4.

Astronomy 101 is a general survey course recommended for science majors (sophomores and above) who wish to get a good general picture of astronomy and astrophysics in one course. Astronomy 4H is on about the same level, but has the form of a seminar focused on several selected topics and is recommended mainly to lower division students who already have had an astronomy class.

Students of junior and senior standing in physics or related sciences are invited to choose any of these classes: 103, 104, 106, 115, 117, 127, 130, 180.

Bachelor of Science Degree

Preparation for the Major

Required: Physics 8A/8AL, 8B/8BL, 8C/8CL, 8D/8DL, 8E, Mathematics 31A, 31AL, 31B, 31BL, 32A, 32B, 33A, 33B. *Recommended:* Astronomy 3H or 101, 4H, 10, Chemistry 11A, Engineering 10F.

The Major

Required: Astronomy 103, 106, 115, 117, 127, 130; Physics 105A, 105B, 110A, 110B, 115A, 115B, 131; at least one upper division mathematics course chosen from 131A through 152B, or alternatively, completion of Physics 132. *Recommended:* Astronomy 4H, 101, 104, 180, Earth and Space Sciences 101, Physics 108, 112, 124, 132.

Honors Program

Senior majors in astronomy with a 3.4 grade-point average in all astronomy, mathematics, and physics courses are eligible for the honors program in astronomy. In addition to completing all courses required for the major, the honors student must complete two quarters of

course 199. To receive honors and highest honors at graduation, the grade-point average must remain at 3.4 or higher, 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 Aptitude Test and Advanced Test in Physics. For further information, contact the Graduate Adviser, Department of Astronomy, UCLA, Los Angeles, CA 90024.

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

Master of Science Degree

Course Requirements

Nine courses are required for the master's degree, of which at least five must be at the graduate level in astronomy. The B segments of the graduate multiple-term courses (Astronomy 204B, 208B, 217B, 219B, 227B, 230B) count as 1.5 courses each for the purpose of receiving degree credit. Courses taken in the 300 or 500 series may not be applied toward the total course requirement or the graduate course requirement.

Comprehensive Examination Plan

To receive the master's degree, you must obtain at least a B average in the departmental written comprehensive examinations. The examinations are divided into sections, with one section for each course in the A or B series that you may apply toward the M.S., M.A.T., or Ph.D. requirements. The examination is scheduled at the time the final examination for the course would normally be scheduled and is letter-graded. You may repeat failed courses for credit, but may not repeat the departmental examinations for departmental credit.

Master of Arts in Teaching (M.A.T.)

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 and at least three upper division or graduate courses in astronomy, mathematics, physics, or 100- or 200-series courses in education required for the teaching credential. The B segments of the graduate multiple-term courses (Astronomy 204B, 208B, 217B, 219B, 227B, 230B) count as 1.5 courses each for the purpose of receiving degree credit. Although it does not count for degree credit, Physics 370 is also required. Courses taken in the 300 or 500 series may not be applied toward the total course requirement or the graduate course requirement.

In order to obtain a secondary credential with the M.A.T. in Astronomy, additional courses in education, including supervised teaching, should be taken.

Comprehensive Examination Plan

This plan is the same as for the M.S. degree.

Ph.D. Degree

Course Requirements

Required for the degree are courses 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 chosen 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 chosen to reflect the amount of work completed in the Spring Quarter.

The evaluation of the projects will be 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 chosen to attack the project problem, and the reasons for this choice. If the project is original and interesting, but incomplete, you would be encouraged to complete it later, but the grade assigned will be based on the portion completed by the end of the Fall Quarter.

Final Oral Examination

You must pass a final examination upon completion of 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 101. No special mathematical preparation is required beyond that necessary for admission to the University with 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.

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. Course requires the ability to understand mathematical and physical concepts, but high school algebra and trigonometry classes provide sufficient qualification. Particularly recommended to declared or potential majors in astronomy or in physical and mathematical sciences.

4. Topics in Modern Astronomy. Lecture, three hours; discussion, one hour. Prerequisite: course 3 or 3H or equivalent. Not open to students with credit for or currently enrolled in course 4H. For the general University student with previous introduction to astronomy. Selected topics (such as evolution of the solar system and stars, and cosmology) are treated in some depth, but without formal mathematics, emphasizing their significance and relationships to other sciences.

4H. Topics in Contemporary Astrophysics. Prerequisites: course 3 or 3H, Physics 8A, Mathematics 31A, 31B, or equivalent, or consent of instructor. Corequisites: Physics 8B and Mathematics 32A. Not open to students with credit for or currently enrolled in course 4. An honors course for students whose physics and mathematics background is insufficient for upper division courses, but who have the ability to understand mathematics and physical concepts. Selected topics, such as cosmology, stellar evolution, or formation of the solar system, are treated in depth with moderate use of mathematics.

5. Life in the Universe. Lecture, three hours; discussion, one hour. Prerequisite: prior introduction to astronomy or consent of instructor. Topics include How did we get here? Chances that "they" made it too? Can we communicate? Selected topics are treated in some depth, but with little or no formal mathematics. The course includes some biology, geology, chemistry, and physics, as well as astronomy.

Mr. Zuckerman

10. Practice in Observing (½ course). 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, including telescopic observations and laboratory exercises cognate to an introductory course in astronomy. (F)

Upper Division Courses

101. General Astronomy and Astrophysics. Prerequisites: Physics 8A and Mathematics 31A, 31B, or equivalent. Open to qualified sophomores, as well as upper division students. Course 10 may be selected for observatory and laboratory work in connection with this course. A survey of the whole field of astronomy, designed primarily for students majoring in a physical science or mathematics.

103. Gravitational Astronomy. Prerequisites: Physics 8A, 8B, 8C, 8D, Mathematics 31A, 31B, 32A, 32B, 33A. Recommended: course 101 or 3H. Astronomical coordinates, transformations, precession, astronomical time keeping, celestial navigation. Two-body orbit theory in the solar system, calculation of an ephemeris from orbital elements and an orbit from observations. Theory of least squares and data handling. Orbits of visual and spectroscopic binary stars; determination of stellar masses. Tidal, rotational, and relativistic perturbations of the gravitational potential.
Mr. Abell, Mr. Epps (F)

104. Astronomical Optics. Lecture, three hours. Prerequisite: Physics 105A. Geometrical optics, including ray tracing and optical aberrations commonly encountered in optical design. Interference, diffraction, dispersion, photoelectric emission, and other aspects of physical optics, with particular emphasis placed on practical application in astronomical investigation. Mr. Epps

106. Stars, Stellar Systems, and Cosmology. Lecture, three hours. Prerequisites: Physics 8A, 8B, 8C, 8D, Mathematics 31A, 31B, 32B, 33A. Recommended: courses 3H or 101, 103. Properties of stars, stellar spectroscopy, and photometry. The galaxy and external galaxies. Galactic and extragalactic distance scales. Introduction to cosmology.
Mr. Abell, Mr. Plavec (W)

115. Physical Foundations of Astrophysics. Prerequisite: upper division standing in astronomy or physics or consent of instructor. Spectroscopy and spectral lines in stellar spectra. Theory of radiation and continuous stellar spectra. Astrophysics of the gaseous state of matter, ionization and excitation, and local thermodynamic equilibrium. Interaction between matter and radiation.
Mr. Coroniti, Mr. Epps, Mr. Jura (Sp)

117. Stellar Atmospheres and Interstellar Matter. Lecture, three hours. Prerequisites: course 115 or equivalent, senior standing in astronomy or physics, or consent of instructor. Introduction to radiative transfer, stellar atmospheres, and their models. Curve of growth analysis and abundance determinations. Atmosphere of the sun. Physical conditions in the interstellar medium and aspects of star formation.
Mr. Aller, Mr. Jura (F)

127. Stellar Interiors and Evolution. Lecture, three hours. Prerequisite: senior standing in astronomy or physics or consent of instructor. Recommended: course 115. 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. Synthesis of chemical elements in stars. Mr. Plavec, Mr. Ulrich (W)

130. High Energy Astrophysics. Lecture, three hours. Prerequisite: senior standing in astronomy or physics or consent of instructor. Theory and observation pertaining to astronomical sources of high energy radiation. Theory of synchrotron radiation, Compton scattering; interaction of matter with compact objects. Solar flares, X-ray and gamma ray sources, the Crab nebula, nuclei of peculiar galaxies, quasars.
Mr. Wright (Sp)

180. Introduction to Modern Faint Object Measurement in Astronomy. Laboratory, six hours. Prerequisites: junior or senior standing in astronomy or physics and consent of instructor. Introduction to modern astronomical instrumentation. Experiments cover photography, phototubes, image tubes, spectrophotometry, solid-state detectors, and microprocessor-controlled instrumentation. Mr. Grandi

190. Senior Symposium on Topics in Modern Astronomy. Lecture, three hours. Prerequisite: senior standing in astronomy or physics or consent of instructor. Lectures by instructors in astronomy and related fields to supplement the regular course sequence. Topics may include radio, infrared, UV and X-ray astronomy, observational cosmology, variable stars, planetary physics, pulsars, and quasars.
Mr. Ulrich

199. Special Studies (½ or 1 course). Prerequisites: senior standing in astronomy or physics (with an outstanding record) and consent of instructor. Special studies with an individual faculty member. With prior consent, the 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, 4 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, 6 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. Surveys the various fields of astronomy and astrophysics; gives first acquaintance with working methods and with the department. Basic astronomical nomenclature is surveyed, and the background in physics and mathematics is outlined as required in graduate courses. Mr. Grandi

201. Astrophysics of the Solar System. Prerequisite: graduate standing or consent of instructor. The sun, solar phenomena, and solar-terrestrial relationships. The interplanetary medium and astronomical plasma physics, comets, meteorites, meteors, satellites and planets, planetary atmospheres. Origin and evolution of the solar system. Mr. Aller, Mr. Ulrich

204A-204B-204C. Observational Astronomy (1 course, 1½ courses, 2 courses). Star catalogs and charts. Radiation measurements, photoelectric photometry, and solid-state detectors. Radio and infrared techniques. Spectroscopic observations. Includes laboratory work. Mr. Epps, Mr. Zuckerman

208A-208B-208C. The Interstellar Medium (1 course, 1½ courses, 2½ courses). Dynamics and physics of interstellar gas and dust. Radio observations of the interstellar medium. Diffuse and planetary nebulae. Magnetic fields in space. Star formation. Topics in high energy astrophysics.
Mr. Aller, Mr. Grandi, Mr. Jura

217A-217B-217C. Stellar Photospheres (1 course, 1½ courses, 2½ courses). Physics of stellar photospheres and radiative transfer. The continuous and line spectra of stars. Chemical abundances in stars. Stars with extended and unstable atmospheres.
Mr. Aller, Mr. Plavec, Mr. Ulrich

219A-219B-219C. Stellar Systems (1 course, 1½ courses, 2½ courses). Statistical astronomy. Distance determination. Stellar motions and populations. Stellar dynamics. Structure of the galaxy. Galaxies and clusters of galaxies. Distribution of matter in space. Cosmology. Mr. Abell, Mr. Wright

227A-227B-227C. Stellar Structure and Evolution (1 course, 1½ courses, 2½ courses). Structure and evolution of the stars. Stellar energy sources and problems of nucleosynthesis. Theory of variable stars. Evolution of and mass exchange in binary stars. Final state of stellar evolution and degenerate stars. Supernova processes. Practical computation of stellar structure and evolution.
Mr. Plavec, Mr. Ulrich

230A-230B-230C. High Energy Astrophysics (1 course, 1½ courses, 2½ courses). High energy radiation processes. Observational techniques of X-ray and gamma ray astronomy. Theory and observational results of X-ray and gamma ray sources, pulsars, radio galaxies, and quasars.
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, meteorology, planetary and space physics). May be repeated for credit.

250. Seminar on Current Astronomical Research (½ course). Required of all graduate students. Current astronomical problems. (F,W,Sp)

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

375. Teaching Apprentice Practicum (¼ to 1 course). 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 (1 to 2½ courses).

596L. Advanced Study and Research at the Lick Observatory (1 to 3 courses). 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 (2½ to 3 courses).

Atmospheric Sciences

7127 Math Sciences, 825-1217

Professors

Akio Arakawa, D.Sc. *(Atmospheric Dynamics)*
Hans R. Pruppacher, Ph.D. *(Atmospheric Physics)*
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)*
Michio Yanai, D.Sc. *(Atmospheric Dynamics)*
James G. Edinger, Ph.D., *Emeritus*
Yale Mintz, Ph.D., *Emeritus*
Morris Neiburger, Ph.D., *Emeritus*

Assistant Professors

Carlos R. Mechoso, Ph.D. *(Atmospheric Dynamics)*
Derek C. Montague, Ph.D. *(Atmospheric Chemistry)*
Roger M. Wakimoto, Ph.D. *(Atmospheric Dynamics)*

Scope and Objectives

The atmospheric sciences present a wide variety of problems of compelling scientific interest and increasing social concern. This is exemplified by the efforts to improve air quality, the depredations caused by severe storms and floods, the attempts to control or modify weather phenomena, the problems of long-range weather forecasts and climate change, the expanding scientific frontiers into our outer atmosphere and the atmospheres of other planets.

The department offers a broad curriculum in dynamic and synoptic meteorology, upper atmospheric and space physics, cloud microphysics, atmospheric chemistry, and radiative transfer in planetary atmospheres.

The Bachelor of Science degree may qualify students for entry-level technical positions or represent valuable background for training in other professions. Master of Science and Ph.D. degree holders work in universities, research centers, laboratories, and government services and, increasingly, in the rapidly burgeoning private sector.

Bachelor of Science Degree

Preparation for the Major

Required: Atmospheric Sciences 3H, Physics 8A/8AL, 8B/8BL, 8C/8CL, 8D/8DL, 8E, Mathematics 31A, 31B, 32A, 32B, 33A, 33B, Chemistry 11A, Engineering 10C or 10F.

The Major

Required: Atmospheric Sciences 104A, 104B, 104C, M149; Physics 110A, 110B, 131, 132; two courses from Atmospheric Sciences 143, 144, 150, 151, one course from 160, 161, two courses from 152, 153, M154, 156. In addition, students preparing for graduate studies in dynamic and synoptic meteorology should take courses 150, 151, and Mathematics 140A; students preparing for graduate studies in dynamics and microphysics of clouds and precipitation should take Physics 112, 140, Mathematics 140A, 135A-135B; students preparing for graduate studies in radiation or upper atmospheric and space physics should take Physics 105A, 105B, M122.

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, UCLA, Los Angeles, CA 90024. In addition to students holding bachelor's degrees in meteorology or atmospheric sciences, graduates with degrees in related disciplines—astronomy, chemistry, engineering, geophysics, mathematics, and physics—are encouraged to apply for graduate status 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; dynamics and microphysics of clouds and precipitation; radiation; upper atmospheric and space physics.

Master of Science Degree

Course Requirements

A total of nine courses must be completed in graduate status, 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 150-series or graduate course in each of two fields other than your field of specialization. The only formal course requirement beyond the UCLA general requirements is Atmospheric Sciences 260 in which you must present a formal seminar attended and graded by all faculty.

Only one 500-series course (four units) may be applied toward the minimum graduate course requirement for the M.S. degree.

Comprehensive Examination Plan

The comprehensive examination is based on coursework given during a prior two-year period. The examination is usually conducted at the end of the Fall and Spring Quarters, but special arrangements can be made for the Winter Quarter. A grade-point average of 3.0 is required for a pass at the M.S. level; a GPA of 3.5 or better allows you to continue toward entry into the Ph.D. program. You are permitted two attempts to obtain the requisite grade either for termination at the M.S. level or for continuation toward a Ph.D. You must, however, attempt the examination by the end of your first two years of study and if necessary, retake the examination at the earliest available time.

Thesis Plan

If you have a grade-point average of 3.5 or better, you may petition the department to obtain the M.S. by writing an original thesis. The petition must be received by the graduate advisers at least one year before you complete the degree (at the end of the 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 continuance 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 chosen 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.

Final Oral Examination

This examination is required of all students.

Candidate in Philosophy Degree

All students are eligible to receive the C.Phil. degree upon advancement to candidacy for the Ph.D.

Lower Division Courses

2. Air Pollution. Lecture, three hours; discussion, one hour. A breadth requirement course for all students interested in the causes and effects of high concentrations of pollution in the atmosphere. Topics include the nature and sources of gaseous and particulate pollutants, their transport, dispersion, modification, and removal, with emphasis on atmospheric processes on scales ranging from individual sources to global effects; interaction with the biosphere and the oceans; stratospheric pollution. Mr. Montague (F)

3. Introduction to the Atmospheric Environment. Lecture, three hours; discussion, one hour. A course specifically designed to satisfy in part the breadth requirement of students majoring outside the physical sciences. The nature and causes of weather phenomena, including winds, clouds, rain, lightning, tornadoes and hurricanes, solar and terrestrial radiation; phenomena of the higher atmosphere; the ionosphere and the auroras; causes of air pollution; proposed methods and status of weather modification. Mr. Thorne, Mr. Wurtele

3H. Introduction to Atmospheric Sciences. Lecture, three hours; discussion, two hours. Prerequisite: Physics 8D or exceptional performance in high school mathematics and physics or consent of instructor. An introductory course in atmospheric phenomena and atmospheric processes, required for atmospheric sciences majors and recommended for honors students who are declared or potential majors in the physical sciences or engineering.

Mr. Mechoso

12. Forecasting Seminar (½ course). Objective forecasting of wind, temperature, and precipitation for Los Angeles as measured at UCLA and for a major city east of the Rockies. Emphasis is on developing forecasting experience and familiarity with the use of satellite and conventional observations, map analyses, and numerical weather prediction guidance produced by National Meteorological Center. Forecasts are qualified and evaluated objectively. No prior experience required. Mr. Wakimoto

Upper Division Courses

104A. Atmospheric Thermodynamics and Introduction to Cloud Physics. Lecture, three hours; discussion, two hours. Prerequisites: Mathematics 33B, Physics 8D, Chemistry 11A. Basic thermodynamics including the first, second, and third laws. Atmospheric statics. Dry adiabatic processes. Phase changes of water and moist adiabatic processes. Gravitational stability. Elementary cloud physics. Mr. Thorne (F)

104B. Introduction to Dynamic and Synoptic Meteorology (1½ courses). Lecture, three hours; laboratory, six hours. Prerequisite: course 104A. Kinematics. Equation of motion. Quasi-static balance and the pressure coordinate. Geostrophic and thermal wind balance. Circulation and vorticity. Vorticity equations for barotropic and baroclinic atmospheres. Fronts and cyclones. Laboratory includes elementary synoptic analysis and a detailed synoptic case study. Mr. Wakimoto (W)

104C. Energetics of Solar-Atmosphere-Earth System. Lecture, three hours; discussion, two hours. Prerequisite: course 104B. Solar and terrestrial radiation. Atmospheric chemistry. Energy budget of atmosphere-earth system. Energy transports and energy cycle. Angular momentum budget. Hydrological cycle. Climatology. (Sp)

143. Physical Oceanography. Lecture, three hours; discussion or field trip, one hour. Prerequisite: course 104B. Physical structure of the oceans; observational techniques. Theory of waves, currents, swell, and tides. Mr. Mechoso

144. Micrometeorology and Air Pollution Meteorology. Lecture, three hours. Prerequisite: course 104C or consent of instructor. 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)

M149. Introduction to Fluid Dynamics. (Same as Earth and Space Sciences M149.) Lecture, three hours; discussion, two hours. Prerequisites: Physics 131, 132, or consent of instructor. Equations of fluid motion. Circulation theorems. Irrotational flow. Vortex motion. Surface and internal gravity waves. Rotating frame. Viscous flow. Mr. Schubert (F)

150. Atmospheric Motion I. Lecture, three hours; discussion, two hours. Prerequisite: course M149 or consent of instructor. Wave motions in a stratified and rotating atmosphere. The quasi-static equilibrium. Rossby waves. The quasi-geostrophic motion. Dynamics of extratropical cyclones. The general circulation of the atmosphere. Mr. Yanai (W)

151. Atmospheric Motion II. Lecture, three hours; discussion, two hours. Prerequisite: course 150 or consent of instructor. Fronts and frontal waves. Atmospheric turbulence and boundary layers. Moist convection. Stratus clouds. Elementary cumulus dynamics. Tropical disturbances. Mesoscale weather systems. Mr. Arakawa (Sp)

152. Introduction to Physics of Clouds and Precipitation. Lecture, three hours; discussion, one hour. Prerequisite: course 104A or consent of instructor. Macroscopic and microscopic description of clouds and precipitation; phase change processes in the atmosphere; theory of drop forming and ice forming nuclei; development of precipitation in clouds; cloud chemistry, cloud electricity. Mr. Montague

153. Atmospheric Radiation. Lecture, three hours. Prerequisite: Physics 110B or consent of instructor. Thermal radiation from the sun and planets. Transfer of thermal radiation through planetary atmospheres. Radiation budget. Scattering of electromagnetic radiation by atoms, molecules, dust, and aerosols. Remote sensing. Meteorological optics.

M154. Solar Terrestrial Physics. (Same as Earth and Space Sciences M154.) Lecture, three hours; discussion, one hour. Prerequisite or corequisite: Physics 110B. Particle and electromagnetic emissions from the sun under quiet and under disturbed conditions. The solar wind. The magnetospheres and the ionospheres of the earth and other planets. Geomagnetic phenomena. Aurora and airglow. Mr. Venkateswaran (F)

156. Introduction to Atmospheric Chemistry. Lecture, three hours; discussion, one hour. Prerequisite: course 104A or consent of instructor. 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.

160. Synoptic Meteorology Laboratory. Laboratory, six hours. Course 150 must be taken concurrently. Study of cyclone structure and fronts through analysis of surface and upper-level weather charts. Graphical computation of vorticity. Graphical determination of large-scale vertical motion. Discussion of cyclone development. Mr. Wakimoto (Sp)

161. Laboratory in Atmospheric Dynamics. Laboratory, six hours. Prerequisites: course 150 and Engineering 10C or 10F, or consent of instructor. Numerical solution of problems selected from atmospheric dynamics. Introduction to numerical weather prediction.

165. Laboratory in Meteorological Observation. Laboratory, six hours. Prerequisite: junior standing. Theory and application of instrumentation in field and laboratory. The material covered will be partly determined by the students' interests.

198. Operational Meteorology (½ course). 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 map discussions and visits to observing, radiosonde, and radar installations. Mr. Wakimoto

199. Special Studies in Meteorology (½ or 1 course). Prerequisite: consent of instructor. Special individual study.

Graduate Courses

Dynamic and Synoptic Meteorology

206. Atmospheric Convection. Lecture, three hours. Prerequisite: course M149 or consent of instructor. Basic theory of Rayleigh convection. Experiments and theory of buoyant bubbles and plumes. Thermodynamics of moist air. Observations and theory of cumulus convection. Cumulus models. Mesoscale convective systems. Interaction of cumulus ensemble with the large-scale environment. Mr. Yanai

208A. Atmospheric Turbulence. Lecture, three hours. Kinematics of homogeneous and shear flow turbulence. Surface and planetary boundary layers, including heat transfer and turbulent convection. Survey of field and laboratory observations and their interpretation by theory. Mr. Wurtele

208B. Atmospheric Diffusion and Air Pollution. Lecture, three hours. Nature and sources of atmospheric pollution; diffusion from point, line, and area sources; pollution dispersion in urban complexes; meteorological factors and air pollution potential; meteorological aspects of air pollution control. Mr. Wurtele

210A. Atmospheric Wave Motions. Lecture, three hours. Prerequisite: course M149 or equivalent. Oscillations of a compressible, stratified, and rotating atmosphere. Geostrophic adjustment. Scale analysis and dynamics of quasi-geostrophic motion. Quasi-geostrophic wave instability. Vertical propagation of wave energy. Mr. Arakawa

210B. Dynamics of Planetary Circulations. Lecture, three hours. Prerequisite: course 210A. Interaction between waves and mean zonal and meridional circulations. Vacillation. Regimes of thermally forced planetary circulations and their stability. Frontogenesis. Geostrophic turbulence. Forced planetary waves. Mr. Mechoso

212A. Numerical Methods in Geophysical Fluid Dynamics. Lecture, three hours. Prerequisite: course M149 or consent of instructor. Basic numerical methods for initial-boundary value problems in fluid dynamics, with an emphasis on applications to atmospheric and oceanographic problems. Finite difference methods and truncation error. Linear and nonlinear computational instability. Computational modes and computational boundary conditions. Spectral methods. Mr. Arakawa

212B. Numerical Modeling of the Atmosphere. Lecture, three hours. Prerequisites: courses 210A and 212A, or consent of instructor. Physical and computational design of numerical weather prediction and climate simulation models. The basic dynamical models. Vertical, horizontal, and time differencing. Parameterizations of sub-grid scale processes. Mr. Arakawa

214. Climatology. Lecture, three hours. Prerequisite: course M149 or consent of instructor. Observations of the atmospheric general circulation and the present climatic state. Global budgets of energy and angular momentum. The hydrologic cycle. Observations of past climates and history of climatic change. Feedback mechanisms determining the sensitivity of climate. Possible causes of climatic changes. Numerical experiments in climatic sensitivity.

216A. Dynamics of the Tropical Atmosphere I. Lecture, three hours. Prerequisite: course 206. General circulation of the tropics. Zonally averaged fields. Zonally varying features. Intertropical convergence zone. Monsoon circulation. The role of cumulus convection in the tropical circulation. Formation and structure of tropical cyclones. Theory and numerical models of tropical cyclones. Mr. Yanai

216B. Dynamics of the Tropical Atmosphere II. Lecture, three hours. Prerequisite: course 210A. Planetary-and-synoptic-scale wave disturbances in the tropics. Theory of equatorial waves. The energy cycle of tropical waves. Excitation mechanisms. Observation and theory of the quasi-biennial oscillation in the equatorial stratosphere. Mr. Yanai

218. Dynamics of the Atmosphere-Ocean Systems. Lecture, three hours. Mass, momentum, and heat transfers between atmosphere and ocean; wind-driven ocean currents; thermohaline convection; dynamics of the Gulf Stream. Mr. Mechoso

219. Special Topics in Dynamic Meteorology (½ to 1 course). Content varies from year to year.

Dynamics and Microphysics of Clouds and Precipitation

221A. Atmospheric Chemistry I. Lecture, three hours. Prerequisite: course 156 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 pollutant gases and aerosol particles. Mr. Montague

221B. Atmospheric Chemistry II. Lecture, three hours. Prerequisite: course 156 or consent of instructor. Composition of the stratosphere, mesosphere, and ionosphere; chemistry of ground and excited state neutrals and of ions in the upper atmosphere; stratospheric pollution; chemistry of the airglow and nightglow; chemistry of other planetary atmospheres. Mr. Montague

223A. Cloud and Precipitation Physics I. Lecture, three hours. Prerequisite: course 152 or consent of instructor. Microstructure of atmospheric clouds; structure of the three phases of water substance, including surface effects; thermodynamic theory for equilibrium between the three phases of water substance, including surface effects; theory of homogeneous and heterogeneous nucleation of water drops and ice crystals. Mr. Pruppacher

223B. Cloud and Precipitation Physics II. Lecture, three hours. Prerequisite: course 223A. Theory of the growth and evaporation of water drops and ice crystals by diffusion of water vapor; hydrodynamics of rigid bodies in a viscous medium; hydrodynamics of cloud drops, rain drops, and atmospheric ice particles; growth of cloud drops and atmospheric ice particles by collision. Mr. Pruppacher

224. Atmospheric Electricity. Lecture, three hours. Prerequisites: course 223B, Physics 110A, 110B. Fair weather electricity; atmospheric ions; electric structure of stormy and nonstormy clouds; electric charge generation mechanisms in atmospheric clouds; physics of thunder and lightning; effect of electric fields and charges on cloud and precipitation formation. Mr. Pruppacher

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 effect of clouds; radiative dynamical interactions in cloudy atmospheres.

228B. Radar Meteorology. Lecture, three hours. Radar detection of spherical and nonspherical particles; use of radar in studying size distributions of cloud and precipitation particles, precipitation intensity and amount, updraft velocities, horizontal wind speed, and turbulence; radar observations of convective clouds, thunderstorms, tornadoes, hurricanes, squall lines, and fronts; clear air echoes.

Radiation

235. Infrared Radiative Transfer. Lecture, three hours. Prerequisite: course 153. 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 153. Equation of transfer in a scattering medium. Stokes formalism; Rayleigh and Mie theories; polarization of skylight; 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 153. 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. The emphasis of the course will be to provide a familiarity with the available techniques in the literature.

Upper Atmospheric and Space Physics

240A. Solar System Magnetohydrodynamics. Lecture, three hours. Prerequisite: course M154 or consent of instructor. Derivation of the MHD equations with two fluid aspects, generalized Ohm's law, small amplitude waves, discontinuities, shock waves, and instabilities. Applications to the statics and dynamics of the solar wind and planetary magnetospheres and to solar wind-magnetosphere-ionosphere coupling. Mr. Siscoe

240B. Solar System Microscopic Plasma Processes. Lecture, three hours. Prerequisite: course M154 or consent of instructor. Adiabatic charged particle dynamics; incoherent radiation processes; collective effects in a plasma; propagation characteristics of electrostatic and electromagnetic waves; introduction to resonant interaction between charged particles and plasma waves. Mr. Thorne

240C. Ionospheric Plasmas. Lecture, three hours. Prerequisites: courses M154, 240B. Formation of planetary ionospheric layers; transport processes; currents and electric fields; ionospheric plasma instabilities; nonlinear effects and artificial modification. Mr. Venkateswaran

246. Physics of the Ionosphere. Lecture, three hours. Prerequisites: Physics 110A and 110B, or consent of instructor. Structure, composition, and dynamics of ionospheric layers. Mr. Venkateswaran

247. Radiation Belt Plasma Physics. Prerequisite: course 240B or consent of instructor. Turbulent plasma instabilities and their relation to satellite observations and magnetospheric structure. Processes responsible for the source, loss, and transport of energetic radiation belt particles. Mr. Thorne

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

249. Special Topics in Solar Planetary Relations. (½ to 1 course). Selected topics of current research interest in the solar wind, magnetospheric, or ionospheric physics.

254. Radiative and Photochemical Processes of the Middle Atmosphere. Lecture, three hours. Prerequisites: courses 153, 246, 255. Ultraviolet absorption processes. Infrared transfer by CO_2 and O_3. Radiative and photochemical roles of other trace constituents. Remote sensing of the middle atmosphere. Mr. Venkateswaran

255. Dynamics of the Stratosphere and the Mesosphere. Lecture, three hours. Prerequisite: course 210A. Photochemistry and radiation regime of the middle atmosphere; propagation of waves of tropospheric origin; radiative and photochemical damping effects; excitation and propagation of atmospheric tides; wave-zonal wind interactions; internal instabilities; theories of circulation features, including annual, semiannual and quasi-biennial oscillations and the buildup and breakdown of polar vortex. Mr. Venkateswaran

256. Remote Sensing. Prerequisite: course 255 or consent of instructor. Remote sensing of stratospheric temperature and composition — theory and practice. Mr. Venkateswaran

257. Radiation, Pollution, and Climate. Lecture, three hours. A breadth requirement for graduate students; specific background in radiation is not assumed. External and feedback influences of radiation and climate/carbon dioxide and climate/cloud albedo problems. Effects of photochemical, thermal, and particulate pollution or urban and global climates. Climate modeling. Mr. Venkateswaran

Special Studies

260. Seminar in Meteorology (½ course).

261. Seminar in Atmospheric Dynamics (½ course).

262. Seminar in Cloud and Precipitation Physics (½ course).

263. Seminar in Atmospheric Radiation (½ course).

264. Seminar in Physics of the Upper Atmosphere (½ course).

375. Teaching Apprentice Practicum (¼ to 1 course). 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 (½ to 2 courses).

597. Preparation for Comprehensive Examinations (½ to 2 courses).

598. Research and Preparation of the M.S. Thesis (½ to 2 courses).

599. Research for Ph.D. Dissertation (½ to 2 courses).

Related Courses in Other Departments

Astronomy 101, 103, 104

Biomathematics 202

Chemistry and Biochemistry 103, 110A, 110B, C123A-C123B, 215D, 223C, 225

Earth and Space Sciences 101, M149, M154, 202, 203, M211, 214, 228, 250, 261, 265

Engineering 10C, 103, 117A, 117B, M118, 124A, 131A, 134C, 137A, 137E, 150A, 150B, 181A, 192A, 192B, 192C; Chemical Engineering 237C, 240; Mechanics and Structures 250A, 250B, 250C, 251A, 251B, 251C, 252A, 252B, 259A

Mathematics 131A-131B, 132, 135A-135B-135C, 141A-141B, 142, 145A-145B, 150A-150B-150C, 152A-152B, 250C, 265A-265B, 266A, 266B-266C, 267A-267B, 269A-269B-269C, 271A, 271B, 271C, M274A, M274B, 276A-276B, 276C

Physics 108, 110A, 110B, 112, 115A, 115B, M122, 131, 132, 210A, 210B, 215A, 215B, 222A-222B-222C, 231A, 231B, 231C

Biochemistry

See Biological Chemistry (School of Medicine), Biology, and Chemistry and Biochemistry

Biological Chemistry

See Chapter 15 on the School of Medicine

Biology

2203 Life Sciences, 825-3481

Professors

Albert A. Barber, Ph.D. *(Cell Biology)*
George A. Bartholomew, Ph.D. *(Zoology)*
Joseph Cascarano, Ph.D. *(Cell Biology)*
David J. Chapman, Ph.D.
William R. Clark, Ph.D. *(Cell Biology)*
Martin L. Cody, Ph.D.
Nicholas E. Collias, Ph.D. *(Zoology)*
Wilbur T. Ebersold, Ph.D.
Roger O. Eckert, Ph.D. *(Neurobiology)*
Franz Engelmann, Ph.D.
John H. Fessler, Ph.D. *(Molecular Biology)*
Malcolm S. Gordon, Ph.D.
Thomas R. Howell, Ph.D. *(Zoology)*
Thomas W. James, Ph.D. *(Cell Biology)*
J. Lee Kavanau, Ph.D.
James A. Lake, Ph.D. *(Molecular Biology)*
George G. Laties, Ph.D. *(Plant Physiology)*
O. Raynal Lunt, Ph.D.
Austin J. MacInnis, Ph.D. *(Cell Biology)*
Jeffrey Miller, Ph.D. *(Genetics)*
James G. Morin, Ph.D. *(Zoology)*
Leonard Muscatine, Ph.D.
Park S. Nobel, Ph.D.
John D. O'Connor, Ph.D. *(Developmental Biology)*
Bernard O. Phinney, Ph.D.
Dan S. Ray, Ph.D. *(Molecular Biology)*
Philip W. Rundel, Ph.D.
Winston A. Salser, Ph.D. *(Molecular Biology)*
Richard W. Siegel, Ph.D.
Larry Simpson, Ph.D. *(Cell Biology)*
Clara M. Szego, Ph.D.
Henry J. Thompson, Ph.D. *(Botany)*
J. Philip Thornber, Ph.D. *(Molecular Biology), Chair*
Peter P. Vaughn, Ph.D. *(Zoology)*

Emeritus Professors

David Appleman, Ph.D.
Jacob B. Biale, Ph.D.
Frederick Crescitelli, Ph.D.
Eric B. Edney, Ph.D.
Karl C. Hamner, Ph.D.
Arthur W. Haupt, Ph.D.
F. Harlan Lewis, Ph.D.
Mildred E. Mathias, Ph.D.
Everett C. Olson, Ph.D.
Charles A. Schroeder, Ph.D.
Flora Murray Scott, Ph.D.
Fritiof S. Sjostrand, Ph.D.
Boyd W. Walker, Ph.D.
Vladimir Walters, Ph.D.
Samuel G. Wildman, Ph.D.

Associate Professors

Clifford F. Brunk, Ph.D. *(Cell and Molecular Biology)*
Arthur C. Gibson, Ph.D. *(Botany)*
Robert Goldberg, Ph.D.
Elma Gonzalez, Ph.D. *(Cell Biology)*
Michael Grunstein, Ph.D.
Henry A. Hespenheide, Ph.D.
Harumi Kasamatsu, Ph.D.
Judith A. Lengyel, Ph.D.
John R. Merriam, Ph.D. *(Genetics)*
Kenneth A. Nagy, Ph.D., *in Residence*
Paul H. O'Lague, Ph.D.
Charles C. Taylor, Ph.D.
Allan J. Tobin, Ph.D.
Elaine M. Tobin, Ph.D.
Richard K. Vance, Ph.D.

Assistant Professors

J. Chlöe Bulinski, Ph.D. *(Cell Biology)*
Donald G. Buth, Ph.D.
Michael Greenfield, Ph.D.
Meyer B. Jackson, Ph.D.
Peter M. Narins, Ph.D.
Jane A. Peterson, Ph.D.
Laurie Vitt, Ph.D.
Dan B. Walker, Ph.D. *(Botany)*

Lecturer

Robert Barrett, Ph.D.

Lecturers

Kathleen Diamond, Ph.D., *Visiting*
Bernice Filerman, Ph.D., *Visiting*
Eric Mundall, Ph.D., *Visiting*
Steve Strand, Ph.D., *Visiting*

Scope and Objectives

Studies in biology touch every aspect of human existence, and answers to human problems are a challenge to modern biology. To meet this challenge, the Biology Department offers a wide spectrum of undergraduate and graduate programs which fall under the broad categories of population, organismic, developmental, cell, and molecular biology. These all have their counterparts in areas of modern life from environmental problems to viruses and cancer.

Each of these disciplines, as well as fundamental backgrounds in mathematics, physics, and chemistry, is part of a general Bachelor of Science degree in Biology. The department also offers bachelor's degrees with specializations in animal physiology, cellular and developmental biology, ecology, genetics, marine biology, molecular biology, neurobiology, and plant biology designed for students motivated to enter special advanced studies quickly.

Advanced studies in biology are provided through the Master of Arts and Ph.D. degrees, which may be acquired only through concentrated study and independent innovative research culminating in the presentation of a thesis. Candidates for a higher degree may avail themselves of a program of rotation through various laboratories in the design of their degree program.

Bachelor of Science Degree

Pre-Biology Major

Students who have not completed all the courses required as "Preparation for the Major" are pre-biology majors. Upon completion of these courses with a grade of C– or better in each, students should petition to enter the biology major in the Undergraduate Affairs Office.

In order to be admitted as pre-biology majors, transfer students who have 80 units or more must have completed one year of general chemistry with laboratory, Biology 5 and 7, or equivalent, and at least one of the following sequences: (1) one year of calculus, (2) one year of calculus-based physics, or (3) two courses in organic chemistry with laboratory.

Preparation for the Major

The following courses are required:

(1) Biology 5, 6, 6L, 7, 8, 8L

(2) Chemistry 11A, 11B, 11BL, 11C, 11CL, 21, 23, 25

(3) Mathematics 3A, 3B, and 3C or 31A, 31B, and 32A; the 31A, 31B, 32A courses are strongly recommended for students intending to study ecology, evolution, or population genetics.

(4) Physics 6A, 6B, 6C

The Major

The following courses are required:

(1) Three courses from the core list (one from each of the following groups):

(a) Morphology Systematics: Biology 100, 101, 105, 110, 153, Microbiology 101

(b) Developmental and Molecular Biology: Biology 137, 138, 141, 144, 146

(c) Physiology: Biology 158, 162, 166, 167

(2) Two additional upper division biology courses

(3) Four courses which may be chosen from upper division biology or any upper division course in microbiology, chemistry, mathematics (except 100 through 106), physics, or from the approved list which may be obtained in the Undergraduate Affairs Office. A maximum of four units of Biology 199 may be applied toward the major. Credit for 199 courses from other departments may not be applied.

Additional Requirements

(1) Six-unit courses (1½ courses) count as only one course on requirements for the major.

(2) A maximum of eight units of Biology 190 or four units of Biology 199 may be applied toward the major.

(3) Courses applied toward requirements for "Preparation for the Major" and the major must be taken for a letter grade.

(4) Biology majors must earn a C– or better in each core course, a 2.0 average in all upper division biology courses, and a 2.0 average in the nine courses comprising the major.

Honors in Biology

Requirements for graduation with honors in biology are an overall GPA of 3.4 and a 3.4 in the biology major. Highest honors in biology are awarded to majors who have a GPA of 3.6 overall and a 3.6 GPA in the major at graduation and who have satisfactorily completed Biology 190A-190B.

Graduate Study

The department offers M.A. and Ph.D. degrees in Biology, with specialization in a wide spectrum of fields. Students who plan to enter graduate school are urged to seek the advice of staff members in their field of interest.

Admission

The department encourages applications from students in all areas of science, but expects successful applicants to have or to acquire a background comparable to the requirements for the bachelor's degree in biology at UCLA. A background in chemistry, physics, and mathematics is desirable. Deficiencies in these or other subjects must be made up at the earliest opportunity. Undergraduates who are prospective applicants should remedy their deficiencies by preparatory study at an appropriate institution. The Graduate Division or the department may initially restrict applicants with less distinguished accomplishments.

All applicants must take the Aptitude Test (verbal, quantitative, and analytical) of the Graduate Record Examination. The Advanced Test in Biology is not required.

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

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. The exact timing and content of the examination vary between the divisions.

Applications, departmental brochures, and additional information may be obtained from the Graduate Affairs Office, Department of Biology, 2316 Life Sciences, UCLA, Los Angeles, CA 90024.

Teaching Credentials

Teaching credentials and Ph.D.s in Education (with specialization in biology) are obtained through the Graduate School of Education with assistance from the graduate adviser in the Biology Department. The cognate requirement in biology may be satisfied by completing the equivalent of the master's degree in biology.

Program of Study

The department is organized for administrative purposes into two divisions based on mutual interest. Applications should be directed to either Division I (molecular, cell, and developmental biology) or Division II (organismic and population biology). The major fields and subdisciplines are listed under faculty interests in the departmental brochure.

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 (CMBQ) and of field biology in the Spring Quarter (FBQ).

Foreign Language Requirement

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

Master of Arts Degree

Admission

Applications are evaluated by the appropriate divisional admissions committee.

Course Requirements

The program consists of at least nine courses completed in graduate standing, of which at least five must be graduate (200 series) courses. The remainder may be courses in the 100, 200, or 500 series as noted below. No more than two 596 courses (eight units) may be applied toward the nine courses required for the degree; only one 596 course (four units) may be applied toward the minimum five graduate courses required. 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 individually 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. 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 the first year of study as an aid to choosing 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 exam is graded pass/fail. The examination must be completed by the end of the third year following first registration. Following successful completion of this examination, you are advanced to candidacy.

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.

Candidate in Philosophy Degree

Requirements for the Candidate in Philosophy 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.

Lower Division Courses

2. Principles of Biology. Lecture, three hours; laboratory, 90 minutes. Designed for nonmajors. Not open to students with credit for courses 5 and 7. Lectures include the structure and chemical composition of cells, animal structure and diversity, cellular respiration, photosynthesis, major organ systems with emphasis on human cell division, reproduction, development, ecology, population growth, genetics, evolution. Laboratory includes structure and function of cells, morphology of plants and animals, circulatory and nervous systems, embryology, plant diversity and adaptation, human genetics.

5. Biology of Organisms. Lecture, three hours; discussion/demonstration, two hours. Comparative morphology and embryology of the major plant and animal phyla; function of organ systems, including gas exchange, transport, regulation of the internal environment, hormones, coordination, and the nervous system.

6. Ecology and Evolution. Lecture, three hours; discussion, two hours. Prerequisites: course 5 and Mathematics 3A or 31A. A survey of the principles of population growth and ecology, competition, predation, community ecology, environmental physiology, population genetics, natural selection, and speciation.

6L. Organismic and Environmental Biology Laboratory (½ course). Laboratory, three hours. Prerequisite: course 6 (may be taken concurrently). Introductory biology laboratory, including basic cell and microorganism organization, morphology and diversity of organisms, population biology, evolution, and community ecology.

7. Introductory Cellular and Molecular Biology. Lecture, three hours; discussion/demonstration, two hours. Prerequisite: course 5, Chemistry 15, 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, one hour. Prerequisite: course 7. Principles of Mendelian inheritance, including gene interactions, introductory biochemical genetics, chromosome changes, and mutations genetics.

8L. Cellular and Molecular Biology Laboratory (½ course). Laboratory, three hours. Prerequisite: course 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. Mr. Schroeder (F,Sp)

11. Field Botany. Lecture, two hours; laboratory, six hours; required field trips. Designed for nonmajors. An introduction to the systematics, morphology, and ecology of the local flora (native and cultivated). Use of keys for identification; morphological characteristics of common families of vascular plants; plant communities and environmental factors affecting their distribution; emphasis on California.
Mr. Thompson (Sp)

12. Taxonomy and Ecology of Ornamental Plants. Lecture, one hour; laboratory and field trips, six hours. Designed for nonmajors. The origin, classification, and identification of the more important ornamental plants in Southern California, with special emphasis on their environmental requirements and adaptation.

13. Evolution of Life. Lecture, three hours; discussion, one hour. Not open to life sciences majors. Limited to 100 students. An introduction to biology within the framework of evolutionary theory. The relationships of evolutionary thought to other areas of knowledge and society. Natural selection and the origin of variation are examined in the context of genetics, molecular biology, physiology, phylogeny, population dynamics, behavior, and ecology. Stress is on the critical role of historical processes. (F)

20. Introduction to Human Heredity. Lecture, two hours; discussion, one hour; laboratory, two hours. Not open to students with a prior college course in genetics; not intended to satisfy the requirements of medical or dental schools. Man's inheritance and its biological basis will be introduced through lectures, readings, and laboratory exercises with *Drosophila*. Topics include prenatal development, Mendelizing factors, the role of chromosomes in heredity, and the role of genes in disease and population structure. (Sp)

21. Field Biology. Lecture, three hours; required field trips. Prerequisite: course 2. An introduction to the natural history and ecology, interrelationships, and classification of the common animals and plants, with emphasis on Western North America.

25. The Oceans. Lecture, three hours; discussion, one hour. Not open to students in the sciences or to students with credit for Earth and Space Sciences 15. Limited to 40 students. Physical and chemical processes that take place in the oceans, with emphasis on their effects on organisms. (W)

30. Biology of Cancer. An introduction to molecular, cellular, and clinical aspects of cancer and a consideration of the sociological and psychological impact of cancer on the individual and society. Each lecture-discussion period will be given by an invited lecturer who is prominent in cancer research or treatment. May not be applied toward the B.S. degree requirements. P/NP grading.

35. Mathematical Ideas in Biology. Lecture, three hours; discussion, one hour. Prerequisites: one year of calculus and 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 will be tailored to specific student interests.
Mr. Kavanau

Upper Division Courses

100. Biology of Lower Plants (1½ courses). Lecture, four hours; laboratory, six hours. Prerequisite: course 5 or equivalent or consent of instructor. An introduction to the biology of algae, fungi, and bryophytes, with an emphasis on form, function, and development, and the role of lower plants in the environment. Students are strongly encouraged to take both courses 100 and 101 since these represent a course sequence surveying the entire plant world as appropriate background for upper division courses in plant biology. Mr. Chapman

101. Biology of Vascular Plants (1½ courses). Lecture, three hours; laboratory, six hours. Prerequisite: course 5 or equivalent or consent of instructor. An introduction to the diversity in form and reproduction of vascular plants, with emphasis on development, evolution, and function. Students are strongly encouraged to take both courses 100 and 101 since these represent a course sequence surveying the entire plant kingdom as appropriate background for upper division courses in plant biology. Mr. D. Walker

102. Biology of Marine Invertebrates. Lecture, five hours; laboratory, fifteen hours (five-week intensive course). Prerequisite: completion of "Preparation for the Major" 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. Course will be given at the *Catalina Marine Science Center.*
Mr. Morin, Mr. Muscatine

103. Taxonomy of Flowering Plants (1 or 2 courses). *The course will be 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 will be covered. The eight-unit course covers the same basic lecture and laboratory material in five intensive weeks. This is followed by an extended field trip where students will do individual field projects.
Mr. Gibson

105. Biology of Invertebrates (1½ courses). Lecture, three hours; laboratory and field trips, six hours. Prerequisite: completion of "Preparation for the Major." Introduction to the systematics, evolution, natural history, morphology, and physiology of the invertebrates. Mr. Morin, Mr. Muscatine (F)

106A-106B. Experimental Marine Invertebrate Zoology (1½ courses each). Lecture, two hours; laboratory, twelve hours. Prerequisites: courses 105 and 166 (latter may be taken concurrently with 106A), or equivalent, and consent of instructor. Course 106A is prerequisite to 106B. An advanced course of natural history, physiology, biochemistry of invertebrates, with emphasis on independent laboratory and field investigations. Mr. Morin, Mr. Muscatine

107. Entomology (1 or 2 courses). Prerequisites: courses 5 and 6. *The course will be 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; laboratory, six hours; approximately four field trips. The morphology, physiology, development, systematics, behavior, and ecology of insects will be covered. The eight-unit course covers the same basic lecture and laboratory material in two and one-half intensive weeks. This is followed by an extended field trip where students will do individual field projects in insect biology.
Mr. Greenfield

108. Terrestrial Arthropods. Lecture, three hours; laboratory, six hours; several field trips. Prerequisite: course 107 or consent of instructor. Systematics, distribution, and bionomics of hexapods and arachnids.

109. The Development of Evolutionary Theory. Lecture, three hours; discussion, one hour. Limited to 80 students. A study of the historical development of the physical and biological concepts which have led to current evolutionary theory. These concepts are considered in context of the social circumstances in which they originated.

110. Vertebrate Morphology. Lecture, three hours; laboratory, four hours. Prerequisites: courses 5, 6, 6L. A study of vertebrate morphology and evolution from the viewpoint of comparative anatomy of adult forms, developmental anatomy, and paleontology. Laboratory study of selected vertebrates.
Ms. Peterson, Mr. Vaughn (F,W)

111. Biology of Vertebrates. Lecture, three hours; demonstration/field trips/discussion, three hours. Prerequisites: courses 5, 6, 6L. The adaptations, behavior, and ecology of vertebrates.
Mr. Bartholomew, Mr. Howell (F,Sp)

112. Ichthyology. Lecture, two hours; laboratory, six hours; field trips. Prerequisites: courses 5 and 6, 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 will examine the fishes of the Southern California shoreline, tidepools, and coastal streams. Mr. Buth

113. Herpetology (1 or 2 courses). Prerequisites: course 111, 120, or 122, and consent of instructor. *The course will be offered alternately as a four-unit course to be given during a conventional academic quarter or as an eight-unit course as part of the field biology quarter.* The four-unit course has lecture, three hours; laboratory, six hours; approximately four weekend field trips. The systematics, distribution, physiology, behavior, and ecology of amphibians and reptiles will be covered. The eight-unit course covers the same basic lecture and laboratory material in two intensive weeks. This is followed by an extended field trip where students will do individual field projects in behavior, physiological ecology, or field ecology.

114. Ornithology. Lecture, two hours; laboratory/discussion/field trips, six hours. Prerequisites: course 111 and consent of instructor. Limited enrollment. The systematics, distribution, physiology, behavior, and ecology of birds. Mr. Howell

115. Mammalogy. Lecture, two hours; laboratory and field trips, six hours. Prerequisites: course 111 or equivalent and consent of instructor. The evolution, ecology, behavior, and physiology of mammals.

116. The Evolution of Mammalian Dentitions. Lecture, two hours; laboratory, six hours. Prerequisite: consent of instructor. Limited enrollment. The origin and adaptive radiation of mammalian teeth is considered, with special emphasis upon morphological aspects of change relative to function. Tooth histology and embryology are studied. Laboratory work involves study of dental morphology and histology.

M117. Vertebrate Paleontology. (Same as Earth and Space Sciences M117.) Lecture, three hours; laboratory, three hours. Prerequisite: course 110. Recommended: a course in general geology. Limited enrollment. The fossil record of the evolution of the vertebrates, with emphasis on the morphology of primitive forms in the series from fish to mammal.
Mr. Vaughn (Sp)

M118. Paleobotany. (Same as Earth and Space Sciences M118.) Lecture, three hours; laboratory, three hours. Prerequisite: one course in biological science or consent of instructor. 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.
Mr. Schopf

119. Mathematical Ecology. Lecture, three hours. Prerequisites: course 6, Mathematics 32A, or consent of instructor. Recommended: course 122. Models of population growth and interspecies interactions, formulated as multidimensional, nonlinear differential, or difference equations, are used to explore the structure and dynamics of ecological populations and communities. Mr. Vance

120. Evolutionary Biology. Lecture, three hours; laboratory, two hours. Prerequisite: completion of "Preparation for the Major." Highly recommended: Mathematics 31A, 31B, 32A. Recommended for biology majors specializing in environmental and population biology. Introduction to the mechanics and processes of evolution, with emphasis on natural selection, population genetics, speciation, evolutionary rates, and patterns of adaptation.
Mr. Cody, Mr. Hespenheide (W)

121. Seminar in Ecology (½ course). Prerequisites: course 120 or 122, and consent of instructor. Undergraduate seminar in ecology; reading and discussion of current research, including preparation of review paper or annotated bibliography. May be repeated twice for credit. Mr. Hespenheide

122. Ecology. Lecture, three hours; laboratory, three hours. Prerequisite: completion of "Preparation for the Major." 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. Lecture, five hours; laboratory, fifteen hours (five-week intensive course). Prerequisite: completion of "Preparation for the Major" or consent of instructor. Field study of the natural history and ecology of marine organisms and communities. The course will involve an independent research project and will be given at the *Catalina Marine Science Center.* Mr. Vance

124. Field Ecology (1 or 2 courses). Lecture, two hours; laboratory or field trip, ten hours. Prerequisites: course 120 or 122, and consent of instructor. *The course will be offered either as a quarter-long course with weekend field trips or as a single field trip conducted between quarters, followed by lectures and tutorials for three weeks. When the course is given as part of the field biology quarter, it will be eight units and will last 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 (1 or 2 courses). Lecture, two hours; laboratory, six hours; field trips. Prerequisites: course 120 and consent of instructor. *The course will be 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 field studies of selected populations and ecosystems.
Mr. Cody

126. Behavioral Ecology (1 or 2 courses). Prerequisites: courses 5, 6. *The course will be 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 will be covered. The eight-unit course covers the same basic lecture material in five intensive weeks. This is followed by an extended field trip where students will do individual projects in behavioral ecology.
Mr. Narins

M127. Soils, Plants, and Society. (Same as Geography M127.) Lecture, three hours; field trip. Prerequisites: Chemistry 11A, 11B, 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. Soil profiles examined on the field trip are used to explain developmental phenomena. Mr. Lunt

128. Plant Physiological Ecology (1 or 2 courses). Lecture, three hours; laboratory and field, three hours. A study of plant-environmental interactions under natural conditions. Emphasis is 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 will be eight units, and the individual research project will be correspondingly expanded.* Mr. Nobel

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. Mr. Collias

130. Behavior Research Problems. Lecture, three hours; laboratory, two hours. Prerequisites: courses 5, 6, and 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 (1 or 2 courses). Lecture, two hours; laboratory or field trip, eight hours. Prerequisites: course 120 or 122, and consent of instructor. *The course will be offered either as a quarter-long course with weekend field trips or as part of the field biology quarter (eight units; amount of fieldwork increased accordingly).* Analysis of the ecological roles of insects in terrestrial communities, with emphasis on interactions with both plants and vertebrates. Students will perform group and individual field projects.
Mr. Greenfield, Mr. Hespenheide

132. Field Behavioral Ecology (2 courses). Lecture, two hours; laboratory and field trip, ten hours. Prerequisites: courses 5, 6, and consent of instructor. *The five-week course will be 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 will be stressed. Mr. Greenfield, Mr. Narins

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 structure of natural populations and the mechanisms of evolution. The course will cover equilibrium conditions and the forces altering gene frequencies, polygenic inheritance, and the methods of quantitative genetics. Mr. Taylor

136A-136B-136C. Seminar in Genetics (½ course each). Prerequisites: course 8 and consent of instructor. Undergraduate seminar in genetics; reading and group discussion of current research in genetics.
Mr. Siegel (F,W,Sp)

137. Morphogenesis. Lecture, three hours; discussion, one hour. Prerequisite: completion of "Preparation for the Major." Study of embryonic development. Emphasis will be on the morphogenetic events in insect, avian, amphibian, and mammalian species.

138. Developmental Biology. Lecture, three hours; discussion, one hour. Prerequisite: completion of "Preparation for the Major." Synopsis of fundamental concepts in embryology and a survey of current topics in developmental biology.
Ms. Lengyel, Mr. O'Connor, Mr. Tobin

139. Introductory Laboratory in Developmental Biology. Lecture, two hours; laboratory, six hours. Prerequisites: course 138 and consent of instructor. Introductory course in developmental biology, including cell and organ culture and biochemical analysis of developing systems.

140. Plant Development and Differentiation. Lecture, two hours; laboratory, four hours. Prerequisites: courses 5 and 7, or consent of instructor. A study of the ontogeny of the vascular plant body and comparisons of that development among the major plant taxa; discussion of the concepts of plant development.
Mr. Schroeder

141. Molecular Basis of Plant Differentiation and Development. Lecture, three hours; discussion, one hour. Prerequisites: courses 5, 7, 8. An in-depth study of the basic processes of development and the molecular aspects of the developmental process as it relates to the plant kingdom. A variety of developing systems will be discussed (protistons, fungi, lower and higher plants), with the goal of developing a unified concept of differentiation.
Mr. Goldberg, Ms. Tobin (Sp)

142A-142B-142C. Seminar on Topics in Developmental Biology (½ course each). Prerequisites: course 138 and consent of instructor. Undergraduate seminar on topics in developmental biology. Reading and group discussions of current research.
Ms. Lengyel, Mr. O'Connor, Mr. Tobin (F,W,Sp)

144. Molecular Biology. Lecture, three hours; discussion, one hour. Prerequisite: completion of "Preparation for the Major." Strongly recommended: course 8. A course in molecular biology emphasizing the synthesis, structure, function, and interactions of biological macromolecules. (F,W,Sp)

145A-145B-145C. Molecular Biology Laboratory. Laboratory, twelve hours. Prerequisite: consent of instructor. Highly recommended: course 144. A course in experimental molecular biology in which the student carries out original research under supervision. Space is limited, and arrangements must be made in advance with the instructor. 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. A physiochemical analysis of the physiology of cells and organelles, with emphasis on membranes, thermodynamics of solute and water movement, light absorption, and subcellular energy transduction.
Mr. Nobel (F)

147. Biological Oceanography. Lecture, five hours; laboratory, fifteen hours (five-week intensive course). Prerequisite: completion of "Preparation for the Major" or consent of instructor. Lectures include physical, chemical, and biological factors affecting the composition and distribution of plankton. Natural history of major phytoplankton and zooplankton taxa; production in marine food chains; adaptation to pelagic habitat. Laboratory includes systematics, morphology of major plankton taxa; experimental studies of local marine plankton, with emphasis on measurement of feeding, primary and secondary productivity, and nutrient flux. Course will be given at the *Catalina Marine Science Center.* Mr. Muscatine

148. Biology of Marine Plants. Lecture, five hours; laboratory, fifteen hours (five-week intensive course). Prerequisite: "Preparation for the Major" 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. Course will be given at the *Catalina Marine Science Center.* Mr. Chapman

149. Plant Biochemistry and Photosynthesis. Prerequisite: completion of "Preparation for the Major." A survey course emphasizing plant-specific biochemistry, including photosynthesis; nitrogen fixation and metabolism; sulfur metabolism; respiration; plant pigments, lipids, proteins, and nucleic acids; the cell wall; terpenes; alkaloids and flavenoids. Mr. Thornber

150. Experimental Phycology and Mycology. Lecture, three hours; discussion, one hour; laboratory, six hours. Prerequisite: course 100 or equivalent or consent of instructor. Study of algae and fungi, emphasizing basic concepts in such topics as photobiological phenomena, physiology of growth, nutrition, and reproduction; physiological ecology. Laboratory includes isolation and culture techniques and experiments designed to introduce students to a wide range of experimental uses of algae and fungi. Mr. Chapman

152. Functional Plant Anatomy. Lecture, three hours; laboratory, six hours. Prerequisite: completion of "Preparation for the Major" or consent of instructor. The structure and functional significance of the various cell and tissue types in higher plants, plus the patterns of growth and differentiation in roots, stems, leaves, flowers, and fruits. Mr. D. Walker

153. Histology. Lecture, three hours; laboratory, four hours. Prerequisite: completion of "Preparation for the Major." An introduction to descriptive and functional histology, using light and electron microscope information. Discussion of histological research methods. (Sp)

154. Functional Ultrastructure of Cells and Tissues. Lecture, three hours; discussion, one hour. Prerequisites: course 5 or 7, Chemistry 21, 23, 25, or equivalent. Basic life processes at the supramolecular 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, three hours. Prerequisites: Physics 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, polarization analysis, fluorescence microscopy, and epi-illumination. Mr. James

CM156. Human Genetics. (Formerly numbered M134.) (Same as Biomathematics CM156.) 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 will focus on current questions in the fields of medical and human genetics and the methodologies appropriate to answer such questions. Concurrently scheduled with course CM256. Mr. Merriam, Ms. Spence (W)

157. Gene Manipulation: Genetic Engineering. Lecture, three hours. Prerequisite: course 144 or 138 or consent of instructor. A survey of the methods and applications of recombinant DNA research as applied to both basic scientific research and the biotechnology industry. Mr. Salser

158. Cell Biology (1½ courses). Lecture, three hours; laboratory, six hours. Prerequisite: completion of "Preparation for the Major." 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, Mr. Simpson

162. Plant Physiology. Lecture, three hours; laboratory, one hour. Prerequisite: completion of "Preparation for the Major." Water movement within the plant body and between the plant and its environment. Soil genesis, characteristics, and plant-soil interrelations. Salt movement across membranes and through tissues. Hormonal control of growth and development. Photomorphogenesis. Photoperiodism and flowering. Photochemical and physiological aspects of photosynthesis. Mr. Laties, Mr. Thornber (F)

163. Plant Physiology Laboratory. Lecture, one hour; discussion, one hour; laboratory, eight hours. Prerequisite: course 162. Limited enrollment. Students will be introduced to the instrumentation used in plant physiology research by performing experiments based on the lecture material in course 162. Subsequently, students working singly or in groups will undertake a research project of their own design.

164. Field Biology of Marine Fishes. Lecture, five hours; laboratory, fifteen hours (five-week intensive course). Prerequisite: completion of "Preparation for the Major" or consent of instructor. Selected aspects of the natural history, ecology, and behavior of the diverse assemblage of local marine fishes. Fieldwork will be strongly emphasized. Course will be given at the *Catalina Marine Science Center.* Mr. Buth

165. Ecological Physiology of Marine Vertebrates. Lecture, five hours; laboratory, fifteen hours (five-week intensive course). Prerequisite: completion of "Preparation for the Major" 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 will emphasize marine vertebrates of Southern California waters. Course will be given at the *Catalina Marine Science Center.* Mr. Gordon

166. Animal Physiology (1½ courses). Lecture, three hours; laboratory, five hours. Prerequisite: completion of "Preparation for the Major." An introduction to physiological principles, with emphasis on organ systems and intact organisms. Students with credit for course 167 will not receive credit for this course.

167. Regulatory Physiology (1½ courses). Lecture, three hours; laboratory, five hours. Prerequisite: completion of "Preparation for the Major." An introduction to whole animal and organ physiology. Primary considerations are given to neuronal and endocrine regulation of body functions and integration of organ systems. Students with credit for course 166 will not receive credit for this course. Mr. Engelmann

168. Insect Physiology. Lecture, two hours; laboratory, six hours. Prerequisite: course 158, 166 or 167, or equivalent. Survey of the physiology of insects, with emphasis on functional adaptations. Mr. Engelmann

169. Comparative Physiology. Lecture, three hours; laboratory, four hours. Prerequisites: courses 158, 166. A detailed analysis of selected aspects of invertebrate and vertebrate physiology. Mr. Gordon

170. Physiological Ecology of Arthropods. Lecture, three hours; discussion, one hour. Prerequisite: course 166 or equivalent. The physiology of terrestrial arthropods in relation to their distribution and function in natural environments.

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

172A-172B. Introductory Laboratory in Neurophysiology. Laboratory, eight hours. Prerequisite: course 171 or consent of instructor. Limited enrollment. Courses must be taken concurrently. Laboratory investigation of the function of central and peripheral nervous systems in invertebrates and vertebrates. Emphasis will be on electrophysiological approaches to basic neurophysiological problems. Mr. Eckert, Mr. O'Lague

173. Anatomy and Physiology of Sense Organs. Lecture, three hours; discussion, one hour. Prerequisite: course 171 or equivalent. The anatomy and physiology of the sense organs. Comparative aspects will be emphasized. Mr. Narins

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

179. Invertebrate Endocrinology. Lecture, three hours. Prerequisite: course 158 or 166 or consent of instructor. A comprehensive treatment of invertebrate endocrinology. Mr. Engelmann

180. Advanced Topics in General Endocrinology. Lecture, three hours; discussion, one hour. Prerequisite: course 177 or consent of instructor. Detailed consideration of selected mechanisms in endocrine control of growth and differentiation. Ms. Szego

181. Parasitology and Symbiosis (1½ courses). Lecture, three hours; laboratory, six hours. Prerequisites: courses 5, 7. An introduction to the principles, biology, and evolution of infectiousness, symbiosis, and parasitism, emphasizing protozoan and helminth parasites, including those of man. Mr. MacInnis

182. Experimental Parasitology. Laboratory, eight hours. Prerequisite: consent of instructor. Introduction to the use of parasites in experiments concerning basic biological problems and to problems concerning parasitism. Mr. MacInnis

M185. Immunology. (Same as Microbiology M185 and Microbiology and Immunology M185.) Lecture, three hours; discussion, one hour. Prerequisites: course 8, Chemistry 23, 25. Chemistry 152 or 156 should be taken concurrently. Introduction to experimental immunobiology and immunochemistry; cellular and molecular aspects of humoral and cell immune reactions. Mr. Clark, Mr. Sercarz (F)

M186. Experimental Design in Immunology. (Same as Microbiology M186 and Microbiology and Immunology M186.) Laboratory, twelve hours. Prerequisites: course M185 and consent of instructor. Course M187 must be taken concurrently. The course will focus 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 (½ course). (Same as Microbiology M187 and Microbiology and Immunology M187.) Prerequisites: course M185 and consent of instructor. Course M186 must be taken concurrently. 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)

188. Seminar on Biology and Society (½ course). Prerequisite: consent of instructor. Investigations and discussions of current socially important issues involving substantial biological considerations, either or both as background for policy and as consequences of policy. Mr. Gordon, Ms. Tobin

190A-190D. Honors Research in Biology (½ to 1 course each). Prerequisites: senior standing and consent of undergraduate adviser. Individual research designed to broaden and deepen the student's knowledge of some phase of biology. Must be taken for at least two quarters and for a total of at least eight units. In Progress grading (credit to be given only upon completion of course 190B). Students may elect to enroll in additional research through courses 190C-190D (letter grading). A report on progress must be presented to the undergraduate adviser each quarter a 190 course is taken. A maximum of eight units may be applied toward the B.S. degree requirements. (F,W,Sp)

199. Special Studies (½ to 4 courses). Prerequisite: consent of instructor and undergraduate adviser, based on a written proposal outlining the study or research to be undertaken. The proposal should be worked out in consultation with the instructor and submitted for approval to the undergraduate adviser before the day instruction begins in that quarter. At the end of the quarter a report describing the progress of the study or research and signed by the student and the instructor must be presented to the undergraduate adviser. Students who wish to take more than eight units of course 199 in any one quarter must obtain authorization from the department Chair and the appropriate dean. Only one 199 course may be applied toward the B.S. degree requirements. (F,W,Sp)

Graduate Courses

Consent of instructor is required for admission to all graduate courses. Additional prerequisites are stated in the course descriptions.

201. Topics in Organismal Plant Biology. Lecture, three hours; laboratory, three hours. The course will cover 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, Mr. D. Walker

202. Principles of Systematics and Taxonomy. Lecture, three hours; discussion, two hours. Prerequisite: course 120. The concepts, principles, and methods involved in the inference of evolutionary relationships and the application of biological nomenclature. Mr. Buth

203. Marine Botany and Physiology (2 courses). Lecture and laboratory. Structure, reproduction, life histories, systematics, and biology of marine algae; techniques in culture and cytological investigation of algal material. Course will be given at the *Catalina Marine Science Center.*

204A. Advanced Algae. A consideration of current research in experimental psychology. Topics include a discussion of the appropriate aspects of chemical and physical oceanography and limnology; algal physiology; experimental ecology of benthic and planktonic algae. Mr. Chapman

204B. Advanced Algae. Lecture, three hours; laboratory, six hours. A course designed to introduce students to current concepts in algal systematics. The laboratory section is designed to teach students, by practical application to unknowns, how to identify algae by appropriate application of keys. Mr. Chapman

205. Marine Invertebrate Biology (2 courses). Functional morphology, life histories, and systematics of marine invertebrates of all major and most minor taxa; emphasis on the living animal and its habitat. Course will be given at the *Catalina Marine Science Center.*

206. Advanced Ichthyology. Lecture, three hours; laboratory, three hours. Prerequisite: course 111 or 112. Advanced study of various aspects of fish biology. Theme varies from year to year. May be repeated for credit. Mr. Buth

207. Molecular and Cellular Biophysics. Lecture, three hours. Prerequisites: Chemistry 25 and 110A, Mathematics 32A or equivalent, and Physics 6C, or consent of instructor. Strongly recommended: Chemistry 110B or 156. The course will first develop areas of physics, including thermodynamics, diffusion, statistical mechanics, and molecular forces. This material will then be applied 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 will also be discussed. Mr. Jackson

208. Advanced Vertebrate Morphology. Lecture, two hours; laboratory, eight hours. Prerequisites: course 110 or equivalent and consent of instructor. Emphasizes a functional approach to evolution of the vertebrate locomotor, feeding, and circulatory systems. Laboratory includes comparative and experimental analyses of morphological adaptation. An independent project is required. May be repeated once for credit. Ms. Peterson

210. Advanced Ornithology. Lecture, two hours; laboratory, two hours; fieldwork, two hours. Prerequisites: course 114 or equivalent and consent of instructor. Advanced study of topics in avian biology, including systematics, distribution, behavior, and ecology. Students will carry out individual study projects in laboratory, museum, or field. Mr. Howell

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. Collias

213. Community Ecology (½ course). 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

214. Ecological Physiology (½ course). Lecture, two hours. A consideration of the ecologically relevant aspects of animal physiology. Mr. Bartholomew, Mr. Nagy

215. Theoretical Population Biology. Lecture, three hours. Prerequisites: courses 6 and 8 and Mathematics 32A or 3C, or consent of instructor. The use of mathematical models in studying ecological and evolutionary systems. Relevant mathematical techniques discussed include basic calculus, differential equations, linear algebra, and probability. Not open to students with credit for course 119. Mr. Taylor, Mr. Vance

217. Marine Ecology (2 courses). Structure, diversity, and energetics of marine communities; behavior, population dynamics, and biogeography of component species; associated oceanography and geology. Course will be given at the *Catalina Marine Science Center.* Mr. Vance

218. Oceanology (2 courses). 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. Course will be given at the *Catalina Marine Science Center.*

219. Animal Behavior in Laboratory and Field. Discussion, two hours; laboratory, six to eight hours. Prerequisites: course 129 and consent of instructor. Limited enrollment. Laboratory and field studies of selected problems in animal behavior. Mr. Collias

M220. Multigene Families. (Same as Anatomy M213.) Prerequisites: comparative genetics and course 144 or equivalent and consent of instructor. Analysis of the molecular structure, developmental regulation, and evolution of multigene families. Topics include the hemoglobins, immunoglobulins, histones, ribosomal RNAs, satellite DNAs, and histocompatibility antigens. S/U grading. Mr. Campbell, Mr. Tobin (F)

221. Genetic Analysis. Lecture and 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 will be 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. Mr. Merriam

222A-222F. Topics in Genetics. Prerequisite: course 8. Intensive study of selected topics.

223A-223B. Advanced Genetics Laboratories. Laboratory, nine hours. Prerequisites: course 8 or equivalent and consent of instructor. Original research with supervision in eukaryotic genetics. Topics include transmission, developmental and behavioral genetics. May not be repeated for credit. Mr. Merriam, Mr. Siegel

224. Developmental Biology of Marine Organisms (2 courses). Descriptive and experimental studies of developmental stages of marine plants and animals; patterns of reproductive biology; larval biology; metamorphosis. Course will be given at the *Catalina Marine Science Center.*

225. Special Topics in Development. Lecture, three hours. Variable topics emphasizing the control of eukaryotic gene expression and morphogenesis. Special attention will be given to the role of hormones in the modulation of gene expression during development. Mr. O'Connor

M226. Chromosome Structure and Regulation. (Same as Biological Chemistry M226, Chemistry M226, and Microbiology and Immunology M226.) Lecture, three hours. Prerequisite: consent of instructor. Lectures and panel discussions on the structural and functional organization of eukaryotic chromosomes. S/U grading. Mr. Martinson, Mr. Tobin, Mr. Wall

227. Chromosome Structure and Replication. Lecture, three hours. Prerequisite: course M132, Chemistry 153, or consent of instructor. A survey of biochemical and biophysical investigations of the structure and replication of chromosomal nucleic acids, with emphasis on bacterial and viral systems. Mr. Ray

228. Prokaryotic and Eukaryotic Gene Systems (½ course). Presentations concerning current experimental approaches in the study of DNA replication, organization, transcription, and translation. Mr. Grunstein, Mr. Ray

229. Structural Macromolecules. Lecture, three hours; discussion, one hour. The comprehensive molecular biology of selected structural proteins and polysaccharides, including cellular synthesis, structure and physical properties, and integrated biological functions. Mr. Fessler

M230A. Structural Molecular Biology (½ course). (Same as Chemistry M230A and Microbiology M230A.) Lecture, two hours; discussion, one hour. Prerequisite: consent of instructor based on a written research proposal. Fundamentals of electron microscopy of macromolecules and supramolecular structures, emphasizing quantitative microscopy, high resolution techniques, nucleic acid analysis, and studies on viruses and protein crystals. Mr. Eisenberg, Mr. Eiserling, Ms. Kasamatsu, Mr. Lake (F)

M230B. Structural Molecular Biology (½ course). (Same as Chemistry M230B.) Lecture, two hours; discussion, one hour. Prerequisites: Physics 6C, Mathematics 3C, and 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. Mr. Eisenberg, Mr. Eiserling, Mr. Lake (W)

M230C. Structural Molecular Biology Laboratory. (Same as Chemistry M230C and Microbiology M230C.) Laboratory, ten 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. Eisenberg, Mr. Eiserling, Ms. Kasamatsu, Mr. Lake (F)

M230D. Structural Molecular Biology Laboratory (½ course). (Same as Chemistry M230D.) Laboratory, ten 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, Mr. Sweet (W)

231. Advanced Topics in Molecular Biology. Lecture, three hours; discussion, one hour. Advanced study of current topics in molecular biology through lectures, discussion, and presentations by students.
Mr. Brunk

232. Experimental Molecular Developmental Biology (2 courses). Lecture, one hour; discussion, two hours; laboratory, twelve hours. Prerequisites: courses 138, 144, and/or consent of instructor. A laboratory course in the biochemical expression and regulation of differentiation in eukaryotes.
Mr. Fessler, Ms. Lengyel, Mr. Tobin

233A-233B. Electron Microscopy of Cells (2 courses each). Lecture, four hours; laboratory, twenty hours; demonstration, three hours. Electron microscopic techniques applied to structure of cells and to molecular structure of cellular components. Intensive training in electron microscopy techniques and in the use of the electron microscope for high resolution electron microscopy. Mr. Sjostrand

234. Advanced Topics in Development. Lecture, three hours; discussion, one hour. Prerequisite: course 138 or equivalent. Advanced study of special topics such as changes in gene activity during development, hormone action during development, cell commitment and differentiation, developmental genetics, plant development, and developmental neurobiology. Ms. Lengyel and the Staff

235. Advanced General Physiology. Lecture, three hours. Prerequisite: course 158 or 161. Student presentations and discussion of specific topics such as excitation, conduction, physiology of blood, muscle contraction, etc.

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

M237. Steroid Hormones (½ course). (Same as Biological Chemistry M237.) Highly recommended prerequisites: prior courses in biochemistry and cell biology. Detailed examination of the mode of action of steroid hormones on both *in vivo* and *in vitro* systems. Topics include steroid uptake, receptor purification and activation, and nuclear events, among others.
Mr. Coty, Mr. O'Connor

238. Structure, Function, and Biogenesis of the Mitochondrion. Lecture, three hours. Prerequisites: course 158, Chemistry 22, and consent of instructor. Origin, maintenance, and function of the mitochondrion as an example of a highly organized subcellular organelle in the eukaryotic cell. Mr. Simpson

M239. Techniques in Nucleic Acid Research (½ course). (Same as Microbiology M239.) Highly recommended corequisite: course M239L. Advanced methods in characterization of genes, including sequence determination. Isolation of nucleic acids by centrifugation, chromatography, and electrophoresis, and characterization by restriction mapping and blot hybridization. Cloning in bacterial and plasmid vectors, sequence determination by the dideoxy technique, computer analysis of sequences.
Mr. Nierlich, Mr. Simpson (Sp)

M239L. Laboratory in Nucleic Acid Research (1½ courses). (Formerly numbered M239.) (Same as Microbiology M239L.) Laboratory, twelve hours. Corequisite: course M239. Laboratory in advanced methods in characterization of genes, including sequence determination. Isolation of nucleic acids by centrifugation, chromatography, and electrophoresis, and characterization by restriction mapping and blot hybridization. Cloning in bacterial and plasmid vectors, sequence determination by the dideoxy technique, computer analysis of sequences.
Mr. Nierlich, Mr. Simpson (Sp)

240. Physiology of Marine Animals (2 courses). Lecture and laboratory studies on cellular, tissue, organ, and animal physiology; regulatory biology; metabolic characteristics of cells, energy transformations. Course will be given at the *Catalina Marine Science Center.*

241. Laboratory in Advanced Electrophysiology (2 courses). Laboratory, twelve hours. Prerequisites: courses 172A-172B or equivalent and consent of instructor. In-depth involvement in individual research projects under staff guidance. Approximately two projects each quarter. May be repeated twice for credit. Mr. Eckert, Mr. O'Lague

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

243. Animal Communication. Lecture, three hours; discussion, one hour. Prerequisites: Mathematics 3C, Physics 6C, and consent of instructor. Open to qualified undergraduates by consent of instructor. Physical properties of animal signals and the physiological mechanisms underlying their generation and reception will be considered. Lectures will 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 will be discussed, with emphasis on biological adaptations for efficiently signaling species-specific information. Mr. Narins

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

246. Plant Molecular Biology. In-depth study of current issues in molecular biology as they pertain to plants. Subjects include gene expression and organization, gene engineering, organellar structure and function, nitrogen fixation, plant viruses, and others. Content varies from year to year. May be repeated for credit. Mr. Goldberg, Mr. Thornber, Ms. Tobin

247A-247E. Advanced Plant Biology. Recommended prerequisite: prior background in plant biology.

247A. Control of Growth and Development in Plants.
Ms. Tobin, Mr. Phinney

247B. Plant Genetics. Mr. Goldberg

247C. Organelle Development and Function in Plants. Ms. Gonzalez

247D. Photobiology. Mr. Thornber

247E. Plant Metabolic Pathways. Mr. Chapman

248. Laboratory Techniques in Plant Biochemistry (½ course). Laboratory, six hours. Prerequisites: Chemistry 152 or equivalent and consent of instructor. One section of course 247 must be taken concurrently. Limited enrollment. A laboratory course aimed at introducing graduate students to techniques used in plant biochemistry research.
Mr. Chapman, Mr. Thornber

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

M250A. Advanced Immunology (¾ course). (Same as Microbiology M258A and Microbiology and Immunology M258A.) Lecture, 90 minutes; discussion, 90 minutes. Prerequisite: course M185 or Microbiology and Immunology 202A or equivalent or consent of instructor. The course is designed to provide continuity between the basic immunology courses and the original research literature. The major aspects of the immune system will be intensively examined, with emphasis on fundamental principles and on advances of the past five years. Featured will be lectures dealing with the development of B and T lymphocytes, the interaction of these two lymphocyte subpopulations in the production of immunoglobulin, and cell-mediated immunity. S/U or letter grading. (F)

M250B. Advanced Immunology (¾ course). (Same as Microbiology M258B and Microbiology and Immunology M258B.) Lecture, 90 minutes; discussion, 90 minutes. Prerequisites: course M185 or Microbiology and Immunology 202A, or equivalent, and course M250A, or consent of instructor. A continuation of course M250A which will consider the fields of immunochemistry, surface membrane receptors, and lymphokines. S/U or letter grading. (W)

251. Seminar in Plant Systematics (½ course).
Mr. Thompson

M252A-M252B. Seminar in Behavioral Biology. (Same as Anthropology M228A-M228B, Education M229A-M229B, Physiology M252A-M252B, Psychiatry M291A-M291B, and Psychology M230A-M230B.) Discussion, six hours. Prerequisite: consent of instructor. Basic seminar for graduates interested in behavioral biology. An interdisciplinary course dealing with behavioral research in anthropology, biology, psychology, and the medical sciences. Proximate causation, development, and evolution in animal behavior. Physiology and the organization of behavior. Vertebrate social organization. Animal communication. The application of natural selection theory to human social behavior. In Progress grading.

253. Seminar in Plant Structure (½ course).
Mr. Phinney, Mr. D. Walker

254. Seminar in Plant Morphogenesis (½ course).
Mr. Phinney, Mr. D. Walker

255. Seminar in Invertebrate Zoology (½ course).
Mr. Morin, Mr. Muscatine

CM256. Human Genetics. (Same as Biomathematics CM256.) 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 will focus on current questions in the fields of medical and human genetics and the methodologies appropriate to answer such questions. Independent research project is required. Concurrently scheduled with course CM156. Mr. Merriam, Ms. Spence (W)

257. Gene Manipulation: Genetic Engineering. Lecture, three hours. Prerequisite: course 144 or 138 or consent of instructor. A survey of the methods and applications of recombinant DNA research as applied to both basic scientific research and the biotechnology industry. Mr. Salser

258. Seminar in Ichthyology. Discussion, two hours. Prerequisite: course 111 or 112. Student presentations and discussion of specific topics in ichthyology. Theme varies from year to year. May be repeated for credit. Mr. Buth

259. Seminar in Herpetology. 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, environmental physiology. Mr. Vitt

260. Seminar in Biology of Terrestrial Vertebrates (½ course). Mr. Bartholomew, Mr. Howell

M261. Seminar in Vertebrate Morphology (½ course). (Same as Kinesiology M292D.) Lecture, two hours. Prerequisite: course 110 or consent of instructor. Discussion of current problems in vertebrate morphology and evolution. S/U grading.
Ms. Peterson, Mr. Zernicke

262. Seminar in Vertebrate Paleontology (½ course). Mr. Vaughn

263. Seminar in Population Genetics (½ course). Seminar on topics of current interest in population genetics, such as selectionist/neutralist, sociobiology, kin selection/group selection, speciation, etc.
Mr. Taylor

264. Evolutionary Concepts (½ course). Lecture, three hours. Exploration in depth of evolutionary concepts, their diversity, biological interpretations, and impact on social and humanistic patterns of today and the past.

265. Seminar in Biophysical Plant Ecology (½ course). Mr. Nobel

266. Seminar in Plant Ecology (½ course).
Mr. Cody, Mr. Thompson

268. Seminar in Population Biology (½ course).
Mr. Cody

269. Seminar in Animal Ecology (½ course). Discussion, three hours. Advanced study of specific topics in animal ecology and related fields.

270. Seminar in Environmental Physiology (½ course). Mr. Bartholomew, Mr. Nagy

271. Seminar in Phycology and Mycology (½ course). Prerequisites: course 100 or equivalent and consent of instructor. Advanced study in biology of algae and fungi. Topics in physiological ecology, physiology, and biochemistry of algae and fungi, and their industrial uses. Algae and fungi as experimental organisms. Phylogeny and origin of eukaryote organisms. Evolutionary origin of chloroplasts.
Mr. Chapman

272. Seminar in Marine Biology (½ course).
Mr. Gordon, Mr. Morin, Mr. Muscatine

273. Seminar in Entomology (½ course). Lecture, two hours. Discussion of specific topics in entomology and related fields. The main theme varies from year to year, but usually emphasizes areas such as behavior, ecology, and evolution. S/U grading.
Mr. Greenfield

274. Seminar on Animal Behavior (½ course).
Mr. Collias

275. Seminar on Behavior Research Problems. Lecture, three hours; laboratory, two hours. Prerequisite: course 130. Mr. Kavanau

276. Seminar in Molecular Genetics (½ course). Topics vary each quarter. Mr. Salser

277. Seminar in Genetics (½ course).
Mr. Ebersold, Mr. Merriam, Mr. Siegel

278. Seminar in Information Processing in Eukaryote Cells (½ course). Discussion, three hours. Prerequisites: Chemistry 153, Biology 132, or equivalent, consent of instructor. Structure and organization of eukaryote DNA; nuclear RNA species; definition and properties of eukaryote mRNA; translation of mRNA; current related topics. Mr. Clark

279. Seminar in Developmental Biology (½ course). S/U grading. Mr. Tobin

280. Seminar on Chromosome Structure and Replication (½ course). Prerequisite: course 227. Current topics in the field of control and mechanism of DNA replication. Mr. Ray

281. Seminar in Molecular Biology (½ course).
Mr. Brunk, Mr. Fessler, Mr. Ray

M282. Major Histocompatibility Complexes: Genetics, Biochemistry, and Biology (½ course). (Formerly numbered 282.) (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 is on the murine MHC (H-2), but where appropriate and illustrative, the human MHC is discussed.
Mr. Clark (W)

283. Seminar on Topics in Cell Biology (½ course). 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 (½ course). 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. Fessler

285. Seminar in Protein Synthesis (½ course). Discussion, three hours. Prerequisite: 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 (½ course). Lecture, one hour; discussion, two hours. Prerequisites: a course in plant physiology, at least one advanced undergraduate or graduate course in plant development or biochemistry, and Chemistry 153 or equivalent. Seminar on specific topics in plant development. Content varies each quarter.
Mr. Phinney, Ms. Tobin

287. Seminar in Comparative Cell Physiology (½ course). Mr. Cascarano, Mr. James

288. Seminar on Plant Cell Biology (½ course). Recommended prerequisite: course 162.
Ms. Gonzalez

289. Seminar in Plant Physiology (½ course).
Mr. Laties

290. Seminar in Comparative Physiology (½ course). Mr. Gordon, Mr. Narins

291. Seminar in Physiology and Biochemistry of Arthropods (½ course). Mr. Engelmann

292. Seminar on Topics in Ultrastructure (½ course).

294. Seminar on Current Aspects of Photosynthesis (½ course).
Mr. Chapman, Mr. O'Lague, Mr. Thornber

295. Seminar in Neurophysiology (½ course).
Mr. Eckert, Mr. O'Lague

296. Seminar in Biological Applications of Flow Cytometry (½ course). Lecture, two hours; demonstration, one hour. Prerequisite: graduate standing or consent of instructor. Initial lecture focuses upon 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. Mr. O'Connor

297. Seminar in Molecular Endocrinology (½ course). Ms. Szego

M298. Seminar in Current Topics in Molecular Biology (½ course). (Same as Biological Chemistry M298, Chemistry M298, Microbiology M298, Microbiology and Immunology M298, and Molecular Biology M298.) Discussion, one hour. Prerequisite: consent of instructor and graduate adviser of interdepartmental Molecular Biology Ph.D. committee. Each student conducts or participates in discussions on assigned topics. May be repeated for credit.

299. Seminar in Parasitology (½ course).
Mr. MacInnis

375. Teaching Apprentice Practicum (¼ to 1 course). 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. Preparation for the Teaching of Biology in Higher Education (½ course). Prerequisites: graduate standing and consent of instructor. Study of problems and methodologies in teaching biology, which includes workshops, seminars, apprentice teaching, and peer observation. S/U grading. Mr. D. Walker

501. Cooperative Program (½ to 2 courses). Prerequisite: consent of UCLA graduate adviser and Graduate Dean and host campus instructor, department Chair, and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596. Directed Individual (or Tutorial) Studies (½ to 3 courses).

596F. Directed Individual (or Tutorial) Studies (½ to 2 courses). Directed individual (or tutorial) studies at the *Catalina Marine Science Center.*

597. Preparation for M.A. Comprehensive Examination or Ph.D. Qualifying Examination (½ to 3 courses). May not be applied toward the M.A. or Ph.D. course requirements. S/U grading.

598. M.A. Thesis Research and Writing (½ to 3 courses).

599. Ph.D. Dissertation Research and Writing (½ to 3 courses).

Business and Administration
(Interdepartmental)

A316 Murphy Hall, 825-1965

Additional Coursework for Students Interested in Business and Administration

The Program in Business and Administration is not a major, but a sequence of supplemental courses designed to prepare students for the complexities of a career in business and administration. Students complete one of the many majors in the College of Letters and Science, as well as a sequence of courses.

For example, if you are interested in international business, you might wish to major in a foreign language to become familiar with the literature and culture of other countries, and then add this program to gain a basic understanding of economics, accounting, and statistics. Other students interested in working for a governmental agency or nonprofit corporation might wish to add this program to a social science major. Students with a particular interest in accounting, banking, and finance are directed to the economics/business concentration

within the economics major. Students with an interest in a liberal arts area, who are not planning to go to graduate school, may wish to complete this program to prepare for a job in business while pursuing a major of their choice. (Note: This program may **not** be taken with any economics major.)

Completion of this program in addition to a Letters and Science major will give you the basic skills and knowledge most employers seek. Courses used to satisfy the major, breadth, or general education requirements may also be applied toward the requirements of this program. When you have successfully completed all program requirements, you will receive a certificate of completion.

For further information regarding the program, consult a counselor in the College of Letters and Science.

Chemistry and Biochemistry

3010 Young Hall, 825-4219

Professors

Frank A. L. Anet, Ph.D. *(Chemistry)*
Daniel E. Atkinson, Ph.D. *(Biochemistry)*
Mario E. Baur, Ph.D. *(Physical Chemistry)*
Kyle D. Bayes, Ph.D. *(Chemistry)*
Paul D. Boyer, Ph.D. *(Biochemistry)*
Orville L. Chapman, Ph.D. *(Chemistry)*
Donald J. Cram, Ph.D. *(Organic Chemistry)*
Richard E. Dickerson, Ph.D. *(Biochemistry)*
David S. Eisenberg, Ph.D. *(Chemistry)*
Mostafa A. El-Sayed, Ph.D. *(Chemistry)*
Paul S. Farrington, Ph.D. *(Chemistry)*
Christopher S. Foote, Ph.D. *(Chemistry)*
William M. Gelbart, Ph.D. *(Chemistry)*
M. Frederick Hawthorne, Ph.D. *(Chemistry)*
Eric J. Heller, Ph.D. *(Chemistry)*
Wayne L. Hubbell, Ph.D. *(Jules Stein Professor of Ophthalmology)*
Herbert D. Kaesz, Ph.D. *(Chemistry)*
Daniel Kivelson, Ph.D. *(Chemistry)*
Charles M. Knobler, Ph.D. *(Physical Chemistry)*
William G. McMillan, Jr., Ph.D. *(Physical Chemistry)*
John P. McTague, Ph.D. *(Chemistry)*
Malcolm F. Nicol, Ph.D. *(Physical Chemistry)*
Howard Reiss, Ph.D. *(Chemistry)*
Verne N. Schumaker, Ph.D. *(Biochemistry)*
Robert L. Scott, Ph.D. *(Physical Chemistry)*
Roberts A. Smith, Ph.D. *(Biochemistry)*
Robert V. Stevens, Ph.D. *(Chemistry)*
Kenneth N. Trueblood, Ph.D. *(Chemistry)*
Joan S. Valentine, Ph.D. *(Chemistry and Biochemistry)*
John T. Wasson, Ph.D. *(Geochemistry and Chemistry)*
Charles A. West, Ph.D. *(Biochemistry)*
Jeffrey I. Zink, Ph.D. *(Chemistry)*
Francis E. Blacet, Ph.D., D.Sc., *Emeritus*
Clifford S. Garner, Ph.D., D.Sc., *Emeritus*
E. Russell Hardwick, Ph.D., *Emeritus*
Thomas L. Jacobs, Ph.D., *Emeritus*
James D. McCullough, Ph.D., *Emeritus*

Associate Professors

Jay D. Gralla, Ph.D. *(Biochemistry)*
John M. Jordan, Ph.D. *(Biochemistry)*
Michael E. Jung, Ph.D. *(Chemistry)*
Harold G. Martinson, Ph.D. *(Biochemistry)*
Emil Reisler, Ph.D. *(Biochemistry)*
Charles E. Strouse, Ph.D. *(Chemistry)*
Richard L. Weiss, Ph.D. *(Biochemistry)*

Assistant Professors

Steven G. Clarke, Ph.D. *(Biochemistry)*
William H. Hersh, Ph.D. *(Chemistry)*
David F. Kelley, Ph.D. *(Chemistry)*
Joseph R. Murdoch, Ph.D. *(Chemistry)*
Douglas C. Rees, Ph.D. *(Biochemistry)*
Wayne J. Thompson, Ph.D. *(Chemistry)*
R. Stanley Williams, Ph.D. *(Physical Chemistry)*

Lecturers

Sandra I. Lamb, Ph.D. *(Chemistry)*
Lawrence H. Levine, Ph.D. *(Chemistry)*
Arlene A. Russell, M.S. *(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, and a second major in biochemistry which requires studies in chemistry, biochemistry, and biology. Both majors are designed to prepare students for graduate studies in the fields of chemistry and biochemistry, 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 third major, in general chemistry, 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. There is close cooperation between the Department of Chemistry and Biochemistry in the College of Letters and Science and the Department of Biological Chemistry in the School of Medicine, but students must be formally admitted into the program of one department or the other.

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 was received in a prerequisite, or if in the opinion of the department the student shows other evidence of inadequate preparation.

Transfer students with more than 84 quarter units will be accepted into the departmental majors only if they have completed the equivalent of Chemistry 11A, 11B, 11BL, 11C, 11CL, and Mathematics 31A, 31B, 32A. Recommended: organic chemistry and one year of calculus-based physics.

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 repeat a chemistry or biochemistry course if you have credit for a more advanced course which has the first course as a prerequisite.

Courses taken 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 course 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 will be limited to students who have passed the examination. The time and location of the examination will be posted on the first year chemistry bulletin board located near 1054 Young Hall about two weeks before the announced date of the examination.

Bachelor of Science in Chemistry

For students who intend to pursue a career in chemistry.

Preparation for the Major

Required: Chemistry 11A, 11B, 11BL, 11C, 11CL, 21, 23; Biochemistry 25; Physics 8A/8AL, 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 selected from 136, 144, 154, 174, 184.

Bachelor of Science in Biochemistry

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

Preparation for the Major

Required: Chemistry 11A, 11B, 11BL, 11C, 11CL, 21, 23; Biochemistry 25; Mathematics 31A, 31B, 32A, 33A; three courses (including laboratory) from Physics 6A*, 6B, 6C, 8A/8AL, 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.

The Major

Required: Chemistry 110A, 133A, 133B, 133C; Biochemistry 154, 156, 157A, 157B; plus one course from each of the following five categories: (1) Microbiology 101; (2) Biology 138, 140, 141, 153, 154, CM156, or Microbiology C111; (3) Biology 158, 162, 166, 167, or Microbiology 113; (4) one upper division or graduate-level course in biology, chemistry and biochemistry, or microbiology; (5) one upper division or graduate-level course in biology, biological chemistry, chemistry and biochemistry, mathematics, microbiology, or physics. Courses chosen to satisfy categories 4 and 5 must be approved by the undergraduate adviser (Biochemistry).

Bachelor of Science in General Chemistry

For students who wish to acquire considerable chemical background in preparation for careers outside chemistry. The requirements are accordingly quite flexible. The major may be appropriate for some students who plan to enter professional schools, such as those of medicine, dentistry, or public health.

Preparation for the Major

Required: Chemistry 11A, 11B, 11BL, 11C, 11CL, 21, 23; Biochemistry 25; Mathematics 31A, 31B, 32A, 33A; three courses (including laboratory) from Physics 6A*, 6B, 6C, 8A/8AL, 8B/8BL, 8C/8CL, 8D/8DL.

*If physics courses from both the 6 and 8 series are taken, undue duplication must be avoided.

The Major

Required: 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, UCLA, Los Angeles, CA 90024.

Admission

An excellent undergraduate record is required in addition to the University minimum requirements. Graduate Record Examination (GRE) Aptitude and Advanced Tests are recommended.

Each student admitted to graduate standing is given orientation examinations at the beginning of the first quarter in physical, organic, analytical, and inorganic chemistry or biochemistry. The main purpose of the orientation requirement is to help you and your adviser plan your course program. The examinations include material covered in upper division courses in physical, organic, and inorganic chemistry and biochemistry. All courses suggested because of deficiencies in undergraduate preparation are normally to be completed by the end of the first year.

You are encouraged to become familiar with research activities of all faculty in your area of interest and to join a research group as soon as possible. Biochemistry students will 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; *Organic* — German; *Physical* — German or French or, with consent of the research director, a substitute coordinated course in computer programming; *Inorganic* — German or a coordinated course in computer programming. (A foreign student in the M.S. program may use English as the required foreign language.) Either the 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 requirements.

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:

Organic — Chemistry 207, 232, 236, 241A-241Z, 242, C243A, C243B, 244, 245, 246
Physical — Chemistry C215A-C215B, 215C, 215D, C223A-C223B, 223C, 225
Inorganic — Chemistry 174, 207, C275, C276A, 276B, 277, 279

Substitutions may be made with consent of the area adviser. With the 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 Chemistry 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 Chemistry 597 and six units of Chemistry 228, 248, or 278 may be applied toward the graduate course requirement and the total course requirement.

Biochemistry M.S.: The M.S. in Biochemistry may be obtained by the thesis plan or the comprehensive examination plan. Course requirements vary for each plan, as follows.

Plan I (Thesis Plan): A total of 36 units is required. Of these, 20 must be at the graduate level and include a minimum of 12 units from Chemistry M253, M255, M267. Registration in Chemistry 268 is required for three quarters, but is not applicable to the 36-unit requirement.

Up to 22 units of Chemistry 596 or 598 may be applied toward the total course requirement; up to eight units may be applied toward the graduate course requirement.

After completion of course requirements, you should consult your research adviser to form a thesis committee.

Plan II (Comprehensive Examination Plan): A total of 36 units is required. Of these 20 must be at the graduate level and include a minimum of 12 units from Chemistry M253, M255, M267. You may apply six units of Chemistry 268 and six units of Chemistry 597 to the graduate course requirement and the total course requirement. With the exception of Chemistry 268 and 597, all courses must be taken on a letter grade basis.

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.

Inorganic Chemistry

(1) Required background material: Chemistry 173; (2) two courses from C276A, 276B, 277; (3) two courses from 174, 207, C275, 279; (4) two courses from physical chemistry (C213B, C215A, C215B, 215D, C223A) or organic chemistry (232, 241A-241Z, 242, C243A, C243B, 244, 245, 246) or biochemistry (157A); (5) three courses from 207, 271A-271Z, C275, C276A; (6) Chemistry 278.

Organic Chemistry

(1) Required background material: Chemistry 133A, 133B, 133C, 136, 144; (2) Chemistry C243A, C243B; (3) one course from C213B, 245, C276A (4) one additional course from physical chemistry (C215A, 221A-221Z, C223A) or inorganic chemistry (173, 174, C275, C276A) or biochemisty (157A, 157B); (5) two courses from 207, 232, 236, 241A-241Z, 242, 244, 245, 246; (6) Chemistry 248.

Physical Chemistry

(1) Required background material: Chemistry 110A, 110B, 113A; (2) Chemistry C215A, C215B, C223A, C223B; (3) two courses from 215C, 215D, 221A-221F, 223C, 225, Physics 131, 132 (or approved substitutions); (4) two additional courses from upper division or graduate offerings in chemistry or physics; (5) Chemistry 218.

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.

(1) Required background material: Chemistry 110A, 133A, 133B, 133C, 156, 157A, 157B, some coursework in the life sciences and some biochemistry laboratory experience. Deficiencies in background may be made up after admission.

(2) Core courses M253, M255, M267 (18 units).

(3) An additional 12 units of upper division or graduate courses subject to the consent of the graduate adviser. It is recommended that eight of these units be from other than biochemistry offerings. Advanced courses taken elsewhere or as an undergraduate may be substituted for some of these units in appropriate cases. Seminar courses will normally not be applicable.

(4) Chemistry 258 for three quarters.

Teaching Experience

One year of teaching experience is required.

Qualifying Examinations

Rather than a single comprehensive examination, the department gives all Ph.D. candidates a series of written tests called cumulative examinations. These are designed to encourage and test the continued growth of professional competency through coursework, study of the literature, departmental seminars, and informal discussions with colleagues.

Three examinations are given per quarter at approximately monthly intervals. If you enter directly into the Ph.D. program and perform satisfactorily on the orientation examination in your special area, you may begin writing the examinations immediately. You must begin by the start of your second quarter of residence and must continue until you have passed five. To remain in good standing, you should pass at least one of the first six examinations attempted and three out of nine. Fifteen attempts will normally be the maximum.

At the end of the first and second year, your overall progress will be 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 placed on probationary status for one quarter, during which time you will continue to take cumulative examinations with a final determination made at the end of this period, (3) be disqualifed from the Ph.D. program, or (4) 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 will be 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 and the departmental language requirements has been submitted, you will be eligible for formal advancement to candidacy for the Ph.D.

Final Oral Examination

The final oral examination is optional with the doctoral committee.

Candidate in Philosophy Degree

In conjunction with advancement to candidacy, you may request award of the C.Phil. degree.

Lower Division Courses

A. Introduction to Chemical Problem Solving (No credit). Lecture, two hours; discussion/laboratory, two hours. Chemistry A displaces four units on the student's Study List but yields no credit toward a degree. Prerequisite: either Mathematics 1A (grade of B or better) or 1B.(grade of C or better) or two years of high school mathematics (grades of B or better) or three years of high school mathematics (grades of C or better). May be limited to students who have taken the Chemistry/Mathematics Preliminary Examination. An introduction to concepts and problem solving techniques required for the study of general chemistry, including elementary aspects of the atomic picture of matter (nomenclature, atomic structure, periodic table); logarithms, exponential notation, functions and word problems arising in chemical applications. This is not an introductory course in general chemistry. P/NP grading.

2. Introductory Chemistry. Not open to students with credit for course 11A. The course is designed to meet part of the College of Letters and Science requirements for nonscience majors and similar requirements in other colleges. The course deals with the concept of the submicroscopic world of chemistry and ranges from protons to proteins in subject matter. Refer to "Requirements for the Bachelor's Degree" at the beginning of this chapter for other credit limitations on this course.

Mr. Farrington, Mr. Hardwick (F,W,Sp)

11A. General Chemistry. Lecture, four hours; discussion, one hour. Prerequisites: high school chemistry or equivalent background and three and one-half years of high school mathematics. Recommended: high school physics. Required of all majors in chemistry and biochemistry. (Students lacking the prerequisites may qualify for admission by exceptional performance on the Chemistry/Mathematics Preliminary Examination.) All students who intend to take this course must take the Chemistry/Mathematics Preliminary Examination (enrollment is usually limited to students who have passed the examination). Atomic theory and stoichiometry; states of matter and phase equilibrium; gases; liquids and solutions; acids, bases, and salts; equilibria in gases and solutions; solubility and solubility equilibria; oxidation and reduction.

Mr. Baur, Mr. Hardwick, Mr. Trueblood (F,W,Sp)

11AH. General Chemistry (Honors). Lecture, four hours; discussion, one hour. Prerequisites: high school chemistry or equivalent background and three and one-half years of high school mathematics. Recommended: high school physics. (Students lacking the prerequisites may qualify for admission by exceptional performance on the Chemistry/Mathematics Preliminary Examination.) All students who intend to take this course must take the Chemistry/Mathematics Preliminary Examination (enrollment is usually limited to students who have passed the examination). An honors course parallel to course 11A.

Mr. El-Sayed, Mr. Gelbart (F)

11B. General Chemistry. Lecture, three hours; discussion, one hour. Prerequisite: course 11A or 11AH with a grade of C – or better or consent of instructor. Thermochemistry and thermodynamics; electrochemistry; chemical kinetics; quantum theory and electronic structure of atoms; periodicity of chemical properties.

Mr. Kaesz, Mr. Nicol, Mr. Williams (F,W,Sp)

11BH. General Chemistry (Honors). Lecture, three hours; discussion, one hour. Prerequisites: course 11AH with a grade of B – or better or course 11A, and consent of instructor. An honors course parallel to course 11B.

Mr. Kivelson (W)

11BL. General Chemistry Laboratory (¼ course). Laboratory, four hours. Prerequisite: course 11A with a grade of C – or better or consent of instructor. Course 11B must be taken concurrently or must already have been passed with a grade of C – or better. Enrollment priority, if needed, will be given to those taking course 11B concurrently. Use of the balance; volumetric techniques; equilibria; thermochemistry; quantitative analysis using volumetric and potentiometric procedures; Beer's Law. (F,W,Sp)

11C. General Chemistry (¾ course). Lecture, two hours. Prerequisite: course 11B or 11BH with a grade of C – or better or consent of instructor. Bonding and molecular structure; descriptive inorganic chemistry presented in terms of the principles discussed in courses 11A and 11B.

Mr. El-Sayed, Mr. Hawthorne, Ms. Valentine (F,W,Sp)

11CH. General Chemistry (Honors) (¾ course). Lecture, two hours. Prerequisites: course 11BL with a grade of B – or better or course 11B, and consent of instructor. An honors course parallel to course 11C.

Mr. El-Sayed, Mr. McMillan (Sp)

11CL. General Chemistry Laboratory (½ course). Laboratory, eight hours. Prerequisite: course 11BL with a grade of C – or better. Course 11C must be taken concurrently or must already have been passed with a grade of C – or better. Enrollment priority, if needed, will be given to those taking course 11C concurrently. Rates of reactions; quantitative volumetric analysis; qualitative inorganic analysis; inorganic synthesis; column chromatography; colorimetric analysis. (F,W,Sp)

15. Organic Chemistry and Biochemistry for Prenursing and Kinesiology. Prerequisite: course 11A with a grade of C – or better. Recommended for students in certain areas of kinesiology and in the prenursing, prephysical therapy, and predental hygiene curricula. This course does not meet requirements for admission to medical or dental schools nor does it satisfy the requirements of any major in the College of Letters and Science other than certain areas of kinesiology. An introduction to the structures and reactions of organic compounds, particularly with respect to their roles and their transformations in living systems. (F)

15L. Chemistry Laboratory for Prenursing and Kinesiology (¼ course). Laboratory, four hours. Course 15 must be taken concurrently or must already have been passed with a grade of C – or better. This course does not meet requirements for admission to medical or dental schools. An introduction to quantitative work with aqueous solutions and to the preparation, isolation, and characterization of organic compounds, particularly some of those important in living systems. (F)

21. Organic Structure and Reactions. Prerequisites: courses 11C, 11CL (may be taken concurrently), with grades of C – or better, or consent of instructor. Structure, reactivity, and properties of organic compounds. The theory of functional groups, chemical bonds, molecular structure, and stereochemistry of organic compounds.

Mr. Cram, Mr. Hersh, Mr. Stevens (F,W,Sp)

23. Bioorganic Structure and Reactions. Lecture, three hours; discussion, one hour; laboratory, four hours. Prerequisites: courses 11CL and 21 with grades of C – or better, or consent of instructor. Organic structures and reactions of biochemical interest. The classes of compounds most important to biological functions: amino acids, carbohydrates, etc. Sulfur, phosphorous, and anhydride chemistry. Methods of separation, purification, and analysis of organic compounds: extraction, crystallization, distillation, and chromatography.

Mr. Clarke, Ms. Lamb, Mr. Stevens

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. Purification and characterization of biological macromolecules; spectrophotometry; catalysis; enzyme kinetics; gel filtration and paper chromatography; viscosity; utilization of radioisotopes.

Mr. Jordan, Mr. Rees, Mr. Weiss (F,W,Sp)

96. Special Courses in Chemistry (¼ to 1 course). To be arranged. Prerequisite: consent of undergraduate adviser (Chemistry). (F,W,Sp)

Upper Division Courses

103. Environmental Chemistry. Prerequisites: courses 21, 23, 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 8B 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 32A or 3C is very desirable.) Properties of gases; laws of thermodynamics; free energy; entropy; chemical potential and chemical equilibrium; thermodynamics of solutions.

Mr. McMillan, Mr. Reiss, Mr. Trueblood (F,W,Sp)

110B. Physical Chemistry: Chemical Equilibrium, Electrochemistry, and Kinetics. Lecture, four hours; discussion, one hour. Prerequisites: course 110A, Physics 8C. Introduction to statistical thermodynamics, kinetic theory of gases, chemical kinetics, phase equilibria, chemical equilibria in solutions, electrochemistry.

Mr. Baur, Mr. McMillan, Mr. Nicol (W,Sp)

110C. Physical Chemistry: Charges, Fields, and Matter. Prerequisite: course 110A. Topics include electromagnetic fields in matter — susceptibilities, molar polarization and refraction, multipoles, van der Waals forces; classical 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, electron, neutron, nuclear — by particles, molecules, lattices; resonance phenomena — light, EPR, NMR, NQR, Mössbauer; electrolytes — ion activity, conductivity, rate effects. Mr. McMillan

113A. Physical Chemistry: Introduction to Quantum Chemistry. Lecture, four hours; discussion, one hour. Prerequisites: course 11C, Physics 6C or 8C, Mathematics 31A, 31B, 32A, 33A. An introduction to the principles and applications of quantum chemistry; atomic structure and spectra; harmonic oscillator; rigid rotor, molecular spectra.

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

C113B. Physical Chemistry: Introduction to Molecular Spectroscopy. Lecture and quiz, five hours. Prerequisite: course 113A or equivalent. Spectroscopic applications of basic quantum chemistry, including light-matter interaction, origin of selection rules, rotation-vibration spectra, anharmonic effects, electronic spectra, Franck-Condon principle, and topics from Raman, microwave, ESR, NMR, laser spectroscopy, and radiationless transitions. May be concurrently scheduled with course C213B.

Mr. Bayes, Mr. Williams (W)

114. Physical Chemistry Laboratory. Lecture, two hours; laboratory, eight hours. Prerequisites: courses 11CL, 110A, 110B, 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. Kelley, Mr. Scott (F,W,Sp)

114H. Physical Chemistry Laboratory (Honors). Lecture, two hours; laboratory, eight hours. Prerequisites: courses 11CL, 110A, 110B, 113A, with grades of B or better, or consent of instructor. Lectures include techniques of physical measurement, error analysis and statistics, special topics. Laboratory includes topics in physical chemistry to be selected in consultation with the instructor.

Mr. Bayes, Mr. Kelley, Mr. Scott

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 will normally be expected to take course C115B the following quarter. Designed for chemistry students with a serious interest in quantum chemistry. Postulates and systematic development of nonrelativistic quantum mechanics; expansion theorems; wells; oscillators; angular momentum; hydrogen atom; matrix techniques; approximation methods; time dependent problems; atoms; spectroscopy; magnetic resonance; chemical bonding. May be concurrently scheduled with courses C215A-C215B.

Mr. El-Sayed, Mr. Gelbart, Mr. Reiss (W, C115A; Sp, C115B)

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

C123A-C123B. Classical and Statistical Thermodynamics. Lecture, four hours; discussion, one hour. Prerequisite: course 110B or 156. Recommended: course 113A. Rigorous presentation of the fundamentals of classical thermodynamics. Principles of statistical thermodynamics: probability, ensembles, partition functions, independent molecules, and the perfect gas. Applications of classical and statistical thermodynamics selected from diatomic polyatomic gases, the solid and fluid states, phase equilibria, electric and magnetic effects, ortho-para hydrogen, chemical equilibria, reaction rates, the imperfect gas, nonelectrolyte and electrolyte solutions, surface phenomena, high polymers, gravitation. May be concurrently scheduled with courses C223A-C223B.

Mr. Knobler, Mr. Scott (F, C123A; W, C123B)

125. Computers in Chemistry. Lecture, three hours. Prerequisites: courses 110A, 110B, 113A, and 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, 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. Murdoch, Mr. Thompson (F,Sp)

133AG. Intermediate Organic Chemistry (½ course). Lecture and quiz, three hours. Open only by consent of graduate adviser (Chemistry) to graduate students who have not taken course 133A at UCLA.

Mr. Anet, Mr. Murdoch, Mr. Thompson (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, mechanisms, and synthesis in organic chemistry; common classes of compounds and reactions. Laboratory includes methods of organic reactions, synthesis, isolation, and characterization.
Mr. Anet, Mr. Murdoch, Mr. Thompson (F,W)

133BG. Intermediate Organic Chemistry (½ course). Lecture and quiz, three hours. Open only by consent of graduate adviser (Chemistry) to graduate students who have not taken course 133B at UCLA.
Mr. Anet, Mr. Murdoch, Mr. Thompson (F,W)

133C. Intermediate Organic Chemistry. 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; polymers. Laboratory includes methods of organic reactions, synthesis, isolation, and characterization.
Mr. Anet, Mr. Murdoch, Mr. Thompson (W,Sp)

133CG. Intermediate Organic Chemistry (½ course). Lecture and quiz, three hours. Open only by consent of graduate adviser (Chemistry) to graduate students who have not taken course 133C at UCLA.
Mr. Anet, Mr. Murdoch, Mr. Thompson (W,Sp)

136. Organic Structural Methods. Lecture, two hours; laboratory, eight hours. Prerequisites: courses 133A, 133B, 133C, or equivalent, with grades of C – or better, or consent of instructor. A laboratory course in organic structure determination by chemical and spectroscopic methods; microtechniques.
Mr. Foote (F)

C143A. Structure and Mechanism in Organic Chemistry. Lecture, three hours; discussion, one hour. Prerequisites: courses 110B, 113A, 133C (may be taken concurrently), or equivalent, with grades of C – or better, or consent of instructor. Mechanisms of organic reactions. Acidity and acid catalysis; linear free energy relationships; isotope effects. Molecular orbital theory; photochemistry; pericyclic reactions. May be concurrently scheduled with course C243A.
Mr. Chapman

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, Mr. Stevens

144. Laboratory Methods in Organic Synthesis. Lecture, two hours; laboratory, eight hours. Prerequisite: course 133C or equivalent instruction, including spectroscopic methods of organic chemistry, with a grade of C – or better, or consent of instructor. Laboratory methods of synthetic organic chemistry, including reactions under inert atmosphere, semimicroscale reaction techniques, synthesis of natural products, and molecules of theoretical interest.
Mr. Jung (Sp)

144G. Laboratory Methods in Organic Synthesis (½ course). Consists of the lecture portion *only* of course 144. Open only by consent of graduate adviser (Chemistry) to graduate students who have not taken course 144 at UCLA and who do not wish to take the laboratory portion of course 144.
Mr. Jung

152. Biochemistry. Lecture, four hours; discussion, one hour. Prerequisite: course 25. Not open to students with credit for course 157A. Survey of biochemistry. May not be applied toward the chemistry or biochemistry major. Mr. Boyer (F)

154. Biochemical Methods. Lecture and quiz, two hours; laboratory, eight hours. Prerequisite: course 25. Recommended: course 152 or 157A. Applications of biochemical procedures to metabolic reactions; properties of living systems; enzymes; proteins; nucleic acids and other tissue constituents.
Mr. Gralla, Mr. Martinson, Mr. Reisler (F,W,Sp)

156. Physical Biochemistry. Lecture, four hours; discussion, one hour. Prerequisite: course 110A. Solution thermodynamics and electrochemistry of biochemical systems; enzyme kinetics; physical biochemistry of proteins and membranes.
Mr. Eisenberg, Mr. Reisler, Mr. Schumaker (F,Sp)

157A. Biochemistry. Lecture, four hours; discussion, one hour. Prerequisites: courses 133B (may be taken concurrently), 156. Enzymes; metabolic pathways and their integration and regulation; biological energetics. Mr. Atkinson, Mr. West (W)

157B. Biochemistry. Lecture, four hours; discussion, one hour. Prerequisite: course 157A. Biosynthetic metabolism; 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. Prerequisites: courses 110A (may be taken concurrently), 113A. Recommended: course 133B. Introductory survey of structure and bonding in inorganic compounds; molecular stereochemistry; donor-acceptor interactions; coordination compounds of the transition metals; elements of crystal field and ligand field theory.
Mr. Hawthorne, Mr. Kaesz, Mr. Zink (F,Sp)

174. Inorganic and Metalorganic Laboratory Methods. Lecture, two hours; laboratory, eight hours. Prerequisites: courses 133A, 173, or consent of instructor. Synthesis of inorganic compounds, including air-sensitive materials; dry-box, vacuum line, and high-pressure techniques; Schlenck methods; chromatographic and ion exchange separations.
Mr. Hawthorne, Mr. Kaesz (W)

C175. Inorganic Reaction Mechanics. Lecture, three hours. Prerequisites: courses 110A, 110B, and 113A, or equivalent. Survey of inorganic reactions; mechanistic principles; electronic structure of metal ions; transition-metal coordination chemistry; inner- and outer-sphere and chelate complexes; substitution, isomerization, and racemization reactions; stereochemistry; oxidation/reduction, free/radical, polymerization, and photochemical reactions of inorganic species. May be concurrently scheduled with course C275. Mr. Hawthorne, Ms. Valentine (F)

C176. Group Theory and Applications to Inorganic Chemistry. Lecture, three hours; discussion, one hour. Prerequisites: courses 113A and 173, 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 and 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 (F,Sp)

190. Undergraduate Thesis Research. Prerequisites: two quarters of course 199 on related material and consent of undergraduate adviser and research director. Final quarter of an integrated one-year research project. May consist of experimental and/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 will be made. The course is suggested, but not required, for those seeking departmental honors at graduation. (F,W,Sp)

196. Special Courses in Chemistry (¼ to 1 course). Hours to be arranged. Prerequisite: consent of undergraduate adviser (Chemistry). (F,W,Sp)

199A-199ZZ. Directed Individual Study or Research for Undergraduate Students (½ to 2 courses). To be arranged with faculty member who will direct the research. Prerequisites: advanced junior standing with a 3.0 GPA or senior standing in the major, and 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. Organometallic Chemistry. Lecture and discussion, three hours. Prerequisite: course C243A (may be taken concurrently) 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 metalloids, and the transition metals, including olefin complexes and metal carbonyls; applications in catalysis and organic synthesis.

C213B. Physical Chemistry: Molecular Spectroscopy. Lecture and quiz, five hours. Prerequisite: course 113A or equivalent. Spectroscopic applications of basic quantum chemistry, including light-matter interaction, origin of selection rules, rotation-vibration spectra, anharmonic effects, electronic spectra, Franck-Condon principle, and topics from Raman, microwave, ESR, NMR, laser spectroscopy, and radiationless transistions. An independent study project is required. May be concurrently scheduled with course C113B. Mr. Bayes, Mr. Kasper

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 135A or Physics 131 and of analytic mechanics equivalent to Physics 105A. Course C215A or Physics 115B is prerequisite to C215B. Postulates and systematic development of nonrelativistic quantum mechanics; expansion theorems; wells; oscillators; angular momentum; hydrogen atom; matrix techniques; approximation methods; time dependent problems; atoms; spectroscopy; magnetic resonance; chemical bonding. Students entering course C215A will normally be expected to take course C215B the following quarter. These two courses are designed for chemistry students with a serious interest in quantum chemistry. May be concurrently scheduled with courses C115A-C115B. Mr. Gelbart, Mr. Heller

215C. Advanced Quantum Chemistry: Applications. Prerequisites: course C215B and Physics 131, or equivalent. Topics in quantum chemistry selected from molecular structure, collision processes, theory of solids, symmetry and its applications, and theory of electromagnetic radiation.

215D. Molecular Spectra, Diffraction, and Structure. Prerequisites: course C215B and Physics 131, or equivalent. Selected topics from electronic spectra of atoms and molecules; vibrational, rotational, and Raman spectra; magnetic resonance spectra; X-ray, neutron, and electron diffraction; coherence effects.

218. Physical Chemistry Student Seminar (½ course). Seminars are presented by staff, outside speakers, postdoctoral fellows, and graduate students. May be repeated for credit. S/U grading.

221A-221Z. Advanced Topics in Physical Chemistry (½ to 1 course each). Prerequisite: consent of instructor. Each course will encompass a recognized specialty in physical chemistry, generally taught by a staff member whose research interests embrace that specialty.

C223A-C223B. Chemical Thermodynamics. Lecture, four hours; discussion, one hour. Prerequisite: course 110B or 156. Recommended: course 113A. Rigorous presentation of the fundamentals of classical thermodynamics. Principles of statistical thermodynamics: probability, ensembles, partition functions, independent molecules, and the perfect gas. Applications of classical and statistical thermodynamics selected from diatomic polyatomic gases, the solid and fluid states, phase equilibria, electric and magnetic effects, orthopara hydrogen, chemical equilibria, reaction rates, the imperfect gas, nonelectrolyte and electrolyte solutions, surface phenomena, high polymers, gravitation. May be concurrently scheduled with courses C123A-C123B.

Mr. Knobler, Mr. Scott

223C. Statistical Mechanics. 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 quantigation.

225. Chemical Kinetics. Prerequisites: courses C215A, C223A-C223B. Theories of chemical reactions and their applications to experimental systems; general kinetic postulates; theories of elementary reactions; energy transfer processes; experimental studies. Mr. Kasper (Sp)

M226. Chromosome Structure and Regulation. (Same as Biological Chemistry M226, Biology M226, and Microbiology and Immunology M226.) Lecture, three hours. Prerequisite: consent of instructor. Lectures and panel discussions on the structural and functional organization of eukaryotic chromosomes. S/U grading. Mr. Martinson, Mr. Tobin, Mr. Wall

228. Chemical Physics Seminar (½ course). Seminars are presented by staff, outside speakers, postdoctoral fellows, and graduate students. May be repeated for credit. S/U grading.

M230A. Structural Molecular Biology (½ course). (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. Eisenberg, Mr. Eiserling, Ms. Kasamatsu, Mr. Lake (F)

M230B. Structural Molecular Biology (½ course). (Same as Biology M230B.) Lecture, two hours; discussion, one hour. Prerequisites: Physics 6C, Mathematics 3C, and 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.

Mr. Eisenberg, Mr. Eiserling, Mr. Lake (W)

M230C. Structural Molecular Biology Laboratory. (Same as Biology M230C and Microbiology M230C.) Laboratory, ten 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. Eisenberg, Mr. Eiserling, Ms. Kasamatsu, Mr. Lake (F)

M230D. Structural Molecular Biology Laboratory (½ course). (Same as Biology M230D.) Laboratory, ten 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, Mr. Sweet (W)

232. Stereochemistry and Conformational Analysis. Lecture and discussion, three hours. Prerequisite: course C143 (may be taken concurrently) or consent of instructor. Molecular symmetry, chirality, prochirality, stereochemistry in vinyl polymers, atropisomerism, diastereomeric interactions in solution, conformations of acyclic and cyclic molecules.

236. Spectroscopic Methods of Organic Chemistry. Lecture and discussion, three hours. Prerequisite: course C243A (may be taken concurrently) or consent of instructor. Proton and carbon 13 nuclear magnetic resonance; photoelectron, ultraviolet, infrared, and Raman spectroscopy; optical rotatory dispersion and circular dichroism; mass spectrometry.

241A-241Z. Special Topics in Organic Chemistry (½ to 1 course each). Prerequisite: course C243A (may be taken concurrently) or equivalent or consent of instructor. Each course will encompass a recognized specialty in organic chemistry, generally taught by a staff member whose research interests embrace that specialty.

242. Organic Photochemistry. Lecture and discussion, three hours. Prerequisite: course C243A (may be taken concurrently) or consent of instructor. Interactions of light with organic molecules; mechanistic and preparative photochemistry.

C243A. Organic Chemistry: Structure and Mechanics. Lecture, three hours; discussion, one hour. Prerequisites: courses 110B, 113A, 133C (may be taken concurrently), or equivalent, with grades of C – or better, or consent of instructor. Mechanisms of organic reactions. Acidity and acid catalysis; linear free energy relationships; isotope effects. Molecular orbital theory; photochemistry; pericyclic reaction. May be concurrently scheduled with course C143A.

Mr. Chapman

C243B. Organic Chemistry: Mechanism and Structure. Lecture, three hours; discussion, one hour. Prerequisite: course C243A or consent of instructor. Mechanisms of organic reactions; structure and detection of reactive intermediates. May be concurrently scheduled with course C143B.

Mr. Chapman, Mr. Stevens

244. Strategy and Design in Organic Synthesis. Lecture and discussion, three hours. Prerequisite: course C243A (may be taken concurrently) or consent of instructor. The theory behind the planning of syntheses of complex molecules from simpler ones. Organic reactions and their use in the synthetic process. The reasoning and art involved in organic synthesis.

245. Applications of Electronic Theory in Organic Chemistry. Lecture and discussion, three hours. Prerequisite: course C243A (may be taken concurrently) or consent of instructor. A review of molecular orbital theory; introduction to alternative theoretical methods; aromaticity and homoaromaticity; Hückel and Möbius conjugation; Woodward-Hoffmann theory of concerted pericyclic reactions; the estimation of through-bond and through-space interactions; an introduction to photoelectron spectroscopy; related special topics.

246. Bioorganic Chemistry. Lecture and discussion, three hours. Prerequisite: course C243A (may be taken concurrently) or consent of instructor. Organic chemical models for biological processes; synthetic models for enzymic complexation, catalysis, and inhibition; models for transport; solid support chemistry; mechanisms for differential complexation.

247. Organic Colloquium (½ course). Seminars in organic chemistry and related areas are presented by staff, outside speakers, postdoctoral fellows, and graduate students. May be repeated for credit. S/U grading.

248. Organic Chemistry Student Seminar (½ course). Seminars are presented by staff, outside speakers, postdoctoral fellows, and graduate students. May be repeated for credit. S/U grading.

249. Problems in Advanced Organic Chemistry (½ course). Problems in organic reaction mechanisms, synthesis, structure determination, stereochemistry, spectroscopy, electronic theory, photochemistry, and organometallic chemistry are discussed, with an emphasis on current literature. Intended primarily for first- and second-year graduate students as preparation for cumulative exams. May be repeated for credit. S/U grading.

250. Topics in the Biochemistry and Molecular Biology of Animal Cells. Lecture, three hours. Prerequisites: courses 133A, 133B, 133C, or equivalent, 157A, 157B, courses in genetics and molecular biology, consent of instructor. The course will consider the structure and organization of animal cells, cell-cell contact, motility of cell and mobility of cellular components, chromosome structure, interactions between cytoplasm and nucleus, genetic analysis in higher eukaryotic cells, biochemistry of tissue development and organization.

Mr. Jordan and invited speakers

251A-251Z. Advanced Topics in Biochemistry (½ course each). Prerequisite: consent of instructor. Each course will encompass a recognized specialty in biochemistry, generally taught by a staff member whose research interests embrace that specialty.

M253. Macromolecular Structure (1½ courses). (Same as Biological Chemistry M253.) Lecture or recitation, five hours. Prerequisites: courses 110A, 156, 157A, and 157B or Biological Chemistry 101A-101B or 201A-201B, or equivalent, or consent of instructor. Chemical and physical properties of proteins, nucleic acids, and other macromolecular complexes, with emphasis on theory and methodology; correlation of structure and biological properties; chemical synthesis and properties of polypeptides and polynucleotides.

254. Advanced Biochemical Methods. Lecture and quiz, two hours; laboratory, eight hours. Prerequisite: course 156 or consent of instructor. Recommended: courses 157A and 157B (may be taken concurrently). Theoretical and practical basis of metabolic, chromatographic, kinetic, electrophoretic, ultracentrifugal, isotopic, and other techniques as applied to biochemical systems. Mr. Eisenberg, Mr. Shumaker (W)

M255. Enzymes, Metabolism, and Regulation (1½ courses). (Same as Biological Chemistry M255.) Lecture or recitation, five hours. Prerequisites: courses 110A, 156, 157A, and 157B or Biological Chemistry 101A-101B or 201A-201B, or equivalent. Recommended: course M253. Thermodynamic and kinetic aspects of metabolism; regulatory properties of enzymes; metabolic regulation; consideration of comparative aspects of metabolism in relation to physiological function; enzymic mechanisms and methods for their study.

M257. Physical Chemistry of Biological Macromolecules (½ course). (Same as Biological Chemistry M257.) Prerequisite: course 25 or 110A or consent of instructor. Theory of hydrodynamic, thermodynamic, optical, and X-ray techniques used to study the structure and function of biological macromolecules.

Mr. Schumaker (F)

257L. Hydrodynamic and Optical Characterization of Biopolymers. Lecture, two hours; laboratory, eight hours. Prerequisite: course M257 completed or concurrent. A laboratory course covering a variety of hydrodynamic and optical techniques, including an individual project dealing with sedimentation velocity, sedimentation equilibrium, buoyant density gradient centrifugation, capillary and rotating cylinder viscometry, circular dichroism, or intensity fluctuations of scattered laser light.

258. Biochemistry Student Seminar (½ course). Seminars are presented by graduate students on topics of current biochemical interest. May be repeated for credit. S/U grading.

259. Mechanisms in Regulation of Transcription. Lecture, three hours. Prerequisite: course M253 or M267 or consent of instructor. Prokaryotic operons; initiation and termination; DNA regulatory sequences and regulator protein-DNA interactions; RNA polymerases; regulation of eukaryotic transcription; hormones, differentiation, the cell cycle; role of chromatin structure in mediating regulation.

M261. Advanced Chemistry and Biochemistry of Lipids (½ course). (Same as Biological Chemistry M261.) Prerequisites: courses 157A and 157B, Biological Chemistry 101A-101B or 201A-201B, or equivalent. Knowledge of elementary chemistry and biochemistry of lipids is essential. The biochemistry of lipids, including chemical and physical characteristics of lipids and their metabolism.
Mr. Mead, Mr. Popjak

262. Biological Energy Transductions. Lecture, three hours. Prerequisite: course M253. Molecular basis of energy-transducing processes, including oxidative and photosynthetic phosphorylation, other energy-linked oxidative functions, membrane active transport, muscle contraction, and special sensory functions.

M264A-M264B-M264C. Molecular Basis of Atherosclerosis: Selected Topics (½ course each). (Formerly numbered M264.) (Same as Biological Chemistry M264A-M264B-M264C and Microbiology M264A-M264B-M264C.) Prerequisites: course M261 or equivalent and consent of instructor. The courses will cover a variety of topics concerning the biochemistry, morphology, and physiology of atherosclerosis. Emphasis will be on the chemistry of lipoproteins and the role of plasma lipoproteins in the regulation of tissue lipid metabolism and the development of atherosclerosis. Each course may be taken independently for credit.

266. Seminar in Techniques for the Study of Gene Regulation (½ course). Prerequisite: course 259 or consent of instructor. A seminar to discuss specific experimental approaches being taken in the study of gene regulation. Emphasis will be on the specific biochemical techniques being used to study regulatory protein-DNA interactions in diverse biological model systems.

M267. Macromolecular Metabolism and Subcellular Organization (1½ courses). (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. Recommended: course M253. Metabolism of nucleic acids and proteins; biosynthesis of complex lipids and polysaccharides; structure and properties of cellular organelles.

268. Biochemistry Research Seminar (½ course). Seminars are presented by staff, outside speakers, postdoctoral fellows, and graduate students on topics of current biochemical research interest. May be repeated for credit. S/U grading.

M269. Developmental Biochemistry (½ course). (Same as Biological Chemistry M269.) Lecture, two hours. Prerequisite: course M267 or consent of instructor. The course will deal with the biochemical aspects of development, specific tissue and cell function, and differential gene expression. The biochemistry of cell division, macromolecular synthesis, chromatin function in gene expression, cell-cell interactions, membrane organization, and growth will be studied as they contribute to such topics as hormone induction, morphogenesis, and viral transformation. Emphasis will be placed on the use of differentiating *in vivo* systems and cell culture as models.
Mr. Harary, Mr. Herschman

271A-271Z. Advanced Topics in Inorganic Chemistry (½ to 1 course each). Prerequisite: consent of instructor. Each course will encompass a recognized specialty in inorganic chemistry, generally taught by a staff member whose research interests embrace that specialty.

C275. Inorganic Chemistry: Reaction Mechanisms. Lecture, three hours. Prerequisites: courses 110A, 110B, and 113A, or equivalent. Survey of inorganic reactions; mechanistic principles; electronic structure of metal ions; transition-metal coordination chemistry; inner- and outer-sphere and chelate complexes; substitution, isomerization, and racemization reactions; stereochemistry; oxidation/reduction, free/radical, polymerization, and photochemical reactions of inorganic species. May be concurrently scheduled with course C175. Mr. Hawthorne

C276A. Inorganic Chemistry: Group Theory and Spectroscopy. Lecture, three hours; discussion, one hour. Prerequisites: courses 113A and 173, or equivalent. Group theoretical methods; molecular orbital theory; ligand field theory; electronic spectroscopy; vibrational spectroscopy. May be concurrently scheduled with course C176. Mr. Strouse, Mr. Zink

276B. Physical Methods for the Characterization of Inorganic Compounds. Lecture, three hours. Prerequisite: course C276A or consent of instructor. Applications of spectroscopic techniques, including 1R, Raman, visible, UV, NMR, ESR, and NQR, to the elucidation of structure and bonding in inorganic and organometallic compounds. Mr. Strouse (W)

277. Crystal Structure Analysis. Lecture, three hours. Theory and practice of modern crystallography. Course will emphasize practical experience in structure determination. Topics include crystallographic symmetry, scattering theory, data collection, Fourier analysis, heavy atom techniques, direct methods, isomorphous replacement, crystallographic refinement, error analysis, and common pitfalls.
Mr. Dickerson, Mr. Eisenberg, Mr. Strouse, Mr. Trueblood

278. Inorganic Chemistry Student Seminar (½ course). Seminars are presented by staff, outside speakers, postdoctoral fellows, and graduate students. May be repeated for credit. S/U grading.

279. Bioinorganic Chemistry. Lecture, three hours. Prerequisites: courses 110A and either 156 or 173. The role of metal ions in biology; introduction to metalloenzymes and metalloproteins; metal ion interactions with nucleic acids; metal ion metabolism.
Ms. Valentine

M298. Seminar in Current Topics in Molecular Biology (½ course). (Same as Biological Chemistry M298, Biology M298, Microbiology M298, Microbiology and Immunology M298, and Molecular Biology M298.) Discussion, one hour. Prerequisite: consent of instructor and graduate adviser of interdepartmental Molecular Biology Ph.D. committee. Each student conducts or participates in discussions on assigned topics. May be repeated for credit.

375. Teaching Apprentice Practicum (¼ to 1 course). 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 (½ to 4 courses). To be arranged with faculty member who will direct the study or research. May be repeated for credit. S/U grading.

597. Preparation for Ph.D. Qualifying Examination or M.S. Comprehensive Examination (½ to 1 course). Prerequisite: consent of graduate adviser (Chemistry). S/U grading.

598. Research for and Preparation of M.S. Thesis (½ to 4 courses). Each faculty member supervises research of M.S. students and holds research group meetings, seminars, and discussions with the students.

599. Research for and Preparation of Ph.D. Dissertation (½ to 4 courses). Each faculty member supervises research of Ph.D. students and holds research group meetings, seminars, and discussions with the students.

Chemistry/ Materials Science (Interdepartmental)

6531 Boelter Hall, 825-5534

Professors

David D. Douglass, Ph.D. *(Engineering and Applied Science)*
M. Frederick Hawthorne, Ph.D. *(Chemistry)*
Herbert D. Kaesz, Ph.D. *(Chemistry)*
John D. Mackenzie, Ph.D. *(Engineering and Applied Science)*
Malcolm F. Nicol, Ph.D. *(Physical Chemistry)*
Kanji Ono, Ph.D. *(Engineering and Applied Science)*
Howard Reiss, Ph.D. *(Chemistry)*

Associate Professor

Bruce Dunn, Ph.D. *(Engineering and Applied Science)*

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 (this is the revised calculus sequence; students who have completed 31C must complete the old sequence — 31A-31B-31C, 32A-32B-32C), Physics 8A, 8B, 8C, 8D, Engineering 10C or 10F, 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; 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 Lucia M. Rodriguez, Engineering/Materials Science, 6531 Boelter Hall.

Chicano Studies
(Interdepartmental)

3121 Campbell Hall, 825-2363

Professors
Juan Gómez-Quiñones, Ph.D. *(History)*
Amado M. Padilla, Ph.D. *(Psychology)*

Associate Professors
Leo Estrada, Ph.D. *(Architecture and Urban Planning)*
Simon González, Ph.D. *(Education)*
David López, Ph.D. *(Sociology)*
Manuel Miranda, Ph.D. *(Social Welfare)*
Raymund Paredes, Ph.D. *(English)*
Raymond Rocco, Ph.D. *(Political Science)*

Assistant Professors
Felipe Castro, Ph.D. *(Psychology)*
Guillermo Hernández, Ph.D. *(Spanish)*
Rebecca Morales, M.A. *(Architecture and Urban Planning)*
Concepción Valadez, Ph.D. *(Education)*

Lecturer
Hector Calderón, Ph.D. *(Spanish)*

Professor
Armando Morales, D.S.W., *Adjunct (Psychiatry)*

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. Special features include a field studies project, a Spring Quarter colloquium, and a guest speaker series.

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, 135P, 135Q, 136P, 138, M140, 150, 154, 166, 167, 185; Economics 110, 120, 121, 150, 151, 152, 172; English 104, 106, 171, 172, 173, 174, 188, 189, 190; History 147B, 153, 154B, 160, 162, 163; Political Science 115, 142, 149, 171, 172B, 173, 174, 181, 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 100, 103, 105, 109, 115, 117, M118, 121A, 121B, 137, 139, 141, 142A, 142B, 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.

*Course may not be used for both the major core and major concentration.

(3) **Optional Multidisciplinary Senior Thesis:** Prerequisite: senior standing. Chicano studies majors will 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 will be with the advice and consent of a faculty member. The first quarter will include thesis conceptualization and formulation, along with preliminary data collection for the thesis. The second quarter will entail completion of the data collection, analysis of the data, and termination of the thesis.

Course Limitations: No more than two 199 courses may be applied toward the major concentration; 199 courses applied toward the multidisciplinary senior thesis option may not also be applied toward the major concentration area. Registration in 199 courses must be approved in writing by the department Chair and either the Chair or adviser for the Chicano studies major. Not more than two CED courses may be applied toward the major concentration.

Upper Division Courses

M102. The Mexican-American and the Schools. (Same as Education M102.) Prerequisite: consent of instructor. Review of research and teaching strategies. Analysis of school policies and practices and their effect on the development of Mexican-American and Chicano youth and communities.
Mr. González

M105. The Chicano Experience in Literature. (Same as English M105.) Prerequisite: satisfaction of Subject A requirement. The study of literature in English by and about Chicanos. The course surveys the depiction of the Chicano experience in American literature generally and focuses on the development of Chicano literature itself, its cultural backgrounds, and distinctive uses of languages. Mr. Paredes

M145. Introduction to Chicano Literature. (Same as Spanish M145.) Discussion, three hours. Prerequisite: Spanish 25 or 26. Recommended: Spanish 121B. Introduction to texts representative of the Chicano literary heritage. The course seeks to provide a sampling of genres, as well as historical and geographic 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. A number of important scholarly and critical statements pertaining to the characteristics and development of the Chicano literary corpus are read and analyzed.
Mr. Hernández

M147. Minority Group Politics. (Same as Political Science M147.) Lecture, three hours; discussion, one hour. Prerequisites: Political Science 1 plus one of the following: one additional 140-level political science course or one upper division course on race or ethnicity from history, psychology, or sociology, or consent of instructor. A systematic evaluation of the functioning of the American polity, related to problems of race and ethnicity. Topics include leadership, organization, ideology, conventional versus unconventional political behavior, inter-minority relations, co-optation, symbolism, and repression. Mr. Rocco

M159A. History of the Chicano Peoples. (Same as History M159A.) A survey lecture course on the development of the Mexican (Chicano) community, people of Mexican descent (Indio-Mestizo-Mulato) north of the Rio through the 17th, 18th, and 19th centuries, with a 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 forces affecting the community. Deals with the social structure, economy, labor, culture, political organization, conflict, and international relations. Emphasis is on social forces, class analysis, social, economic, and labor conflict, ideas, domination and resistance. Developments are related to historical events of significance occurring both in the United States and Mexico. Course involves lectures, special presentations, reading assignments, written examinations, library and field research, and submission of a paper. Mr. Gómez-Quiñones

M159B. History of the Chicano Peoples. (Same as History M159B.) 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 a 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 are related to historical events of significance occurring both in the United States and Mexico. Course involves lectures, special presentations, reading assignments, written examinations, library and/or field research, and submission of a paper.
Mr. Gómez-Quiñones

M172T. Ethnohistory of Hispanic Cultures in the U.S. Southwest. (Same as Anthropology M172T.) Prerequisite: Anthropology 5 or 22 or consent of instructor. An ethnography of the social and cultural adaptations of the Hispanic peoples in the U.S. Southwest: their respective social organizations, economic and political institutions, sacred and secular belief systems, and expressive cultures.

Classics

7349 Bunche Hall, 825-4171

Professors
Philip Levine, Ph.D.
Bengt T.M. Löfstedt, Ph.D. *(Medieval Latin), Chair*
Jaan Puhvel, Ph.D.
Milton V. Anastos, Ph.D., *Emeritus*
Paul A. Clement, Ph.D., *Emeritus*
Albert H. Travis, Ph.D., *Emeritus*

Associate Professors
Ann L.T. Bergren, Ph.D.
Andrew R. Dyck, Ph.D.
Bernard D. Frischer, Ph.D.
Michael W. Haslam, Ph.D.
Steven Lattimore, Ph.D.

Assistant Professors
David L. Blank, Ph.D.
Thomas N. Habinek, Ph.D.
Katherine C. King, Ph.D.

Lecturers
Helen C. Caldwell, M.A., *Emeritus*
Barbara E. Killian, M.A., *Emeritus*
Evelyn Venable Mohr, M.A., *Emeritus*

Scope and Objectives

The general objective of the Classics Department is to provide a thorough knowledge of the Greek and Roman languages and culture. To this end, it offers elementary and advanced courses in the languages, the reading and analysis of Greek and Roman authors, the history of Greek and Roman literature, classical art, archaeology, mythology, and religion. The department strongly emphasizes three fields which are not commonly taught in classics departments, namely classical linguistics, medieval Latin, and Byzantine studies.

Bachelor of Arts degrees are offered in Classical Civilization, in Greek, in Latin, and in the Classics (i.e., Greek and Latin). Other undergraduate degrees include the B.A. in English/Greek and in English/Latin, offered jointly with the English Department. Students considering a major in the department should consult the adviser as soon as possible in their University career, but in no case later than the point at which they are about to take upper division courses. Graduate degrees include the Master of Arts in Classics (Greek and Latin), Greek, and Latin, and the Ph.D. in Classics.

Bachelor of Arts in Classical Civilization

The purpose of the classical civilization major is to provide a balanced, yet focused, view of the ancient civilizations of Greece and Rome, both historically unique and universally typical human creations. The approach to the subject is accordingly both causal and comparative. The areas of study include the elements of culture — religion, mythology, philosophy, art, literature, language, the socioeconomic system, and politics. The requirements of the major encourage both breadth and depth: eight of the fourteen 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 chosen to reflect your varied interests in the areas outside of your concentration. The culmination of the program will be a senior paper, written during your senior year under professorial supervision. While this major is not designed to qualify you for graduate study in classics, it does not preclude a transition to advanced study in classics or related fields.

Preparation for the Major

Required: Classics 10 and 20.

The Major

Required: (1) Classics 195 and nine upper division courses in this department, of which no more than three may be chosen from either Greek 100-130 or Latin 100-133 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

(1) Language and Society: Classics 180, three courses from either Latin 100-133 or Greek 100-130. *Related courses:* Anthropology M140, Communication Studies 100, Linguistics 100, M150, 170, Philosophy 127A, 127B, 172.

(2) Religion and Mythology: Classics 150A, 150B, 161, 162, 166A, 166B, 168. *Related courses:* Anthropology 133P, 156, English M111A, Ancient Near East 170, 171.

(3) Literature and Society: Classics 141, 142, 143, 144, 150A, 150B, 162. *Related courses:* Anthropology 133R, 150, 152, 154, M163, 185, Communication Studies 100, 142, English 109, 190, History 115A-115B-115C, 116A-116B, 117A-117B, 118, Humanities 102, C105, C107, C111, Philosophy 101A, 101B, 102, Political Science 111A, Sociology 125, 159, Theater Arts 102A, 102D.

(4) Ancient Art, Architecture, and Urbanistics: Classics 150A, 150B, 151B, 151C, 151D (new courses are under study and will be added). *Related courses:* Art 103A, 103B, 103C, 103D, 105A, Geography 151, Sociology 125, same history and anthropology courses as above under 3.

Bachelor of Arts in Greek

Preparation for the Major

Required: Greek 1, 2, 3 and Latin 1, 2, 3, or equivalent.

The Major

Required: (1) Nine upper division courses in Greek, including Greek 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 (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 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 Latin 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 (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 (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 (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 English/ Greek

Preparation for the Major

Required: English 4, 10A, 10B, 10C, Greek 1, 2, 3.

The Major

Required: (1) Seven courses selected from English 140A-190 in consultation with an adviser in the Department of English; (2) seven upper division or graduate courses in Greek, including 100 and either 101A or 101B, chosen in consultation with an adviser in the Department of Classics (of these seven courses, at least two will be in poetry and two in prose). Total courses required: 14.

Bachelor of Arts in English/ Latin

Preparation for the Major

Required: English 4, 10A, 10B, 10C, Latin 1, 2, 3.

The Major

Required: (1) Seven courses selected from English 140A-190 in consultation with an adviser in the Department of English; (2) seven upper division or graduate courses in Latin, including 105A and 113, chosen in consultation with an adviser in the Department of Classics (of these seven courses, at least two will 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 as Graduate Admissions, which may be obtained from the department 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 the 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, with 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 201-229 series in each language. The three remaining courses are to be chosen 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 of these 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 201-229 series, three additional upper division or graduate Greek courses, and two additional upper division or graduate courses to be chosen 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.) or in Greek and Latin authors (for the Classics M.A.). The examinations consist of three two-hour written tests on sight translations from Greek and prepared texts from the Greek reading list (for the Classics and Greek M.A.), sight translations from Latin and prepared passages from the Latin reading list (for the Classics and Latin M.A.), and the history of Greek and Latin literature (Greek or Latin for the Greek or Latin M.A.). The three examinations may be taken on three separate days, which need not be during the same quarter. The M.A. examinations are normally given at the beginning of each quarter. All examinations may be repeated once; in exceptional cases and with the 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 Graduate Admissions, 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 the 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 University 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 201-229 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 University Qualifying Examinations, you must complete the departmental Ph.D. reading list in either Greek or Latin authors, which is additional 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 an oral examination covering both the area of specialization and the general field of classical studies. Each examination may normally be repeated once.

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.

Candidate in Philosophy Degree

Students may receive the C.Phil. degree upon advancement to candidacy for the Ph.D.

Classics

Lower Division Courses

10. Survey of Classical Greek Culture. Lectures, many illustrated, on Greek life and culture from the age of Homer to the Roman Conquest. Discussion of art, literature, philosophy, and mythology. Knowledge of Greek is not required. Mr. Blank, Mr. Lattimore

20. Survey of Roman Civilization. A study of life and culture of Rome from the time of its foundation to the end of antiquity. A survey of art, literature, and political thought of the Romans. Selections from Latin authors are read in translation. Knowledge of Latin is not required. Mr. Blank, Mr. Habinek

M70. Survey of Medieval Greek Culture. (Same as History M70.) Classical roots and medieval manifestation of Byzantine civilization: political theory, Roman law, pagan critique of Christianity, literature, theology, and contribution to the Renaissance (including the discovery of America). Mr. Dyck

Upper Division Courses

141. A Survey of Greek Literature in English. A study of classical Greek literature, exclusive of the drama, with readings in English. Mr. Haslam, Ms. King

142. Ancient Drama. A study of the major Greek and Latin dramas in translation. Mr. Dyck, Mr. Haslam, Ms. King

143. A Survey of Latin Literature in English. A study of classical Latin literature, exclusive of the drama, with readings in English. Mr. Blank, Mr. Dyck, Mr. Frischer

144. A Survey of Greek and Roman Epic in Translation. Homer's *Iliad* and *Odyssey,* Vergil's *Aeneid,* and Ovid's *Metamorphoses* will be studied in translation. Ms. Bergren, Ms. King

150A. Origins of the Western View of Women: The Female in Greek Thought. (Formerly numbered 150.) Lecture, three hours. 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 is on how these texts lay the foundation for the Western view of women. Ms. Bergren

150B. Origins of the Western View of Women: The Female in Roman and Early Christian Thought. (Formerly numbered 150.) Lecture, three hours. Course 150A is not prerequisite to 150B. An interdisciplinary study of the concept of the female in Roman and early Christian thought. Special emphasis is on the status of the female with regard to sexuality, procreation, and the sacred. Ms. Bergren

151A. Classical Archaeology: The Aegean Bronze Age. (Formerly numbered 151D.) The course is a survey of the prehistoric art and archaeology of the Greek lands. Knowledge of Greek is not required.

151B. Classical Archaeology: Graeco-Roman Architecture. (Formerly numbered 151A.) A general introduction to the study of Aegean, Greek, and Roman architecture. Knowledge of Greek and Latin is not required. Mr. Lattimore

151C. Classical Archaeology: Graeco-Roman Sculpture. (Formerly numbered 151B.) A general introduction to the study of Aegean, Greek, and Roman sculpture. Knowledge of Greek and Latin is not required. Mr. Lattimore

151D. Classical Archaeology: Graeco-Roman Painting. (Formerly numbered 151C.) A general introduction to the study of Aegean, Greek, and Roman painting. Knowledge of Greek and Latin is not required. Mr. Lattimore

152. The Ancient City. A study of urban planning in the ancient world, with particular attention to the cities of classical Greece and Rome, but with consideration also to comparable developments in the ancient Near and Far East. There will be examination of questions of architectural space and organization, of the form, design, and function of the major municipal areas and buildings, and of the provision of public amenities by detailed reference to significant archaeological sites and contemporary sources. Mr. Frischer

161. Introduction to Classical Mythology. The origins of classical myth; the substance of divine myth and heroic saga; the place of myth in religion; a survey of the study of classical mythology. Mr. Habinek, 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. Mr. Haslam

165. Ancient Athletics. A study of ancient Greek and Roman athletics and their connections with religion, politics, literature, and art. Mr. Frischer, 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

M170A. Byzantine Civilization. (Same as History M122A.) Emphasis is on Byzantine theology. Mr. Dyck

M170B. Byzantine Civilization. (Same as History M122B.) Literature, relations with Rome, and the Renaissance. Mr. Dyck

180. Introduction to Classical Linguistics. Prerequisites: Greek 3, Latin 3. Basics of the comparative grammar of Greek and Latin in relation to one another and in the frame of Indo-European linguistics. Mr. Puhvel

195. Senior Paper. Limited to seniors in classical civilization. Supervised through individual consultation with an appropriate faculty member, students will write a research paper on a topic of their own choosing within their area of concentration in the major.

199. Special Studies in Classics (½ to 2 courses). Prerequisites: senior standing and 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 Millennia B.C. Readings in Hittite, Palaic, Luwian, Hieroglyphic, Lycian, and Lydian texts. Anatolian-Greek relationships and survivals in Classical and Hellenistic times. Mr. Puhvel

240. Etruscology. Prerequisite: consent of instructor. A survey of scholarly research on Etruscan language and culture, with analysis of epigraphic material. Mr. Puhvel

244. Textual Criticism: Studies in the Preparation of a Critical Edition of Greek and/or Latin Texts. Seminar, three hours. The student will learn the different steps that are required in the preparation of a critical edition of an ancient text: localizing the manuscripts; collation; establishing the stemma; choosing the right reading on the basis of knowledge of the context, of the language of the author, and of the sources; emendations; formulation of the *apparatus criticus* and the *apparatus fontium.* Mr. Haslam, Mr. Levine, Mr. Löfstedt

246. Greek and Latin Meter. Prerequisite: consent of instructor. A comprehensive study of meter as it functions in classical poetry. Mr. Haslam

251A. Seminar in Classical Archaeology. The Aegean Bronze Age.

251B. Seminar in Classical Archaeology. Graeco-Roman architecture. Mr. Frischer, Mr. Lattimore

251C. Seminar in Classical Archaeology. Graeco-Roman sculpture. Mr. Lattimore

251D. Seminar in Classical Archaeology. Graeco-Roman painting. Mr. Lattimore

252. Topography and Monuments of Athens. Detailed studies in the topography and monuments of Athens, combining the evidence of literature, inscriptions, and actual remains. Mr. Lattimore

253. Topography and Monuments of Rome. Detailed studies in the topography and monuments of ancient Rome, combining the evidence of literature, inscriptions, and actual remains. Mr. Frischer, Mr. Lattimore

260. Topics in Ancient Religion. Seminar, three hours. Prerequisite: consent of instructor. Ms. Bergren, Mr. Habinek, Mr. Lattimore

268. Seminar in Comparative Mythology. Prerequisites: course 168 and consent of instructor. Advanced study of selected topics in comparing Greek and Roman traditions with other ancient Near Eastern and European societies. Mr. Puhvel

287. Graduate Colloquium in Classical Literature. (Formerly numbered M287.) Reading, research, and discussion of selected topics from Greek and Roman literature. The course will supplement the regular seminars in literature which are devoted to the study of particular authors. Literary topics such as the portrayal of character, the use of myth, narrative methods, genre, and the use of poetic devices will be studied in a broader range of classical literature. May be repeated for credit. Ms. Bergren

375. Teaching Apprentice Practicum (¼ to 1 course). 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 (½ to 2 courses).

597. Study for M.A. Comprehensive Examination or Ph.D. Qualifying Examination (½ to 2 courses).

599. Research for Ph.D. Dissertation (½ to 2 courses).

Greek

Lower Division Courses

1. Elementary Greek. Lecture, five hours.

2. Elementary Greek. Lecture, five hours. Prerequisite: course 1.

3. Elementary Greek. Lecture, five hours. Prerequisite: course 2.

40. The Greek Element in English. A study of the derivation and usage of English words of Greek origin: analysis into their component elements directed toward understanding of form and meaning. Knowledge of Greek is not required. Mr. Blank

Upper Division Courses

Note: Greek 3 is prerequisite to 100. Greek 100 is prerequisite to 101A-107 and 110-124.

100. Readings in Greek Prose. Prerequisite: course 3. Plato's *Apology* or a text of comparable difficulty is read. Ms. Bergren, Mr. Habinek, 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. Theocritus. Mr. Frischer, Ms. King, Mr. Lattimore

110. The Study of Greek Prose. Work in sight reading and grammatical analysis of Attic prose texts; writing the 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

121. Plato. Mr. Blank, Mr. Frischer, Ms. King

122. Plato: *Republic*. Ms. Bergren, Mr. Blank, Mr. Haslam

123. Aristotle: *Poetics and Rhetoric*. Mr. Blank, Mr. Haslam

124. Artistotle: *Ethics*. Mr. Blank, Mr. Dyck, Mr. Frischer

130. Readings in the New Testament. Prerequisite: course 3. Mr. Dyck, Mr. Haslam

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; epigram; epistolographi Graeci. Mr. Blank, Mr. Dyck, Mr. Haslam

132. Survey of Byzantine Literature. Prerequisite: course 100. Readings will be based on (1) *Anthology of Byzantine Prose*, ed. Nigel Wilson and (2) *Oxford Book of Medieval and Modern Greek Verse*, ed. C.A. Trypanis, or if this is unavailable, *Poeti bizantini*, ed. R. Cantarella. In addition, necessary historical and cultural background will be provided by readings and lectures. Mr. Dyck

133. Readings in Byzantine Literature. Prerequisite: course 132. Topics vary from year to year and include Procopius, Agathias, Michael Psellus, the Alexiad of Anna Comnena, and Digenis Akritas. Mr. Dyck

199. Special Studies in Greek (½ to 2 courses). Prerequisites: senior standing and 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 the independent reading of Greek texts in the original. Ms. Bergren, Mr. Haslam, Ms. King

201A-201B. Homer: *Iliad*. Ms. Bergren, Mr. Haslam, Ms. King

202A-202B. Homer: *Odyssey and the Epic Cycle*. Ms. Bergren, Mr. Haslam, Ms. King

203. Hesiod. Ms. Bergren, Mr. Frischer

204. Homeric Hymns. Ms. Bergren

205. Seminar in Aeschylus. Ms. Bergren, Mr. Blank, Mr. Haslam

206A-206B. Sophocles. Mr. Haslam, Mr. Lattimore

207A-207B. Euripides. Mr. Frischer, Mr. Haslam, Ms. King

208A-208B. Aristophanes. Ms. Bergren

209. Seminar in Hellenistic Poetry. Mr. Frischer, Mr. Haslam

210. Advanced Greek Prose Composition. Prerequisite: course 110 or equivalent. Mr. Haslam

211A-211B. Herodotus. Mr. Blank

212A-212B. Thucydides. Mr. Haslam, Mr. Lattimore

213. Seminar in Greek Historiography. Mr. Haslam

214. Demosthenes. Mr. Dyck

215. Early Greek Orators. Studies in the works of Antiphon, Andocides, and Lysias. Mr. Dyck

216. Menander. Prerequisite: reading knowledge of classical Greek. Mr. Frischer, Mr. Habinek

217A. Greek Lyric Poetry: Archaic Lyric. (Formerly numbered 217.) Prerequisite: consent of instructor. A study of lyric poetry of the Archaic period, both choral and monodic, with elegiac and iambic included. Ms. Bergren, Mr. Haslam

217B. Greek Lyric Poetry: Pindar and Bacchylides. (Formerly numbered 217.) Prerequisite: consent of instructor. A study of the choral odes of Pindar and Bacchylides, with special attention to the conventions of the epinician. Ms. Bergren, Mr. Haslam

221. Seminar in the Pre-Socratic Philosophers. 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** covers the linguistic history of classical Greek. In **240B** post-classical, medieval, and modern Greek are discussed. Mr. Dyck

241. Greek Epigraphy. A survey of Greek historical inscriptions, chiefly Attic. Mr. Dyck

242. Greek Dialects 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 linguistic and cultural history. Mr. Puhvel

244. Greek Papyrology. Prerequisites: reading knowledge of Greek and consent of instructor. An introduction to Greek papyri, considered both as historical documents and as carriers of literature. Mr. Haslam

245. Greek Palaeography. 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 (½ to 2 courses).

597. Study for M.A. Comprehensive Examination or Ph.D. Qualifying Examination (½ to 2 courses).

599. Research for Ph.D. Dissertation (½ to 2 courses).

Latin

Lower Division Courses

1. Elementary Latin. Lecture, five hours.

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.

14. Elementary Latin: Intensive (2 courses). The course covers all the declensions of nouns and adjectives, all conjugations in the indicative mood, and the primary uses of the subjunctive mood. Emphasis is given to the development of the ability to read easy selections of classical prose.

40. The Latin Element in English. 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. Knowledge of Latin is not required. Mr. Lattimore

Upper Division Courses

Note: Latin 3 is prerequisite to Latin 104, 105A, 107, 111, 113. One of the latter 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. This course is normally prerequisite to other courses in the Latin 100 series.
Mr. Blank, Mr. Habinek, Mr. Levine

101. Plautus. Mr. Habinek, Mr. Löfstedt

102. Terence. Mr. Löfstedt

103. Lucretius.
Mr. Blank, Mr. Frischer, Mr. Levine

104. Ovid. Ms. Bergren

105A. Vergil: Selections from Aeneid I-VI.
Mr. Habinek, Ms. King, Mr. Levine

105B. Vergil: Advanced Course.
Mr. Frischer, Mr. Habinek, Ms. King

106. Catullus. Mr. Haslam, Mr. Levine

107. Horace: Odes and Epodes.
Mr. Frischer, Mr. Levine

108. Roman Elegy. Selections from Catullus, Tibullus, and Propertius.
Mr. Frischer, Mr. Habinek, Mr. Levine

109. Roman Satire. Selections from the *Epistles* of Horace, the *Satires* of Juvenal, and the *Epigrams* of Martial. Mr. Levine

110. The Study of Latin Prose. Work in sight reading and grammatical analysis of classical prose texts; writing of classical prose. Mr. Blank, Mr. Dyck

111. Livy. Mr. Frischer, Mr. Habinek, Mr. Löfstedt

112. Tacitus.
Mr. Frischer, Mr. Habinek, Mr. Löfstedt

113. Cicero: The Orations.
Mr. Dyck, Mr. Frischer, Mr. Habinek

114. Roman Epistolography: Cicero and Pliny.
Mr. Blank, Mr. Dyck, Mr. Frischer

115. Caesar. Mr. Dyck

116. Petronius. Mr. Löfstedt

117. Sallust.

118. Seneca. A selection of Seneca's works will be read in Latin. Mr. Blank, Mr. Habinek, Mr. Löfstedt

120. The Vulgate. Lecture, three hours. Prerequisite: course 3 or 15 or consent of instructor. Reading of selected chapters of St. Jerome's translation of the Bible. Interest is centered on unclassical features of the Latin. Mr. Löfstedt

130. Introduction to Medieval Latin. Prerequisite: course 3 or 15 or consent of instructor. Reading of easy prose texts, with interest centered on basic language training. Mr. Löfstedt

131. Medieval Latin Prose. Prerequisite: course 130 or consent of instructor. Extensive reading of selected texts in prose; interest is centered on the idiosyncrasies of medieval Latin. Mr. Löfstedt

133. Medieval Latin Poetry. Prerequisite: one upper division language course in Latin or consent of instructor. Mr. Löfstedt

199. Special Studies in Latin (½ to 2 courses). Prerequisites: senior standing and consent of instructor.

Graduate Courses

The 200-series courses which are designated A and B (e.g., 203A and 203B) are double courses. Course A is a preseminar and is normally prerequisite to course B, a seminar.

200A-200B-200C. History of Latin Literature. Prerequisite: consent of instructor. Lectures on the history of Latin literature, supplemented on the part of the student by the independent reading of Latin texts in the original. Mr. Frischer, Mr. Habinek, Mr. Levine

201. The Roman Epic Tradition. Seminar, three hours. Close study of one epic poet other than Vergil (e.g., Ennius, Lucan, Valerius Flaccus, Statius, Silius Italicus), with attention to the literary tradition of epic. May be repeated for credit with topic change.
Mr. Habinek

202. Seminar in Catullus. A detailed consideration of the entire Catullan corpus.
Ms. Bergren, Mr. Levine

203A. Elegiac Poetry. Mr. Frischer, Mr. Levine

203B. Propertius.
Mr. Frischer, Mr. Habinek, Mr. Levine

204A-204B. Vergil's Aeneid.
Mr. Habinek, Mr. Haslam, Ms. King

205. Seminar in Vergil's Bucolics.
Mr. Frischer, Mr. Habinek, 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 interest centered on language and meter.
Ms. Bergren, Mr. Habinek, Mr. Löfstedt

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.

210. Advanced Latin Prose Composition. Prerequisite: course 110 or equivalent.
Mr. Habinek, Mr. Levine

211A-211B-211C. Seminar in the Roman Historians. A study of considerable portions of the writings of:

211A. Sallust. Mr. Habinek

211B. Livy. Mr. Frischer, Mr. Habinek

211C. Tacitus. Mr. Frischer, Mr. Habinek

215. Seminar in the Roman Novel. (Formerly numbered 224.) Works such as Petronius' *Satyricon* and Apuleius' *Metamorphoses:* a study of the literary problems. May be repeated for credit with topic change. Ms. Bergren, Mr. Blank, Mr. Habinek

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. Habinek

220. Cicero's Orations. (Formerly numbered 220B.) Seminar, three hours. Mr. Dyck, Mr. Habinek

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. Habinek

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 by consent of instructor.
Mr. Löfstedt

232. Vulgar Latin. Prerequisite: consent of instructor. History and characteristics of popular Latin; its development into the early forms of the Romance languages. Mr. Löfstedt

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. Löfstedt

242. Italic Dialects and Latin Historical Grammar. Prerequisite: consent of instructor. The linguistic situation in early Italy. Readings in Oscan, Umbrian, and early Latin texts. Latin grammar in the context of Italic and Indo-European linguistics. Mr. Puhvel

243. Seminar in Latin Palaeography. Studies in the development of the book hand in Latin manuscripts earlier than the invention of printing. Mr. Levine

370. 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 (½ course). Prerequisites: appointment as a teaching assistant and consent of instructor. Methodology of instruction in conjunction with classroom practice.

596. Directed Individual Study or Research (½ to 2 courses).

597. Study for M.A. Comprehensive Examination or Ph.D. Qualifying Examination (½ to 2 courses).

599. Research for Ph.D. Dissertation (½ to 2 courses).

Related Courses in Other Departments

Ancient Near East (Near Eastern Languages) 170. Introduction to Biblical Studies

171. Old Testament: Hebrew and Septuagint Texts

272. Semitic Background of the New Testament

Art 103A. Greek Art

103B. Hellenistic Art

103C. Roman Art

223. Classical Art

History 115A-115B-115C. History of the Ancient Mediterranean World

116A-116B. History of Ancient Greece

117A-117B. History of Rome

121A-121B. Medieval Europe

123A-123B. Byzantine History

215A-215B. Seminar in Ancient History

216A-216B. Seminar in Byzantine History

222A-222B. Seminar in Medieval Intellectual History and History of Science

Indo-European Studies 132. European Archaeology: The Bronze Age

M150. Introduction to Indo-European Linguistics

210. Indo-European Linguistics: Advanced Course

280A-280B. Seminar in Indo-European Linguistics

Philosophy 101A. Plato — Earlier Dialogues
101B. Plato — Later Dialogues
102. Aristotle

Courses on Other Campuses

Exchange and resource-sharing programs make it possible for UCLA students to take classics and classics-related courses at other schools in the Southern California area (e.g., UCSB, USI, USC). The graduate and undergraduate advisers should be consulted for specific details.

Communication Studies
(Interdepartmental)

232 Royce Hall, 825-3303

Professor
Donald E. Hargis, Ph.D., *Emeritus*

Associate Professors
Patrice French, Ph.D.
Neil M. Malamuth, Ph.D.
Paul I. Rosenthal, Ph.D., *Chair*

Lecturers
I. Geoffrey Cowan, LL.B.
Diana M. Meehan, 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 upon formal and institutional communication systems and the macrocosmic social contexts in which they function; the specialization in interpersonal communication centers upon face-to-face communicative interaction in the small group environment.

Bachelor of Arts Degree

Students selecting the major in communication studies must complete the required lower division prerequisites and a minimum of 16 upper division courses as set forth below. Enrollment in the major is limited. Admission to the major will be by application to the committee in charge. Applications are available in the program office.

Preparation for the Major

Required: Communication Studies 10, Linguistics 1, Psychology 10, Sociology 1. Linguistics 2 is required for students who specialize in interpersonal communication.

The Major

Required Core Courses: Communication Studies 100 and 101 and one course from Anthropology M140, Communication Studies 102, or Linguistics 100.

Specializations

Mass Communication: (1) Theory and method — Communication Studies 140, 152, and either Communication Studies 147 or Sociology 122, and one course from Political Science 141, Psychology 137B, or Sociology 150; (2) modes of mass communication — two courses chosen from Communication Studies 160, 165, 170; (3) media and media history — two courses chosen from Journalism 192, Theater Arts 106A, 108, 110A, and either Theater Arts 116 or Communication Studies 175; (4) electives (five courses) — two courses chosen from Communication Studies 115, 120, 130, Psychology 135 or Sociology 154, Psychology 137A or Sociology 152, Sociology 155; three courses chosen from one of the following groups: (a) language theory — Communication Studies 142, 150, Linguistics 100, 170, Philosophy 172, Psychology 123; (b) American studies — English 101B, 101C, 115A, History 148A, 148B, 148C, 150A, 150B, 156A, 156B, Political Science 114A, 114B; (c) social systematics — Anthropology 133P, 133R, 135P, 142A, 142B, Sociology 144A, 144B, and either Sociology 151 or Anthropology 134.

Interpersonal Communication: (1) Theory — Psychology 135 or Sociology 154, Psychology 137A or Sociology 152; (2) methods — three courses chosen from Communication Studies 115, 120, Management 182, Psychology 174; (3) heterogeneous groups communication — three courses chosen from Anthropology 166, Communication Studies 130, Sociology 124, 155; (4) electives (five courses) — two courses chosen from Communication Studies 147 or Sociology 122, Communication Studies 140, 152, 160, 165, 170; three courses chosen from one of the following groups: (a) language theory — Communication Studies 142, 150, Linguistics 100, 170, Philosophy 172, Psychology 123; (b) media and media history — Journalism 192, Theater Arts 106A, 108, 110A, and either Communication Studies 175 or Theater Arts 116; (c) social systematics — Anthropology 133P, 133R, 135P, 142A, 142B, Sociology 144A, 144B, or either Anthropology 134 or Sociology 151.

Lower Division Course

10. Introduction to Communication Studies. An introduction to the fields of mass communication and interpersonal communication. Study of modes, media, and effects of mass communication, interpersonal processes, and communication theory.

Upper Division Courses

100. Communication Theory. Prerequisite: course 10, Linguistics 1, Sociology 1, 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

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

102. The Code of Human Communication. Prerequisite: course 10, Sociology 1, Psychology 10, Linguistics 1, or consent of instructor. The structural analysis and description of human communication codes; the development of language; characteristics of the source, channels, and destination in human communication. Ms. French

115. Dyadic Communication and Interpersonal Relationships. Prerequisite: course 100. The course will emphasize the developmental approach to the study of communication in dyadic relationships. Differences in the stages of relationships will be analyzed 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 upon the organization of and participation in problem solving discussion. 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 interethnic and interracial communications 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.

147. Mass 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. French

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. Mr. Malamuth

153. The Media and Aggression Against Women. Lecture, two hours; discussion, two hours. Prerequisite: course 152 or consent of instructor. Study of the growing body of literature on the relationship between the mass media and aggression against women. This research considers both the role of the media as reflecting cultural values and scripts and its potentially powerful role as a socializing agent of the culture. Research on the role of individual differences among members of a culture as mediators of the impact of the media are also analyzed. Mr. Malamuth

155. Communication Technology and Public Policy. 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 computer-communication networks, cellular communication systems, teleservices, high resolution television, and satellite communications.

160. Political Communication. Prerequisites: courses 100 and 101, or consent of instructor. Study of the nature and function of communication in the political sphere; analysis of contemporary and historical communications within established political institutions; state papers; deliberative discourses; electoral campaigns.

165. Agitational Communication. Prerequisites: courses 100 and 101, or consent of instructor. Theory of agitation; agitation as a force for change in existing institutions and policies in a democratic society. Intensive study of selected agitational movements and the technique and content of their communications.

170. Legal Communication. Prerequisites: courses 100 and 101, or consent of instructor. Study of the trial and appellate processes as systems of communication. Analysis of the elements of the juridical process as they affect the quality of communication content. Study of the rules of evidence, jury behavior, and the structure of legal discourse. Mr. Rosenthal

175. Criticism and the Public Arts. Prerequisite: course 10 or consent of instructor. An introduction to methods and problems of criticism in the public arts. Several types of critical methods will be studied: formalistic, analogue, pragmatic, and aesthetic criticism. Topics include the definition of art and criticism, the aesthetic media, genre and resources of film, television, theatre, and public discourse, the varieties of critical method, the problems of critical judgment.

185. Field Studies in Communication (½ course). (Formerly numbered 350.) Discussion, one hour; fieldwork, seven hours. Prerequisites: senior standing in communication studies and consent of instructor. Students participate in seminar sessions and in approved community settings. May be repeated twice for credit. P/NP grading. Ms. Gregory

197. Undergraduate Honors Proseminar. Prerequisites: senior standing, 3.5 GPA in communication studies major, and 3.3 GPA overall. Limited enrollment. Variable topic course involving specialized study of selected aspects of the field of human communication.

199. Special Studies (½ to 2 courses). To be arranged with faculty member who will direct the study. Prerequisites: senior standing and consent of instructor. A course of independent study for seniors who desire an intensive or specialized investigation of selected research topics.

199H. Special Studies for Honors Candidates (½ to 2 courses). To be arranged with faculty member who will direct the study. Prerequisites: senior and honors program standing. A course of independent study for honors undergraduates who desire an intensive or specialized investigation of selected research topics.

Comparative Literature (Interdepartmental)

334D Royce Hall, 825-7650

Professors

Michael J. B. Allen, Ph.D. *(English)*
Ehrhard Bahr, Ph.D. *(German)*
Amin Banani, Ph.D. *(Persian and History)*
Arnold J. Band, Ph.D. *(Hebrew and Comparative Literature)*
A. R. Braunmuller, Ph.D. *(English)*
Daniel G. Calder, Ph.D. *(English)*
Margherita Cottino-Jones, Ph.D. *(Italian)*
Eric Gans, Ph.D. *(French)*
Hassan el Nouty, Docteur ès Lettres *(French)*
Kenneth E. Harper, Ph.D. *(Russian Literature)*
Claude L. Hulet, Ph.D. *(Spanish and Portuguese)*
Carroll B. Johnson, Ph.D. *(Spanish)*
Richard D. Lehan, Ph.D. *(English)*
Gerardo Luzuriaga, Ph.D. *(Spanish)*
Vladimir Markov, Ph.D. *(Russian Literature)*
Maximillian E. Novak, D.Phil., Ph.D. *(English)*
Joseph N. Riddel, Ph.D. *(English)*
Ross P. Shideler, Ph.D. *(Scandinavian and Comparative Literature), Chair*
Stephen I. Yenser, Ph.D. *(English)*
Pier-Maria Pasinetti, Ph.D., *Emeritus (Italian and Comparative Literature)*

Associate Professors

Ben Befu, Ph.D. *(Oriental Languages)*
Frederick L. Burwick, Ph.D. *(English)*
Edward I. Condren, Ph.D. *(English)*
Michael Heim, Ph.D. *(Czech and Russian Literature)*
Albert D. Hutter, Ph.D. *(English)*
Robert M. Maniquis, Ph.D. *(English)*
Stephen D. Werner, Ph.D. *(French)*

Assistant Professors

Shuhsi Kao, Ph.D. *(French)*
Katherine C. King, Ph.D. *(Classics and Comparative Literature)*
Kathleen Komar, Ph.D. *(German and Comparative Literature)*
Lucia Re, Ph.D. *(Italian and Comparative Literature)*

Scope and Objectives

UCLA's graduate Comparative Literature Program makes it possible to study several literatures rather than just one. Students skilled in foreign languages may select from UCLA's range of literature courses and choose to emphasize any period or genre. In the program, students combine work on the major literary texts and traditions of their chosen literatures with the study of literary theory and criticism.

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. Graduate degree programs, leading to the Master of Arts and Ph.D. degrees in Comparative Literature, ordinarily prepare students for careers in college and university teaching and research. Like other liberal arts subjects, however, comparative literature can also serve as a foundation for careers in a variety of international activities.

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 will be 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, and submit three letters of recommendation. 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 the 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 completion of two years of language classes, by one upper division literature class, or by passing the Educational Testing Service 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 minimal course requirements. Some students will take extra courses to make up deficiencies.

(1) Four courses in Comparative Literature: course 200; one course from 201, 202, 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 10 to 15 authors in the major literature and the works of at least five 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 the first year of residence.

Major Fields or Subdisciplines

The study plan for the Ph.D. should combine the work in the major and minor literatures by focusing on a limited area in which these literatures may be explored. This area may be a literary period or a particular aspect common to several literatures (e.g., a genre like tragedy or the novel, or a phenomenon like neoclassicism or the baroque). It may also be a critical or theoretical problem, involving analyses of styles or modes of interpretation; comparisons of classical and modern genres and themes; questions about the artistic process in different art forms; or problems in literary aesthetics or epistemology.

Foreign Language Requirement

You must have literary proficiency in at least two foreign languages before taking the qualifying examination. A reading knowledge of a third foreign language is strongly recommended. Two of the three languages offered for the Ph.D. must be from different language groups (e.g., Romance and Germanic, English and Slavic). If you intend to offer three literatures written in foreign languages for your Ph.D. degree, you are expected to have literary proficiency in the three pertinent foreign languages. A classical language is usually necessary for anyone majoring in a period prior to the 19th century. The language requirements for the Ph.D. are to be fulfilled in the same way as those for the M.A. degree.

Course Requirements

All students entering with an M.A. must take a minimum of six graduate courses, and often up to 12 courses. Those whose M.A. is not in Comparative Literature at UCLA will have to take three of the required six courses in comparative literature and one from each of the major and minor literatures. Other relevant or necessary courses will be 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 courses 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. A normal reading list for the major literature consists of approximately 50 to 60 primary works. The reading list for each minor literature focuses on the period of specialization and consists of approximately 25 to 30 primary works. More information and examples of reading lists are on file in the program office.

The written examination for the major is divided into two parts, one designed to demonstrate broad historical knowledge, the other to demonstrate a more specific knowledge of your special period or problem. A three- to four-hour written examination is taken in each of the minor literatures. 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 based on the prospectus.

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

Students are eligible to receive the C.Phil. degree upon advancement to candidacy for the Ph.D.

Graduate Courses

200. The Methodology of Comparative Literature (1½ courses). 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: course 200 or equivalent. An advanced course in the theory of literature focusing upon structuralist, psychoanalytic, and Marxist approaches.

202. Problems in the Theory of Literature. Prerequisites: reading knowledge of French or German and 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" envisioned by Saussure (semiology) and Peirce (semiotics) and propounded by contemporary theorists such as Barthes, Hjelmslev, and Greimas. Ms. Kao

204. Psychoanalytic Approaches to Literature. Prerequisite: course 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, Schafer) whose work is applicable to literary theory. Mr. Hutter

C205. The Comic Spirit. Prerequisite: reading knowledge of one appropriate foreign language. May be concurrently scheduled with Humanities C105. Literary masterpieces, both dramatic and nondramatic, selected to demonstrate the varieties of comic expression. Graduate students will 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. Band

C207. The Classical Tradition: Epic. Seminar, three hours. Prerequisite: reading knowledge of Greek, Latin, or Italian. May be concurrently scheduled with Humanities C107. The *Iliad,* the *Odyssey,* the *Aeneid,* the *Gerusalemme Liberata,* and *Paradise Lost* will be analyzed both in relation to their contemporary societies and to the literary traditions. Emphasis will be on how poets build upon the work of their predecessors. Graduate students will be required to prepare papers based on texts read in the original languages and may meet as a group one additional hour each week. Ms. King

C209. The Crisis of Consciousness in Modern Literature. Prerequisite: reading knowledge of one appropriate foreign language. May be concurrently scheduled with Humanities C109. Study of modern European and American works which are concerned both in subject matter and artistic methods with the growing self-consciousness of human beings and their society, focusing on the works of Kafka, Rilke, Woolf, Sartre, and Stevens. Graduate students will be 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

C211. The Classical Tradition: Tragedy. Seminar, three hours. Prerequisite: knowledge of one appropriate foreign language, usually Greek or French. May be concurrently scheduled with Humanities C111. Analysis of selected Greek dramas and their recreations in Rome, in the Renaissance, and in the modern period. Graduate students will be required to prepare papers based on texts read in the original languages and may meet as a group one additional hour each week. Ms. King

230. Translation Workshop. Prerequisites: solid reading knowledge of at least one foreign language and consent of instructor. The theory and practice of literary translation. Analyses of significant theoretical contributions to the field. Weekly exercises in translation technique with genres, periods, and authors at the discretion of the participants. Open to qualified undergraduates with proper language preparation. Mr. Heim

C239. Early Medieval Literature. Prerequisite: reading knowledge of one appropriate foreign language. May be concurrently scheduled with Humanities C139. The course will consist of a survey of the Latin and Germanic literatures from the fall of Rome to the beginning of the 12th century. Graduate students will be required to write papers based on texts read in the original languages and may meet as a group one additional hour each week. Mr. Calder

C240. Medieval Epics. Prerequisite: reading knowledge of one appropriate foreign language. May be concurrently scheduled with Humanities C140. The seminar will consider five medieval epics: *Beowulf, El Cid, Chanson de Roland, Niebelungenlied,* and *Njalssaga.* There will be two objectives: first, a critical understanding of each work, and second, an understanding of the nature of epic literature. Assignments will consist of an extended seminar paper and short oral reports. Graduate students will be required to prepare papers based on texts read in the original languages. Mr. Condren

C241. The Literary Mediation of History in the Renaissance. Seminar, three hours. Prerequisite: reading knowledge of one appropriate foreign language. May be concurrently scheduled with Humanities C141. 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. Graduate students will be 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. May be concurrently scheduled with Humanities C145. The course offers a broad introduction to the subject matter and types of plays in the Renaissance. Historical and literary influences on the plays will be considered. Readings include works of such dramatists as Tasso, Machiavelli, Lope de Vega, Racine, Jonson, Shakespeare. Graduate students will 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. Braunmuller

C270. The Dream in English and German Romantic Literature. Lecture, three hours; discussion, one hour. Prerequisite: reading knowledge of one appropriate foreign language. May be concurrently scheduled with Humanities C170. A study of the use of the dream as a standard narrative technique in English and German Romantic literature. 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

271. Dramatic Theory and Criticism in German and English Romanticism. Prerequisite: reading knowledge of German. This seminar examines the generic conception of drama in the critical essays of the Schlegels, Tieck, Jean Paul, Coleridge, De Quincey, and Hazlitt. It gives particular attention to the role of the actor and the idea of dramatic action as discussed by the critics. Mr. Burwick

C272. The Grotesque in Romantic Literature and Art. Prerequisite: reading knowledge of one appropriate foreign language. May be concurrently scheduled with Humanities C172. A study of the grotesque in the visual and verbal arts of the Romantic period; interpretation will address the aesthetics of tragic-comic interaction, the demonic vision, and the satirical sketches of man's abnormality and perversity. Graduate students will 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

C273. Theory and Texts of the Fantastic. Seminar, three hours. Prerequisite: reading knowledge of one appropriate foreign language. May be concurrently scheduled with Humanities C173. An attempt to define the fantastic as a theoretical genre separate from the wider genre of fantasy. Critical texts by Todorov and Brooke-Rose. Primary texts by Hoffman, Nerval, James, Poe, Borges, Casares, Cortézar, Landolfi, and Calvino. Graduate students will be 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

274. The Search for Organic Forms. Prerequisite: reading knowledge of French or German. A seminar devoted to theories of the "organic" in the 18th and 19th centuries, with special emphasis on Rousseau and Goethe. A large part of the course will be given to studies of the transition made between theories of nature and theories of state. Mr. Maniquis

C275. The 19th-Century Novel. Seminar, three hours. Prerequisite: reading knowledge of French or German. May be concurrently scheduled with Humanities C175. A comparative study of the 19th-century novel in England and on the continent. Novels will be selected so as to allow the seminar to concentrate on a particular tradition or critical problem. Mr. Lehan

C276. Fiction and History. Seminar, three hours. Prerequisites: upper division standing and literature major, or consent of instructor. May be concurrently scheduled with Humanities C176. The course analyzes 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 Stendahl, Verga, Tomasi di Lampedusa, Carpentier, and Kundera. Use of fictional methods by historians may also be analyzed. Emphasis is on how aesthetic, ideological, and political factors influence the authors' choice and use of historical material. Graduate students will be required to prepare papers based on texts read in the original languages. Mr. Pasinetti, Ms. Re

C280. The Symbolist Tradition in Poetry. Prerequisite: reading knowledge of either French or German. May be concurrently scheduled with Humanities C180. A study of the symbolist tradition in 19th- and 20th-century English, French, and German poetry. Graduate students will be 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. May be concurrently scheduled with Humanities C181. A study of some of the dominant poetic trends and figures in American and European poetry in the first half of the 20th century, including such surrealists as Apollinaire and Breton, imagists, and major individual poets such as Pound, Eliot, Valery, Rilke, George, and Stevens. Graduate students will be required to prepare papers based on texts read in the original languages and may meet as a group one additional hour each week. Ms. Komar, Mr. Shideler

292. The Psychological Novel. Prerequisites: major in literature and reading knowledge of French. A comparative study of French and English novels which both precede and follow the development of psychoanalysis. Selected readings of Freud will be assigned in addition to the required fiction. Mr. Hutter

C297. The Mystery Novel. Prerequisite: reading knowledge of French. May be concurrently scheduled with Humanities C117. A study of mystery and detective fiction in England, France, and the United States. The origin, form, and historical significance of mystery fiction will be developed through close readings of selected works. Graduate students will 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. Hutter

375. Teaching Apprentice Practicum (¼ to 1 course). 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. Preparation for the Teaching of Literature and Composition (½ course). Lecture, three hours. Seminar on problems and methods of presenting literary texts as exemplary materials in the teaching of composition. The course deals with theory and classroom practice and involves individual counseling and faculty evaluation of TAs' performance. May not be applied toward the M.A. course requirements. S/U grading.

596. Directed Individual Study or Research (½ to 3 courses). Prerequisite: graduate standing in comparative literature. This course is necessary for students in comparative literature who need additional individual study and research. May be repeated for credit. S/U grading.

596X. Directed Individual Study (½ to 1 course). Preparation for foreign language examination. S/U grading.

597. Preparation for M.A. and Ph.D. Examinations (½ to 3 courses). Prerequisite: graduate standing. Preparation for the M.A. comprehensive examination or for the Ph.D. qualifying examination. May be repeated for credit. S/U grading.

599. Research for Ph.D. Dissertation (½ to 3 courses). Prerequisite: doctoral standing. Research for and preparation of the doctoral dissertation. May be repeated for credit. S/U grading.

Cybernetics
(Interdepartmental)

4731 Boelter Hall, 825-4033

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 studies in any of these areas, with emphasis on interdisciplinary activities It is also appropriate preparation for professional school studies in medicine, public health, management, dentistry, and engineering.

Bachelor of Science Degree

Preparation for the Major

Required: A minimum of 72 units (18 full courses), including Chemistry 11A, 11B, 11BL, 11C, 11CL, 21, 23; Biology 5, 7; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 6A, 6B, and 6C or 8A, 8B, and 8C; Psychology 10; Engineering 10C or 10F or Computer Science 10S. Additional recommended course lists are available in the program office and/or the College Counseling Services.

The Major

The major consists of a methodology core (five and one-half courses), a specialization area (seven courses), and a cybernetics breadth requirement (three courses).

Methodology Core: Four subject areas as follows:

(1) Two courses in probability and statistics (from one of the following groups): (a) Mathematics 152A and 152B, or (b) Mathematics 152B and either Mathematics 150A or Engineering 120A, or (c) Public Health 101A and 101B.

(2) Two courses in signals and control systems (one from each group): (a) Engineering 121A or 121C and (b) Engineering 122A or 171A.

(3) One course in modeling and computer simulation: Engineering M196B.

(4) One overview course: Engineering 196A.

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 Services.

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 chosen from the current approved list.

Minimum Standards

Admission to the major is by petition only. Each course taken in preparation for the major and in the major itself must be completed with a letter grade of C or better. Additional information concerning criteria for admission and minimum grade-point standards may be obtained from the program office or the College Counseling Services.

Diversified Liberal Arts
(Interdepartmental)

A316 Murphy Hall, 825-1965

Undergraduate Certificate Program

Diversified Liberal Arts is not a major, but a special certificate program through which you may earn a credential to teach in California elementary schools. To earn the credential, you must complete the Teacher Credential Program in the Graduate School of Education. In addition, you must either earn a satisfactory score on the Commons Section of the National Teachers Examination or complete the Diversified Liberal Arts Program (DLAP) in the College of Letters and Science.

To earn the Certificate in Diversified Liberal Arts, you must complete a major in the College of Letters and Science. You must also complete DLAP requirements in four areas: (1) English, (2) mathematics and the physical or life sciences, (3) social sciences, (4) humanities, fine arts, and foreign language.

Requirements for one of these areas will normally be satisfied by courses taken for your major; in addition, you must complete seven courses (28 units) in each of two other areas and eight courses (32 units) in a fourth area. A grade of C or better must be earned in all courses specifically required for the program (i.e., English 120A, Mathematics 38A-38B, 104, History 7A, 7B, 151A, or 151B). A C – or a Passed grade is not acceptable in these courses. A minimum C (2.0) grade-point average is required in each of the four areas.

Courses in divisions outside the major, which are required as preparation for or as part of the major, may be applied toward the area course requirements. However, no course may be applied toward more than one area. You will be expected to satisfy breadth or general education requirements of the College of Letters and Science, but courses used to satisfy these requirements may also be applied toward the Diversified Liberal Arts Program.

If you plan to pursue the Diversified Liberal Arts Program, you should begin to take courses in your freshman year that will fulfill these requirements. You must petition for admission to the program and are advised to do so as soon as possible. Transfer students may petition to have suitable courses completed at other institutions applied toward the course requirements of this program. The college will certify completion of the program.

For further information about the program, contact a counselor in the College of Letters and Science, A316 Murphy Hall (825-3382). For information regarding the Teacher Credential Program in the Graduate School of Education, see a counselor in 201 Moore Hall (825-8326).

Area 1. English

Composition and Grammar (Required): Two courses: English 120A plus one course in satisfaction of the English composition requirement. If you wish to complete the Area 1 requirements with additional composition and grammar, the courses must be chosen from English 130, Linguistics 1, 2, 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 Communication 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 and 104. Substitutions of other courses in mathematics may be made with the written consent of the Department of Mathematics and 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 selected from any courses in the physical or life sciences that satisfy breadth or general education requirements (mathematics courses may be included).

Area 3. Social Sciences

History (Required): One course from History 7A, 7B, 151A, 151B. Other courses which may satisfy the Area 3 requirement are those listed as fulfilling the social science breadth or general education requirements.

Area 4. Humanities, Fine Arts, and Foreign Language

Although there are no specific course requirements, courses applied toward this area must be selected from those courses listed as fulfilling the humanities breadth or general education requirements. The following may also be applied toward Area 4: any courses in foreign language; Dance 10A, 10B, 10C; Music 1A, 1B, 113A, 113B; Theater Arts 118A, 118B, 119.

Earth and Space Sciences

3806 Geology, 825-3880

Professors

Orson L. Anderson, Ph.D. *(Geophysics)*
Arthur L. Boettcher, Ph.D. *(Geochemistry and Geophysics)*
Friedrich H. Busse, Ph.D. *(Geophysical Fluid Dynamics)*
Donald Carlisle, Ph.D. *(Geology and Mineral Resources)*
John M. Christie, Ph.D. *(Geology)*
Paul J. Coleman, Jr., Ph.D. *(Geophysics and Space Physics)*
Wayne A. Dollase, Ph.D. *(Geology)*
W. Gary Ernst, Ph.D. *(Geology and Geophysics)*
Clarence A. Hall, Jr., Ph.D. *(Geology)*
David D. Jackson, Ph.D. *(Geophysics)*
Isaac R. Kaplan, Ph.D. *(Geology and Geochemistry)*
William M. Kaula, D.Sc. *(Geophysics), Chair*
Margaret G. Kivelson, Ph.D. *(Space Physics)*
Helen Tappan Loeblich, Ph.D. *(Paleontology and Geology)*
Robert L. McPherron, Ph.D. *(Space Physics and Geophysics)*
Clemens A. Nelson, Ph.D. *(Geology)*
Gerhard Oertel, Dr.rer.nat. *(Geology)*
John L. Rosenfeld, Ph.D. *(Geology)*
Christopher T. Russell, Ph.D. *(Space Physics)*
J. William Schopf, Ph.D. *(Paleobiology), Vice Chair*
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*
Kenneth D. Watson, Ph.D., *Emeritus*

Associate Professors

George Peter Bird, Ph.D. *(Geophysics and Geology)*
Donald J. DePaolo, Ph.D. *(Geochemistry and Geology)*
Walter E. Reed, Ph.D. *(Geology)*

Assistant Professors

Paul M. Davis, Ph.D. *(Geophysics)*
Michael J. DeNiro, Ph.D. *(Geochemistry)*
William I. Newman, Ph.D. *(Planetary Physics)*

Lecturers

Lawrence C. Bonham, Ph.D. *(Petroleum Geology)*
Robert E. Jones, B.S. *(Geology)*
Paul M. Merifield, Ph.D. *(Environmental Geology)*
Floyd F. Sabins, Jr., Ph.D. *(Geology)*
Gerhard Stummer, B.S. *(Geology)*
Takeo Susuki, D.Sc.

Professor

Alexander F. H. Goetz, Ph.D., *Adjunct (Remote Sensing)*

Associate Professor

Raymond V. Ingersoll, Ph.D., *Adjunct (Geology)*

Scope and Objectives

The disciplines of geology, geochemistry, and geophysics 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 stretching from astronomy at one extreme to biology at the other. Areas which are emphasized at UCLA include isotope and trace element analyses, petrology and mineralogy, sedimentology, paleobiology and organic geochemistry, structural geology and tectonophysics, the earth's interior, planetary physics, space plasmas, and economic geology.

The variety of techniques applied lead to several specializations within the three main disciplines. Students completing their studies with a B.S. or M.S. degree usually are employed by industry. The greatest number go to oil companies, but many are also employed in other types of mineral exploitation, construction, and environment-related activities.

Bachelor of Science in Geology

Geology Specialty

Preparation for the Major: Earth and Space Sciences 1, 2, 51A, 51B, 51C; Biology 2; Chemistry 11A, 11B/11BL, 11C/11CL; Mathematics 31A, 31B, 32A; Physics 8A, 8B/8BL, and 8C/8CL or 6B.

The Major: Earth and Space Sciences 103A, 103B, 103C, 111A, 111B, 112, 115, 121A-121B, 135; four additional courses from Earth and Space Sciences 114, 119, 122, 128A, 128B, 130, 131, 132, 133, 136C, 137, M139, 141, 144, 150.

Engineering Geology Specialty

Preparation for the Major: Earth and Space Sciences 1, 51A, 51B, 51C; Biology 2; Chemistry 11A, 11B/11BL, 11C/11CL; Mathematics 31A, 31B, 32A, 33A; Physics 8A, 8B/8BL, 8C/8CL.

The Major: Earth and Space Sciences 103A, 103B, 111A, 111B, 112, 121A-121B, 135, M139; Engineering 108, 184A, 185A, 185L; one course from Earth and Space Sciences 136C, 137, 141, 150, Geography 100, Engineering 184B, 184D.

Paleobiology Specialty

Preparation for the Major: Earth and Space Sciences 1, 2, 51A, 51B, 51C; Biology 5, 6, 6L; Chemistry 11A, 11B/11BL, 11C/11CL, 21, 23; Mathematics 31A, 31B, and 32A or 3A, 3B, and 32A.

The Major: Earth and Space Sciences 103A, 103B, 111A, 111B, 112, 115, 132; eight courses from Chemistry 25, Public Health 101A, 101B, Biology 100, 101, 102, 103, 105, 110, 111, 120, 122, 123, 164, 165, Earth and Space Sciences M117, M118, 119, 121A, 121B, 133, 141, 144.

Geochemistry Specialty

Preparation for the Major: Earth and Space Sciences 1, 51A, 51B, 51C; 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).

The Major: Earth and Space Sciences 103A, 103B, 111A, 111B, 130, 131; Chemistry 110A, 110B, 113A, 114 (or Chemistry 23 and 25 or 184 or Earth and Space Sciences 132); three courses from Earth and Space Sciences 112, 119, 121A, 121B, 128A, 128B; Chemistry 23; two earth and space sciences or chemistry courses on consent of the adviser.

Nonrenewable Natural Resources Specialty

Preparation for the Major: Earth and Space Sciences 1, 2, 51A, 51B, 51C; Biology 2; Chemistry 11A, 11B/11BL, 11C/11CL; Math-

ematics 31A, 31B, 32A; Physics 8A, 8B/8BL and 8C/8CL or 6B.

The Major: Earth and Space Sciences 103A, 103B, 103C, 111A, 111B, 112, 121A-121B, 128A or 128B, 135, 136C, 137; two courses from Earth and Space Sciences 128A or 128B, 138, M139, 141, 150.

Bachelor of Science in Geophysics

Applied Geophysics Specialty

Preparation for the Major: Earth and Space Sciences 1, 51A, 51B, 51C; Chemistry 11A; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 8A, 8B/8BL, 8C/8CL, 8D/8DL; Engineering 10F.

The Major: Earth and Space Sciences 103A, 111A, 111B, 112, 122, 136A, 136B, 136C; Physics 105A, 105B, 110A, 110B, 114; two courses from Earth and Space Sciences 101, 103B, 131, 137, M139, M154, 205, 265, Mathematics 140A-140B-140C, 152A-152B, Physics 112, 115A, 116, 131, 132, or other courses on consent of the adviser.

Geophysics and Space Physics Specialty

Preparation for the Major: Earth and Space Sciences 1, 9; Chemistry 11A, 11B/11BL, 11C/11CL; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 8A, 8B/8BL, 8C/8CL, 8D/8DL.

The Major: Earth and Space Sciences 122, M149, M154; Physics 105A, 105B, 110A, 110B, 112; Physics 131 or Mathematics 145A; three courses from Earth and Space Sciences 101, 119, 131, 136A, 136B, 150, 205, 233, Atmospheric Sciences 153, one of Mathematics 140A, 140B, or 140C; three science electives on consent of the 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 will provide guidelines in choosing upper division courses.

Qualified undergraduate students may, upon consent of their advisers and the instructor, take Earth and Space Sciences graduate courses numbered from 200A to 250.

Honors in Geology or Geophysics

The honors program in geology or geophysics is intended to provide exceptional students an opportunity for advanced research and study under the tutorial guidance of a member of the faculty. Requirements for admission to candidacy are the same as those required for admission to the Honors Program of the College of Letters and Science. Qualified students wishing to enter the program must submit a completed application form to the departmental honors committee near the end of their junior year. Honors in geology or geophysics are awarded upon 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 course 199H leading to the preparation of a satisfactory honors thesis. Students demonstrating exceptional ability will be awarded highest honors.

Graduate Study

Admission

Application may be made for admission to any quarter. Graduate Record Examination 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, UCLA, Los Angeles, CA 90024. In addition to the University application form, a separate departmental application form is required. This form, 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 March for the following academic year; completed applications should be received by February.

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), planetology (orbital dynamics, planetary interiors, surfaces and atmospheres, solar-system origin), and space physics (magnetosphere, radiation belts, solar wind, magnetic fields, cosmic rays). Other comparable areas of study are also possible.

Foreign Language Requirement

Advising committees may require one or more foreign language in special individual cases. The committee determines 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 Advanced Test may be in any appropriate field of science.

Course Requirements

A minimum of nine courses is required for the degree, at least six of which must be graduate-level courses. Each course of study is worked out individually between you and the advising committee. You are expected to attain, either through prior training or through prescribed coursework, a common mastery of the subject matter of courses 51A, 51B, 51C, 130, 131, 234B, and Chemistry 110A and 110B, as well as more advanced courses in particular fields, and some familiarity with the methods of field geology. You must take course 235A, 235B, or 235C each quarter.

Sixteen units of 500-series courses (596, 597, 598) may be applied toward the total course requirement; 12 units may be applied toward the minimum graduate course requirement.

Thesis Plan

The thesis must be approved by the research director (usually the chair of your advising committee), as well as by the other members of the advising committee. No examination is required of students who write a thesis.

Comprehensive Examination Plan

If you elect this plan, the advising committee will prepare and administer the final examination (normally oral). In most cases, a failed final examination can be repeated one additional time.

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 courses 111A and 111B, you are required to take either 195G or 111A and 111B in your first year of residence. Depending upon performance in course 195G, you may subsequently be required to take all or part of the 111 sequence.

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 will be 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 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 the first year of 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 Advanced Test scores are preferable in physics, although mathematics or geology scores are also acceptable.

Qualified students may proceed directly toward the Ph.D. degree, although most obtain the M.S. degree in the process.

Course Requirements

Courses applied toward the 36-unit minimum requirement must include courses 200A, 200B, and 200C and at least 12 additional units of 200-series (graduate) courses. At least half of these must fall within a single field of concentration (applied geophysics, earth's interior, geophysical fluid dynamics, planetology, or space physics) selected in consultation with your faculty adviser, and the remainder must contribute to your general competence in geophysics and space physics. Courses from the 500 series and courses graded on an S/U basis may not be applied toward the minimum requirement; 500-series courses also may not be applied toward any other degree requirements.

Thesis Plan

This plan is an optional alternative to the comprehensive examination plan. At least two members of the thesis committee must be from the department.

Comprehensive Examination Plan

The examination is the comprehensive part of the written qualifying examination taken by doctoral students, but the passing level for the master's degree is less rigorous. The examination is on the level of the introductory courses 200A, 200B, 200C. It lasts six hours and is given every June and December. It must be first attempted by the end of the fourth quarter of enrollment. If failed, it must be retaken the next time it is given. Permission to take it a third time may be granted by the graduate adviser in extenuating circumstances.

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 courses 51A, 51B, 51C, 130, 131, 234B, and Chemistry 110A and 110B, 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.

After passing the written qualifying examination, you must nominate your doctoral committee and arrange a time for the University Oral Qualifying Examination. This examination determines the suitability of the chosen 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.

Final Oral Examination

The final oral examination is normally required.

Candidate in Philosophy Degree

The C.Phil. degree is offered upon advancement to candidacy for the Ph.D.

Ph.D. in Geology

Admission

Admission requirements are the same as those for the M.S. in Geology.

Course Requirements

Each course of study is worked out individually in consultation with your advising committee. It may include appropriate courses offered by other departments. Unless you have already passed courses 111A and 111B, you are required to take either 195G or 111A and 111B in your first year of residence. Depending upon performance in course 195G, you may subsequently be required to take all or part of the 111 sequence. You also are expected to complete at least the minimum number of courses which are required for the M.S. in Geology and must take a geology seminar each year.

Qualifying Examinations

The departmental written qualifying examination must be taken before the end of the first year of the doctoral program if you have a master's degree; otherwise, it must be taken before the end of the second year of enrollment. It is given in either a question-answer format or in a proposal-proposition format, at your discretion. Contact the department for details of each format.

After passing the written qualifying examination, you must nominate your doctoral committee and arrange a time for the University Oral Qualifying Examination. This examination determines the suitability of the chosen problem for the dissertation and your ability to research the problem, but is not limited to these topics. Repetition of a failed examination is at the discretion of the doctoral committee.

Final Oral Examination

The final oral examination is normally required.

Candidate in Philosophy Degree

The C.Phil. degree is available upon advancement to candidacy for the Ph.D.

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 fundamental physics examinations, (2) the comprehensive 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 chosen problem for the Ph.D. dissertation and your ability to research the problem, but it 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

This examination is required.

Lower Division Courses

1. Fundamentals of Earth Science. Elements of earth science; study of earth materials; the nature and interpretation of geologic evidence; study of geologic processes; historical aspects of geology. Mr. DeNiro, Mr. Ernst, Mr. Nelson (F,W,Sp)

2. Earth History. Prerequisite: course 1. 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. Nelson, Mr. Reed (W)

3. Evolution: Solar System, Earth, Life. A nonmathematical course for the general University student. Origin and evolution of the solar system, emphasizing the planets Mercury, Venus, Earth, and Mars. Internal evolution of the earth and its geologic consequences (including oceans and atmosphere). Evolution of life; its interaction with the terrestrial environment. Mr. Ernst, Mr. Kaula, Mr. Schopf (F)

5. Earth Science and Society: Geological Ecological Interactions. 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

8. Earthquakes. The causes and effects of earthquakes, with special emphasis on the problems of living with earthquakes in Southern California. Topics include the relationship between earthquakes and local and regional geology, types of earthquakes, past and future earthquakes in California, earthquake engineering, disaster preparedness, and prospects for predicting or controlling earthquakes. Mr. Bird (Sp)

9. Origin and Evolution of the Solar System. Properties of the sun, planets, asteroids, and comets. Astronomical observations relevant to understanding the solar system and its origin. Dynamical problems, including examination of fallacious hypotheses. Meteoritic evidence regarding the earliest history of the solar system. Chemical models of the solar nebula. Space exploration and its planning. Mr. Wasson (W)

10. Geology of California. Prerequisite: course 1. General survey of major geologic features and geologic history of California; its relationship to large-scale crustal motions of Western North America and the Eastern Pacific. Environmental geology; study of geologic hazards such as earthquakes, landslides; aspects of urban geology. Mr. Nelson (Sp)

15. Introduction to Oceanography. Not open for credit to students with credit for Biology 25. Processes responsible for the chemical composition of the ocean and current circulation patterns. Seafloor spreading and morphology of the ocean floor. Biological productivity, marine ecology, and minerals forming in the ocean. Mr. DeNiro, Mr. Kaplan (F,Sp)

20. Natural History of Southern California. Identification, distribution, diversity of plants, animals, and communities; environmental factors influencing distribution in alpine to lower desert life zones. Identification, interpretation, and physical history of rocks, landforms, and structural geologic features within the physiographic regions of Southern California. Emphasis is on field-based learning related to integrated aspects of natural history. Mr. Hall

51A. Mineralogy-Petrology. Prerequisite: course 1 or consent of instructor. Recommended: completion of chemistry requirement. Mineralogic crystal chemistry; relation of physical properties to structure. Structural classification and petrogenesis of the main rock-forming minerals. Laboratory study of crystallography and identification of minerals in igneous, sedimentary, and metamorphic rocks. Mr. Ernst (F)

51B. Mineralogy-Petrology. Prerequisites: course 51A and an introductory course in high school or college physics, or consent of instructor. Principles of optical crystallography. Utilization of optical properties to identify nonopaque minerals in immersion media and in thin section. Sufficient theory is presented to understand the operations performed in the laboratory. Mr. Rosenfeld (W)

51C. Mineralogy-Petrology. Prerequisite: course 51B. Composition, occurrence, and origin of igneous, sedimentary, and metamorphic rocks; megascopic and microscopic study of rocks. (Sp)

Upper Division Courses

100. Principles of Earth Science. Designed for nonmajors. Not open to students with credit for course 1. Fundamentals of physical geology and earth history; major problems of geology, such as continental drift and development of large-scale features of the earth; physical and biological evolution. Mr. Oertel (Sp)

101. Introduction to Geophysics and Space Physics. Prerequisites: Physics 8A, 8B, 8C, Mathematics 31A, 31B, 32A. Designed primarily for students majoring in a physical science or mathematics. A survey of geophysics, the physics of the planets, their atmospheres, and the interplanetary medium, with emphasis on topics of current research interest. Mr. Davis, Mrs. Kivelson (Sp)

103A. Igneous Petrology. Lecture, two to three hours; laboratory, six hours; field trips. Prerequisites: courses 51A, 51B, 51C, Chemistry 11B, Mathematics 31B, Physics 8B. Recommended: Mathematics 32A. Mineralogy, chemical composition, and field occurrence of igneous rocks with reference to their origin by melting in 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. Mr. DePaolo (F)

103B. Sedimentary Petrology. Lecture, two to three hours; laboratory, six hours; field trips. Prerequisite: course 103A. Recommended: course 111A. Study of sedimentary rocks based on the characteristics of sedimentary particles and the dynamics of depositional processes. Lectures will focus on development of depositional facies models, and laboratories will emphasize recognition of sedimentary deposits from each major depositional facies. Mr. Reed (W)

103C. Metamorphic Petrology. Lecture, two to three hours; laboratory, six hours; field trips. Prerequisite: course 103B. Interpretation of metamorphic rocks based on field occurrence, mineralogical composition, texture, and the application of physical and chemical principles. Mr. Rosenfeld (Sp)

105. Nonrenewable Resources and Society. Lecture, three hours; discussion, two hours. Prerequisite: course 1 or 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 (Sp)

111A. Elements of Field Geology. Lecture, two hours; laboratory, three hours; field, one day per week. Prerequisites: courses 1, 2, 51C, and 112, or consent of instructor. Techniques of geologic mapping; preparation of geologic reports; methods of mapping faults and folds, sedimentary, igneous, and metamorphic terrains, and Quaternary deposits; introduction to field methods in engineering and environmental geology, petroleum geology, and mining geology and mineral exploration; interpretation of geologic maps; field exercises in pace-and-compass topographic and geologic mapping. Mr. Shreve (W)

111B. Stratigraphic and Field Geology. Prerequisite: course 111A or consent of instructor. Principles of stratigraphy; geologic mapping of a selected area; preparation of a geologic report.
Mr. Hall, Mr. Reed (Sp)

111AG-111BG. Field Geology (½ to 1 course each). Prerequisite: graduate standing or consent of instructor. Geologic mapping, principles of stratigraphy, structural geology, and map interpretation.

112. Structural Geology. Lecture, three hours; laboratory, six hours. Prerequisite: course 1 or consent of instructor. Planar and linear structures at different scales in sedimentary, metamorphic, and igneous rocks. Faults and folds, their description, classification, and dynamic analysis. Deformation, strength, fracture, and rheological properties of rocks.
Mr. Christie (F)

114. Introduction to Stress and Deformation. Lecture, three hours; discussion, three hours. Prerequisite: course 112 or consent of instructor. An introduction into 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. Principles governing the evolution and distribution of fossils; the geologic history of plants, invertebrates, and vertebrates.
Mr. Hall, Mrs. Loeblich (F,Sp)

M117. Vertebrate Paleontology. (Same as Biology M117.) Lecture, three hours; laboratory, three hours. Prerequisite: Biology 110. Recommended: a course in general geology. Limited enrollment. The fossil record of the evolution of the vertebrates, with emphasis on the morphology of primitive forms in the series from fish to mammal. Mr. Vaughn (Sp)

M118. Paleobotany. (Same as Biology M118.) Lecture, three hours; laboratory, three hours. Prerequisite: one course in biological science or consent of instructor. Recommended: course 2 or equivalent. Survey of morphology, paleobiology, and evolution of vascular and nonvascular plants during geologic time, with particular emphasis on major evolutionary events. Mr. Schopf

119. Continental Drift and Plate Tectonics. Lecture, three hours. Prerequisites: upper division standing, introductory course in geology (1, 100, 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 (W)

120. Rubey Colloquium: Major Advances in Earth Science. (Formerly numbered 120A, 120B.) Lecture, three hours. Prerequisite: upper division standing. Lectures on major advances in earth science offered by distinguished authorities (including regular faculty). 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. Mr. Ernst

121A-121B. Advanced Field Geology (1½ courses each). Fieldwork, eight weeks. Prerequisites: courses 111A, 111B, or consent of instructor. 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. (Sum)

122. Physics of the Earth. Prerequisites: Physics 8A, 8B, 8C, Mathematics 31A, 31B, 32A, 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. Davis (W)

128A. Mineral Deposits. Prerequisite: course 51C. Origin and occurrence of important mineral deposits, with emphasis on chalcophile elements and sulfide ores. (Alternates yearly with course 128B.)
Mr. Carlisle (F)

128B. Mineral Deposits. 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

130. Isotope Geochemistry. Prerequisites: junior or senior standing in physical or biological science and consent of instructor. Theoretical aspects of geochronology, particularly carbon 14 dating. Application of radioisotopes to the hydrologic cycle and to atmospheric circulation. Stable isotope distribution in nature. Exchange mechanisms and their applications to paleotemperatures, hydrology, mineral formation, and origin of biological deposits. (Alternates yearly with course 131.) Mr. Kaplan (W)

131. Geochemistry. Prerequisite: junior or senior standing in chemistry, physics, or earth and space sciences. Origin and abundance of the elements and their isotopes; distribution and chemistry 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. DePaolo

132. Principles of Biogeochemistry. Prerequisite: Chemistry 21. Organic substances as evidence for origin and biochemical evolution of life; origin and development of petroleum; comparative properties of recent and ancient sediments and application of molecular stratigraphy to modern and ancient sediments. Mr. DeNiro (W)

133. Regional Geology. Lecture, three hours; discussion, two hours. Prerequisites: courses 111A, 111B, or consent of instructor. Application of geologic, stratigraphic, paleontologic, biologic, and climatic principles to a specific province or provinces. Emphasis on tectonic evolution of selected regions.
Mr. Nelson (W)

135. Introduction to Applied Geophysics. Prerequisites: Physics 8A, 8B, 8C or 6B, Mathematics 31A, 31B, 32A, or consent of instructor. Students with credit for course 136A will not receive credit for this course. Principles and techniques of gravimetric, seismic, magnetic, and other geophysical methods of exploration for ores, petroleum, and other economic minerals. Mr. Jackson (F)

136A. Applied Geophysics. Lecture, three hours; laboratory and field trips, three hours. Prerequisites: Physics 8A, 8B, 8C, 8D, Mathematics 33A, Engineering 10F, or consent of instructor. Students with credit for course 135 will not receive credit for this course. 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 and field trips, six hours. Prerequisite: course 136A, Engineering 10F, 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, electromagnetics, magnetotellurics, magnetics. Mr. McPherron (W)

136C. Field Geophysics. (Formerly numbered 169.) Prerequisite: course 135 or 136A, Engineering 10F, or consent of instructor. Application of seismic, gravimetric, magnetic, and other geophysical methods to geologic and engineering problems. Practical aspects of geophysical exploration, including planning, data collection, data reduction, and interpretation. Fieldwork on unsolved problems (week-long field trip in fifth week). Mr. Davis, Mr. Jackson (Sp)

137. Petroleum Geology. Lecture, three hours. Prerequisites: courses 111A, 111B, or consent of instructor. Geology applied to exploration for and production of natural gas and petroleum; techniques of surface and subsurface geology; problems of petroleum geology. Mr. Bonham (Sp)

138. Mining and Exploration Geology. Prerequisite: course 51C. Geological principles applied to the exploration for and evaluation of mineral deposits; geological techniques at operating mines; mine economics; exploration geology and mineral resource economics. (F)

M139. Engineering and Environmental Geology. (Same as Architecture and Urban Planning M195.) Lecture, two and one-half hours. Prerequisite: course 1 or 100. Recommended: course 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. Mr. Merifield (F)

141. Sedimentation and Tectonics. Lecture, three hours; laboratory, four hours. Prerequisite: course 111B (may be taken concurrently) or consent of instructor. Depositional systems; stratigraphic principles; interpretation of ancient facies; basin analysis; plate tectonic settings of sedimentary basins.
Mr. Ingersoll (Sp)

144. Marine Geology. Prerequisite: senior standing. Recent marine sedimentology and geochemistry; oceanography morphology, structure and geologic history of the ocean basins. Mr. Kaplan

M149. Introduction to Fluid Dynamics. (Same as Atmospheric Sciences M149.) Lecture, three hours; discussion, two hours. Prerequisites: Physics 131, 132, or consent of instructor. Equations of fluid motion. Circulation theorems. Irrotational flow. Vortex motion. Surface and internal gravity waves. Rotating frame. Viscous flow. Mr. Schubert (F)

150. Remote Sensing for Earth Sciences. Open to upper division and graduate students. Remote sensing related to the development of natural resources. Characteristics of the electromagnetic spectrum and review of remote sensing devices. Applicability to land use classification, soil survey, urban studies, vegetation classification; emphasis on geologic interpretation of imagery. Mr. Sabins (W)

M154. Solar Terrestrial Physics. (Same as Atmospheric Sciences M154.) Lecture, three hours; discussion, one hour. Prerequisite or corequisite: Physics 110B. Particle and electromagnetic emissions from the sun under quiet and under disturbed conditions. The solar wind. The magnetospheres and the ionospheres of the earth and other planets. Geomagnetic phenomena. Aurora and airglow.
Mr. Venkateswaran (F)

190. Earth and Space Sciences Colloquium (½ course). Prerequisite for nonmajors: consent of instructor. Current topics of research in the Department of Earth and Space Sciences. May be repeated for credit. P/NP grading. Mr. Rosenfeld (W)

195G. Field Geology for Graduate Students (½ course). Field mapping; preparation of a geologic report. P/NP grading. Mr. Reed (F)

199. Special Studies in Earth and Space Sciences (½ to 2 courses). May be repeated for credit.

199H. Honors Research in Earth and Space Sciences. Prerequisites: senior standing and consent of departmental honors committee. Individual research designed to broaden and deepen the student's knowledge of some phase of earth and space sciences.

Graduate Courses

200A. Introduction to Geophysics and Space Physics I: The Solid Earth and Planets. Lecture, three hours. Prerequisites: Physics 105A, 110A, 112A, and 131A, or consent of instructor. Geochemistry, cosmochemistry, and petrology; geotectonics; gravity field; seismology; heat transfer, thermal and mechanical evolution of the mantle; the core and geomagnetism; lunar and planetary interiors.
Mr. Bird (F)

200B. Introduction to Geophysics and Space Physics II: Oceans and Atmospheres. Lecture, three hours. Prerequisites: Physics 105A, 110A, 112A, and 131A, 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. Newman (W)

200C. Introduction to Geophysics and Space Physics III: Plasmas — Aeronomy and the Interplanetary Medium. Lecture, three hours. Prerequisites: Physics 105A, 110B, 112A, and 131A, 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)

201. Classical Mechanics. Kinematics, variational principles and Lagrange's equations, rotational dynamics. Hamilton equations of motion, linear and nonlinear perturbation theory, applications to the solar system. Mr. Kaula (Sp, alternate years)

202. Continuum Mechanics. Kinematics and dynamics of continuous media. Properties of stress, strain, and rate-of-strain tensors. Conservation laws. Rotating systems, boundary layers, and dynamical similarity. Mr. Busse (F)

203. Electrodynamics. Prerequisite: upper division electromagnetic theory course or consent of instructor. Maxwell's equations and boundary conditions; momentum, angular momentum, and energy of electromagnetic fields; plane electromagnetic and magnetohydrodynamic waves; wave guides, simple radiating systems, and diffraction. Mrs. Kivelson (W)

204. Time-Series Analysis and Spectral Estimation. Lecture, three hours. Prerequisites: intermediate courses in calculus (including linear algebra and complex variables) and computer programming (including Fortran). The course will survey basic methods in time-series analysis, including spectral estimation, prediction, and signal detection, in application to problems in geophysics, atmospheric physics, and space physics. Topics include Fourier transforms (continuous, discrete, FFT), time series (Z-transforms, deconvolution), maximum entropy spectral analysis, autoregressive and moving average methods (AR, MA, ARMA), and multichannel prediction and spectral analysis. Mr. Newman (F)

205. Inverse Theory and Data Interpretation. Lecture, three hours. Prerequisites: Mathematics 115, 150A, 150B, and 150C, or consent of instructor. The course addresses the inverse modeling problem — to determine model parameters consistent with experimental data, considering the effects of random errors and nonuniqueness. Linear and quasi-linear problems will be emphasized, but nonlinear problems will be discussed. Tools to be used include matrix theory, quadratic forms, orthogonal rotations, statistics, the principal axis transformation for rectangular matrices, Backus-Gilbert resolving kernels, and Lagrange multipliers. Examples will be taken from a broad range of physical sciences. Mr. Jackson (W)

208. Geothermics. Lecture, two and one-half hours; discussion, one-half hour. 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 sedimentary basins, frictional heating on fault zones, mantle geotherms, temperature in descending slabs, thermal convection in geothermal regions. Mr. Schubert (W)

210. Advanced Paleontology. Prerequisite: course 115 or advanced standing in biological science. Lectures will emphasize evolutionary, ecological, stratigraphic, and taxonomic aspects of fossil invertebrates. Fieldwork and laboratory will be devoted to a research project and written report. Content varies from year to year. May be repeated for credit.

M211. Hydrodynamic Instabilities and Turbulence. (Same as Mathematics M263.) An introduction to the theories of hydrodynamic instability and the nonstatistical description of turbulence; stability bounds by the energy method; linear theory of instability; finite amplitude theories of post-instability flows; bounds on properties of turbulent flows by variational techniques. Mr. Busse (alternate years)

212. Paleoecology. Prerequisite: course 115 or advanced standing in biological science. How and where animals and plants lived in the past; study of habits and habitats of animals, changes in habits and habitats, and the distribution of animals through time and space. Content varies from year to year. May be repeated for credit. Mr. Hall (W)

214. Geophysical Fluid Dynamics. Prerequisite: consent of instructor. Dynamics of stationary and transient motions in rotating systems; Ekman boundary layer theory; inertial oscillations; B-plane approximation; Rossby waves; theory of thermally induced motions; applications to flow phenomena in planetary atmospheres, in the oceans, and in the earth's core. Mr. Busse (Sp, alternate years)

215. Paleobiology of Plant Microorganisms. Prerequisite: course 115 or advanced standing in biological science. Survey of morphology, evolution, and diversification, environmental interactions, and stratigraphic value of bacteria, algae, and fungi, with emphasis on dinoflagellates and acritarchs, chrysomonads, silicoflagellates, ebridians and diatoms, discoasters, and coccolithophorids. (Alternates yearly with course 216.) Mrs. Loeblich (F)

216. Micropaleontology. 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 foraminiferans, radiolarians, chitinozoans, tintinnids, ostracods, scolecodonts, and conodonts. (Alternates yearly with course 215.) Mrs. Loeblich

219. Planetary and Orbital Dynamics. Solar system dynamical evolution; figure and gravitational field of a planet; satellite orbits; earth-moon system evolution; rotational dynamics, including effects of non-rigidity and energy dissipation. Mr. Kaula

220. Principles of Paleobiology. Prerequisite: graduate standing in science. Open to qualified undergraduates in biological and physical sciences by consent of instructor. Current and classic problems in paleobiology, with emphasis on interdisciplinary problems involving aspects of biology, geology, organic geochemistry, and cosmology. Content varies from year to year. May be repeated for credit. Mr. Schopf

222. Introduction to Seismology. Types of seismic waves; travel-time seismology; epicenter location; amplitude variations; seismograph theory; explosion seismology; seismicity; focal conditions; surface wave analysis; microseisms and tsunamis. Mr. Davis

M224A. Elastic Wave Propagation I. (Same as Mechanics and Structures M257A.) Prerequisite: Engineering 158A or 166 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; attentuaton; representative applications in engineering and seismology. Mr. Mal (F)

M224B. Elastic Wave Propagation II. (Same as Mechanics and Structures 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. Mal (W, even years)

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; variations of density and temperature with depth; thermal and compositional evolution. Mr. Anderson, Mr. Boettcher (W)

225B. Physics and Chemistry of Planetary Interiors II. Lateral inhomogeneities in the earth: seismic velocities, petrology, geothermal and gravitational variations; evidences of motion; remanent magnetism, seismic motions; post-glacial 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 (Sp, approximately every third year)

227. Resource Evaluation Field Methods. Prerequisites: courses 111B and 128A or 128B or 138, or consent of instructor. Techniques of mapping, sampling, appropriate laboratory studies, economic or socio-economic evaluation of a variety of nonrenewable natural sources; preparation of reports. Mr. Carlisle

228. Planetary Magnetism. Prerequisite: consent of instructor. Description and analysis of the magnetic fields of the earth and planets. Origin and history of the earth's magnetic field: core dynamics, dynamo theory, paleomagnetism. Mr. Busse (W)

229. Planetary Atmospheres. Lecture, three hours. Prerequisite: course 200B or consent of instructor. The course will survey planetary atmospheric structure, dynamics, and composition. Topics include 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. Prerequisite: course 51C. Point, translation, and space group symmetry, diffraction of X-ray, reciprocal lattice theory, single crystal X-ray methods, diffraction symmetry and elementary crystal structure analysis. (Alternates yearly with course 231.) Mr. Dollase

231. Crystal Chemistry and Structure of Minerals. Prerequisite: course 51C. Bonding, interatomic configurations, polymorphic transformations, isotypism, 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 (Sp)

233. Mineral Physics and Equation of State. Prerequisite: consent of instructor. Interrelationship of the physical properties of rock-forming minerals: optical reflectivity, refraction index, sound velocity, elastic constants, specific heat, and thermal expansivity. Determination of pressure, volume, and temperature relationships and planet-forming compounds. Variation of elastic constants with temperature and pressure. Application of shock-wave experiments to equations of state. Mr. Anderson

234A. Thermodynamic and Geometric Principles of Phase Equilibria. Prerequisites: course 51C and Chemistry 110B, or consent of instructor. Thermodynamic bases of phase transformations and of phase rules. Geometric representation of multicomponent systems using pressure, temperature, chemical potential, molal volume, and the fugacity of oxygen, water, and other volatile components as variable parameters. Mr. Boettcher (Sp)

234B. Petrologic Phase Equilibria. Prerequisites: 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 solutions, element partitioning in coexisting phases). Mr. Ernst (W)

235A-235B-235C. Current Research in Geochemistry (¼ course each). Prerequisite: graduate standing in earth and space sciences. Seminars presented by staff, outside speakers, and graduate students stressing current research in earth and planetary chemistry. May be repeated for credit. S/U grading.

236. Igneous Petrology. (Formerly numbered 236A, 236B.) Lecture, two hours; laboratory, six hours. Prerequisites: an introductory course in petrology and petrography and knowledge of differential equations. Understanding the genesis of igneous rocks based on geochemical, tectonophysical, and other geological evidence and principles.
Mr. Boettcher, Mr. DePaolo, Mr. Ernst

238. Metamorphic Petrology. Lecture, three hours; laboratory, six hours. Prerequisite: an introductory course in petrology and petrography or consent of instructor. Interpretation of metamorphic rocks in the light of observation, theory, and experiment. Geological relations, petrographic evidence, metamorphic zoning, thermodynamics of phase equilibria, projections, chemographic relationships, use of piezobirefringent 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 (F)

239. Structural Petrology of Deformed Rocks. Prerequisites: courses 51C, 112. Recommended: courses 245A-245B, 249. Use of universal stage. Microscopic study of textures, structures, and preferred orientations of minerals in tectonites. Deformation mechanisms in crystals and aggregates. Theories of development of preferred orientation. Application of experimental data to the interpretation of microfabrics. (Alternates yearly with course 249.)
Mr. Christie

240. Space Plasma Physics. Prerequisite: course 203 or Physics 210A. The physics of plasmas in space, including treatments based on magnetohydrodynamics and kinetic theory. Applications to solar or planetary winds; steady-state magnetospheres; magnetospheric convection; substorm processes; magnetic merging; field-aligned currents and magnetosphere-ionosphere coupling; ring current dynamics; and wave particle instabilities. Mrs. Kivelson

241. Sedimentary Petrology. Prerequisite: course 51C. Recommended: course 141. Texture, composition, structure, and modes or origin of the sedimentary rocks. Content varies from year to year.
Mr. Reed

245A-245B. Stress and Deformation. Lecture, three hours. Prerequisites: Physics 8A, 8B, Mathematics 32A, 32B, or consent of instructor. Recommended: Mathematics 33A and 115. 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, every third year)

246. Stress in the Lithosphere. Prerequisite: course 202 or 245A or Engineering 108 or consent of instructor. Overcoring, hydrofracture, fault plane solutions, seismic stress drops; effects of erosion, cooling, earth ellipticity, topography, and density anomalies. State of stress in plate boundaries and interiors. Application of finite element and analytic methods to stress determination. Mr. Bird (alternate years)

247. Glaciology. Prerequisite: course 245A or equivalent or consent of instructor. Occurrence and classification of glaciers; accumulation and ablation; glacier budget; mechanical properties of ice; glacier flow; crevasses; textural and structural features; thermal relationships; bed slip; climatic response; catastrophic advances. Mr. Shreve (F, every third year)

248. Advanced Structural Geology. Lecture, three hours; discussion, two hours. Prerequisites: courses 111A, 111B. Principles governing fracture, folding, and flow rocks; solutions of structural problems at various scales; regional tectonic problems.
Mr. Christie, Mr. Oertel

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 (Sp)

250. Dynamics of the Solar Wind. Parker's hydrodynamic solution and spiral magnetic field model; effects of magnetic field and solar rotation; shock waves, discontinuities, small amplitude wave propagation, large-scale structure; interaction with the moon, planets, and interstellar medium, stellar winds and stellar spindown. Mr. Coleman (W)

251. Seminar in Mineralogy. Examination of groups of rock-forming minerals (e.g., feldspars), integrating such aspects as crystal structure, crystal chemistry, phase equilibria, and petrogenesis. Mr. Dollase

252. Seminar in Geochemistry. Phase equilibria under crustal conditions, chemistry of ocean waters, recent and ancient sediments, structure and chemistry of the upper mantle, geochronology, cosmochronology, and cosmochemistry.

253. Seminar in Petrology. Problems of igneous or metamorphic petrology: methods of evaluating physical conditions of metamorphism; diffusion in mineralogic systems; origin of ultramafic rocks and problems of the mantle; element fractionation among coexisting phases; other current subjects in the field. S/U or letter grading. Mr. Rosenfeld

254. Seminar in Sedimentology. Processes of sediment transport and deposition; deep sea sediments; deltas and estuaries; petrology of carbonates, sandstones, and lutites; stratigraphy; paleoenvironmental studies. Mr. Reed (F)

255. Seminar in Structural Geology and Tectonics. Flow and fracture in the earth's crust from microscopic to continental scale and in experiments. Examples may include metamorphic terranes, glaciers, plutons, volcanoes, and consolidated or unconsolidated sediments. Modern concepts of the oceanic basins; processes leading to segregation of continental-type rocks. Mr. Oertel

256. Seminar in Glaciology and Geomorphology. Glacier physics, theoretical geomorphology, river mechanics, statistical models. Mr. Shreve

257. Seminar in Paleontology. Current biogeologic literature and research on evolution of selected groups of animals and plants, numerical taxonomy, organism-environmental relationships, origin and development of life, biostratigraphy, paleoecology, biogeography, and biostatistics. Mrs. Loeblich (Sp)

258. Seminar in Mineral Deposits. Problems of distribution, composition, and formation of mineral deposits; mineral economics; investigations of opaque minerals by microscopic or other techniques.
Mr. Carlisle (W)

259. Seminar in Advanced Topics in Geology (½ to 1 course). Topics vary. May be repeated for credit.

260. Seminar in Geological Physics (½ to 1 course). Problems of current interest in geological physics, including topics related to impact cratering processes, mechanisms of volcano eruption, high pressure properties of materials, and thermodynamics of crystals.

261. Topics in Magnetospheric Plasma Physics. Lectures, discussions, and exercises on specific advanced topics in magnetospheric plasma physics. Previous courses have examined magnetic storms, magnetospheric substorms, ultra-low frequency waves, and adiabatic particle motion in the earth's radiation belts.

265. Instrumentation, Data Processing, and Data Analysis in Space Physics. Principles, testing, and operations of magnetometers and other instruments. Data processing, display, and archiving. Time-series analysis techniques, including filtering. Fourier series, eigenanalysis, and power spectra.
Mr. McPherron

268. Seminar in Resource Analysis. Prerequisite: consent of instructor. Geological, geophysical, economic, and technological factors in studies of optimum use of mineral and energy resources. Seminars will emphasize different mineral or energy sources from time to time.

282. Seminar in Geophysics. 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.

284. Seminar in Mineral Physics and Rock Physics (½ to 1 course). Prerequisite: course 233 or 234A. Seminar for students interested in rock physics, mineral physics, and aspects of seismology and petrology. Students present seminars in their research topics. Topics include equations of state, acoustic properties of minerals under pressure, dielectric properties of minerals, properties of the earth's deep mantle and core, compression of porous aggregates, fracture dynamics, lattice dynamics of low symmetry crystals, laboratory analogs of earthquakes. Mr. Anderson

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

286A-286B-286C. Seminar in Planetology (½ course each). Problems of current interest concerning the moon, planets, and meteorites. May be repeated for credit. S/U grading.

287A-287B-287C. Seminar in Seismology and the Earth's Interior (½ course each). Problems of current interest in seismology and the earth's interior. May be repeated for credit. S/U grading.

288A-288B-288C. Seminar in Space Physics (½ course each). Problems of current interest concerning particles and fields in space. May be repeated for credit. S/U grading.

289A-289B-289C. Seminar in Fluid Dynamics (½ course each). Problems of current interest in fluid dynamics, with emphasis on geophysical applications. May be repeated for credit. S/U grading.

290. Seminar in Time-Series Analysis (½ course). Discussion of recent research in spectral estimation, filtering, and signal detection applied to geophysical problems. S/U grading. Mr. Jackson

295. Earth and Space Sciences Colloquium (¼ to ½ course). Reading and discussion in the frontiers of earth and space sciences.

297. Advanced Techniques in Geological Research (½ to 1 course). S/U grading.

298. Topics in Earth and Space Sciences (½ to 1 course).

375. Teaching Apprentice Practicum (¼ to 1 course). 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 (½ to 2 courses). Prerequisite: consent of UCLA graduate adviser and Graduate Dean and host campus instructor, department Chair, and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596. Directed Individual Study and/or Research (½ to 3 courses). May be repeated. S/U or letter grading.

597. Preparation for M.S. Comprehensive Examination or Ph.D. Qualifying Examination (½ to 2 courses). S/U grading.

598. M.S. Research and Thesis Preparation (½ to 3 courses). May be repeated. S/U grading.

599. Ph.D. Research and Dissertation Preparation (½ to 3 courses). S/U grading.

East Asian Studies
(Interdepartmental)

9381 Bunche Hall, 825-3078

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; Oriental Languages 1A-1B-1C or 9A-9B-9C or a parallel Cantonese sequence; Oriental Languages 11A-11B-11C or 19A-19B-19C. Students planning to pursue classical Chinese in the major will need Oriental Languages 13A-13B-13C in addition to the above courses.

The Major

This consists of three parts:

(1) Four courses from Anthropology 175S, Asian American Studies 100A, 100B, Geography 186, History 161, 182A, 182B, 182C, 183, 184, 187A, 187B, 187C, Political Science 135, 136, 159, 160, Sociology 134.

(2) Five courses from the following: any upper division courses in the social sciences listed above not being used to satisfy that requirement; any upper division courses in the Department of Oriental Languages 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 114B, 114C, C115B, C115C; Dance 140B, 145; Music 140B, 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 Oriental Languages 170A, 170B, Anthropology 112*, 115Q*, 115R*; (b) *geography:* Geography 132 or 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, 187A, 187B, 187C, 190A, 190B, 197 when in the East Asian field); (d) *political science:* Political Science 115* and three courses from Political Science 135, 136, 159, 160, 161, C197 when in the East Asian field; (e) *sociology:* Sociology 124* and three courses from Sociology 113*, 126*, 134*, 151*, 154.

*Courses so marked have prerequisites which are not included among the courses mentioned here.

Economics

2263 Bunche Hall, 825-1011

Professors

Armen A. Alchian, Ph.D.
William R. Allen, Ph.D.
Robert W. Clower, D.Litt.
Michael R. Darby, Ph.D.
Harold Demsetz, Ph.D.
George W. Hilton, Ph.D.
Werner Z. Hirsch, Ph.D.
Jack Hirshleifer, Ph.D.
Michael D. Intriligator, Ph.D.
Benjamin Klein, Ph.D.
Edward E. Leamer, Ph.D.
Axel Leijonhufvud, Ph.D.
John J. McCall, Ph.D.
John G. Riley, Ph.D.
Lloyd S. Shapley, Ph.D.
Harold M. Somers, Ph.D.
Earl A. Thompson, Ph.D.
Finis R.Welch, Ph.D.
John F. Barron, Ph.D., *Emeritus*
Paul A. Dodd, Ph.D., LL.D., *Emeritus*
Earl J. Miller, Ph.D., LL.D., *Emeritus*
Dudley F. Pegrum, Ph.D., *Emeritus*

Associate Professors

Bryan C. Ellickson, Ph.D.
George G. S. Murphy, Ph.D.
Joseph M. Ostroy, Ph.D.

Assistant Professors

Sean R. Becketti, Ph.D.
Robert F. Cotterman, Ph.D.
Sebastian Edwards, Ph.D.
Daniel Friedman, Ph.D.
David D. Friedman, Ph.D.
John C. Haltiwanger, Ph.D.
David K. Levine, Ph.D.
Mark W. Plant, Ph.D.
Kenneth Sokoloff, Ph.D.
Steven Wildman, Ph.D.
Benjamin Yu, Ph.D.

Assistant Professor

Marc S. Robinson, A.B., *Acting*

Scope and Objectives

UCLA's Economics Department is ranked among the ten best in the nation according to a 1982 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 economics, you are classified as pre-economics majors. When you have completed the preparation courses for the major, you must petition to enter the major at the undergraduate counselor's office.

Please Note: Students who have completed less than 40 quarter units as of the beginning of Fall Quarter 1983 must complete the following requirements for the major. Students with 40 or more quarter units may complete the major in accordance with the 1982-83 *UCLA Undergraduate Catalog.*

Preparation for the Major

Required: Economics 1, 2, 40 or 41 (or Management 115 or Mathematics 50A as a substitute for Economics 40 or 41); two lower or upper division courses in the social sciences

other than economics; two courses in calculus (i.e., Mathematics 31A and 31B or 3A and 3B or 3A and 3E. Mathematics 3E is specifically designed for economics majors. You may not complete the calculus requirement with Mathematics 4A and/or 4B). Preparation courses must be completed for a letter grade and with an overall 2.3 GPA. In addition, a 2.0 (C) grade is required in each premajor course, with a combined 2.3 GPA required in the economics and mathematics courses. You must petition for major status by the time you attain 135 quarter units.

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 chosen from the list below (all courses must be completed for a letter grade). It is preferable to complete Economics 101A, 101B, and 102 in separate, consecutive quarters. Economics 100 may not be included among the ten upper division courses. One or two of the ten courses may include Management 120 and/or 130. (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. A 2.0 grade-point average is required in upper division economics courses and in management courses applied toward the major. (A grade-point deficiency in economics courses cannot be offset by grade points earned in management courses and vice versa.) Upon consent of the instructor, you may take an upper division course for which you do not have prerequisites.

Major Fields

Economic theory (courses 101A, 101B, 102, 103A-103Z, 107); economic development (courses 111, 112); regional economics (courses 120, 121); public finance (courses 130, 133, M135); statistics, mathematical economics, and econometrics (courses 141, 142, 144, 145, 146, 147A, 147B); labor economics (courses 150, 151, 152); money and banking (courses 160, 161); government and industry (courses 170, 171, 172, 175); economic institutions (courses 180, 181A, 181B, 182, 183); international economics (courses 191, 192).

Economics/Business and Economics/International Area Studies Concentrations

Each concentration is described immediately following the Economics Department courses.

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 Examinations (general aptitude and advanced economics tests).

The department 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 status at UCLA. These courses must include Economics 101A, 101B, and 102 with a grade of B or better and 107 with a grade of C or better.

Graduate-level courses in economic theory and history of economic thought may be substituted for these undergraduate courses. At least five of the nine courses must be strictly graduate economics courses.

You must also have completed, if not previously taken, two courses in calculus and one in statistics. Economics 144 may be used as one of the calculus courses and Economics 40 as the statistics course.

With the consent of the graduate chair, you may offer a maximum of two courses in other social sciences such as history, management, mathematics, psychology, education, or philosophy in partial satisfaction of the degree requirements; however, you must still take five graduate economics courses.

Four units of Economics 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 conditional pass (C) or better in each of two full doctoral comprehensive examinations (C− is not acceptable);

(2) A satisfactory pass (S) and a conditional pass (C) 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) A grade of S and two grades of C or better in the quantitative methods examination and each half of the theory comprehensive. If you achieve a B+ average in Economics 246B and 246C, you will automatically receive a satisfactory (S) grade in the quantitative methods examination.

(4) The macro and micro parts of the theory examination may be taken or repeated either separately or together, and the grades on each part will be recorded separately for meeting the requirements for the M.A. and Ph.D. degrees.

Ph.D. Degree

Foreign Language Requirement

Ph.D. candidates must offer one foreign language or a substitute program in mathematics prior to sitting for the University Oral Qualifying Examination. If the language option is chosen, you will be 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 chosen, 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 courses numbered 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 246B and 246C; (b) achieving a B average in at least two quarters of the advanced econometrics sequence (courses 247, 248, 249); (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

Note: 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 the first year or in the beginning of the Fall Quarter of the second year. During the second and third years, you will have to pass further written examinations in three elective fields.

Written examinations are graded S (satisfactory pass), C (conditional pass), and U (unsatisfactory). You are considered to have completed your theory and elective field examinations when you have earned at least three S grades and one C grade. You may not be advanced to candidacy with more than one conditional grade on your record.

For the Ph.D. degree, the overall theory grade will be the lower of the grades on each of the macro and micro parts, except that if a C+ is achieved on one part and an S− or better on the other part, the overall theory grade will be an S−. Where a part has been taken more than once, the grade for that part will be the highest grade achieved at any sitting.

In order to be advanced to candidacy, you will be 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, will be scheduled after successful completion of all the written examinations and other course requirements, the foreign language requirement, and on the submission of a written dissertation proposal. The examination will focus on, but not be limited to, the dissertation proposal.

Final Oral Examination

A final oral examination on the doctoral dissertation is required unless it is waived by the committee to supervise the dissertation.

Candidate in Philosophy Degree

A student who has been advanced to candidacy is eligible to receive the C.Phil. degree.

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 aggregative economics, including national income, monetary and fiscal policy, and international trade.

3. Lower Division Research Seminar in Microeconomics. Prerequisite: course 1. Limited to ten freshmen and sophomores. Seminar in which students do an intensive research project under guidance of regular faculty. Students select topics in consultation with instructor (subjects limited to materials covered in course 1), write papers, and present them to the seminar.

4. Lower Division Research Seminar in Macroeconomics. Prerequisite: course 2. Limited to ten freshman and sophomores. Seminar in which students do an intensive research project under guidance of regular faculty. Students select topics in consultation with instructor (subjects limited to material covered in course 2), write papers, and present them to the seminar.

10. Evolution of Economic Institutions in America. Not open to students with credit for course 183. The historical development of the present American economic system and its performance over time, especially as revealed by the quantitative data of modern research. Mr. Murphy

40. Introduction to Statistical Methods. Not open to students with credit for Mathematics 50A-50B, 150A-150B-150C, 152A-152B, or Management 115. Elements of statistical analysis. Presentation and interpretation of data; descriptive statistics; theory of probability and basic sampling distributions; statistical inference, including principles of estimation and tests of hypotheses; introduction to regression and correlation.

41. Statistics for Econometrics. Lecture, three hours. Prerequisites: two courses in calculus. Not open to students with credit for course 40, Mathematics 50A-50B, 150A-150B-150C, 152A-152B, or Management 115. Probability spaces and probability measures; conditional probability; random variables; expected values; the normal distribution; estimation and hypothesis testing. Designed for students planning to take courses 147A, 147B. Mr. Levine

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. Under special circumstances an economics major in upper division standing who earns B+ or better in course 100 may be permitted to substitute this course for Economics 1 and 2 by petition. The principles of economics with applications to current economic problems.

101A. Microeconomic Theory. Prerequisites: two courses in calculus or consent of instructor. The laws of demand, supply, returns, and costs; price and output determination in different market situations.
Mr. Hirshleifer, Mr. Ostroy, Mr. Riley

101B. Microeconomic Theory. Prerequisite: course 101A. Theory of factor pricing and income distribution; general equilibrium; implications of the pricing process for the optimum allocation of resources; interest and capital. Mr. Hirshleifer, Mr. Ostroy

102. Macroeconomic Theory. Prerequisites: two courses in calculus or consent of instructor. Theory of income, employment, and the price level. Analysis of secular growth and business fluctuations; introduction to monetary and fiscal policy.
Mr. Clower, Mr. Darby, Mr. Thompson

103A-103Z. Upper Division Research Seminar: Applications of Economic Theory. (Formerly numbered 103.) Prerequisites: course 101A and others as set by instructor. Limited enrollment seminars in which the student usually writes a research paper on a topic chosen in consultation with instructor.
Mr. Intriligator, Mr. Robinson

M103A. Political and Economic Issues in the Proliferation of Nuclear Weapons. (Same as Political Science M139.) The course provides an interdisciplinary approach to the problem of nuclear proliferation. It also deals with the economic aspects of the acquisition of nuclear weapons and economic aspects of nuclear energy treating technological, bargaining, and stability issues.
Mr. Intriligator (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.
Mr. Robinson

107. History of Economic Theory. A survey of economic analysis from Grecian antiquity to the early 20th century, concentrating on the 18th and 19th centuries; special attention to selected writers, including Aristotle, the Mercantilists, the Physiocrats, Hume, Smith, Malthus, Ricardo, Marx, Marginalists, and Marshall. Mr. Allen

110. Economic Problems of Underdeveloped Countries. Lecture, three hours. 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 toward the major requirements, but may be applied as elective credit for the degree. 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. Policies for Economic Development. Prerequisite: course 111 or 102. Suggested strategies for economic development: inflation, balanced growth, industry vs. agriculture, import substitution, export-oriented expansion, foreign aid, and others will be considered. Selected case studies. Mr. Edwards

120. Introduction to Urban and Regional Economics. Lecture, three hours. Prerequisite: course 101A or consent of instructor. A survey of the broad range of policy and theoretical issues that are raised when economic analysis is applied in an urban setting. Topics include urbanization and urban growth, housing markets, location decisions of households and firms, transportation, urban labor markets, and the local public sector. Mr. Ellickson, Mr. Hirsch

121. Urban Economic Analysis. Lecture, three hours. Prerequisites: courses 120, 101A, 101B, 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 course focuses on 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

130. Public Finance. Prerequisites: courses 101A, 101B, or consent of instructor. Contrast between organization of economic activity by government and by the private sector. Analysis of alternative norms for governmental activity. Methods of assessing benefits of alternative public expenditure projects and burdens of alternative forms of taxations. The use of fiscal policy to achieve economic targets. Techniques of debt management and their interaction with monetary policy.
Mr. Haltiwanger, Mr. Plant, Mr. Robinson

131. Nonproprietary Organization. Prerequisites: courses 101A, 101B, completion of mathematics requirement for the major. Use of economic techniques to study behavior of nonproprietary institutions such as government, cooperatives, unions, nonprofit firms, etc. Attention paid to behavior within these organizations, as well as aggregates characterizing actions of the organization itself. Models of political behavior and effect of decision rules and agenda on political outcomes.
Mr. Haltiwanger, Mr. Plant, Mr. Robinson

133. State and Local Finance. 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 the Political Process. (Same as Political Science M103.) Prerequisites: course 101A, a basic course in political science, junior/senior standing, consent of instructor. The course examines conceptions and applications of two different processes of political interaction, the cooperative (as in public choice) and the conflictual (as in warfare), making use of economic models of choice and equilibrium. Mr. Hirshleifer

141. Principles of Statistical Decision. 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 to inventory and production problems. The value of information and implications for sampling design.
Mr. Ellickson, Mr. Hirshleifer, Mr. McCall

142. Probabilistic Microeconomics. Lecture, three hours. Prerequisites: courses 40 or 41 and 101A, 101B. The course combined the basic probability introduced in course 40 (or 41) 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 and consumption under uncertainty are also addressed. The course begins with a review of probability and an introduction to alternative measures of risk and risk aversion. Mr. McCall

144. Introduction to Mathematical Methods in Economics. Prerequisites: courses 101A, 101B, and two courses in calculus. An introduction to the use of calculus in economic analysis. Topics include partial differentiation, optimization, integration, and differential and difference equations, with applications to the theory of the household and the firm, capital theory, and economic dynamics.
Mr. Ellickson, Mr. Intriligator, Mr. Riley

145. Topics in Mathematical Economics. 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. Ostroy

146. Linear Models in Economics. Prerequisite: a course in calculus. An introduction to matrices and matrix algebra, with applications to economics, specifically input-output, Markov chains, and linear models of econometrics.
Mr. Ellickson, Mr. Intriligator, Mr. Riley

147A. Introduction to Econometrics. (Formerly numbered 147.) Lecture, three hours. Prerequisites: two courses in calculus and course 41 or Mathematics 150A-150B or 152A-152B or consent of instructor. An introduction to econometrics, including a review of matrix algebra and statistical theory; the linear regression model; model specification; data collection; estimation and hypothesis testing; and an introduction to simultaneous equations models. An original econometric paper is required.
Mr. Cotterman, Mr. Ellickson, Mr. Intriligator

147B. Applications of Econometrics. (Formerly numbered 147.) Lecture, three hours. Prerequisite: course 147A. Econometric models and data; forecasting, policy analysis, estimation of simultaneous equations models, applications of econometrics. A major original econometric paper is required.
Mr. Cotterman, Mr. Ellickson, Mr. Intriligator

150. Wage Theory. Prerequisites: courses 101A, 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. Cotterman, Mr. Plant

151. Labor, Wages, and Income. 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. Mr. Cotterman

152. Economics of Trade Unions. Prerequisite: course 150 or consent of instructor. Economic analysis of strikes, boycotts, lockouts, right to work, seniority, work rules, pensions, fringe benefits. The evolution of trade unions and the legislative framework within which they operate are also considered.
Mr. Hilton

160. Money and Banking. 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, Mr. D. Friedman, Mr. Wildman

161. Monetary Theory. Prerequisite: course 160. The nature of money and monetary exchange; level and term structure of interest rates; level and growth rate of money; transmission of monetary shocks; theory and practice of monetary policy.
Mr. Clower, Mr. Darby

170. Industrial Organization: Structure and Control. Prerequisite: course 101A. Economic and institutional foundations of public regulation of industry; the measurement and control of competition, monopoly, and collusion; economic examination of antitrust; determinants of market structure; empirical evidence of structure and performance of industries.
Mr. Demsetz, Mr. Klein, Mr. Yu

171. Industrial Organization: Theory and Tactics. Prerequisite: course 101A. Study of pricing and output decisions of firms under conditions of less than perfect competition or monopoly; theories of oligopoly and monopolistic competition; information costs and advertising; examination of pricing practices such as price discrimination, tie-in selling, predatory pricing, and resale price maintenance.
Mr. Demsetz, Mr. Klein, Mr. Yu

172. Economic Analysis of Laws and Legal Institutions. Prerequisite: course 101A. Application of economic theory to legal rule formulation: study of the economic nature and consequences of alternative legal arrangements, with special reference to property rights. Application of economic theory to analysis of effects of laws relative to property, contracts, torts, crimes, taxation, and constitutional issues. Analysis of the legal process. Mr. Demsetz, Mr. Hirsch

175. Economics of Transportation. The economic characteristics of transport; the functions of the different agencies; pricing and resource allocation in transport; public regulation of transport; urban transport; the modern transport problem. Mr. Hilton

180. Comparative Economic Systems. Lecture, three hours. Prerequisites: courses 101A, 101B. A comparative analysis of capitalist and socialist economies. Pure models will be discussed, and attention will be paid to actual economies selected in the light of those models and the march of events.
Mr. Murphy

181A. Development of Economic Institutions in Western Europe. (Formerly numbered C181.) Lecture, three hours. Prerequisite: upper division standing. European economic history, 900 to 1700. Custom, command, and market modes of organization. Evolution of property rights, contract forms, and monetary arrangements. Decline of feudal institutions, especially serfdom. The open field village and enclosures. Crafts manufacturing and guild organization. Development of banking. The public finances and the role of government. Mr. Sokoloff

181B. Development of Economic Institutions in Western Europe. (Formerly numbered C181.) Lecture, three hours. Prerequisite: upper division standing. European economic history, 1700 to 1914. The industrial revolution in Britain and its spread to the continent. The rise of factories, industrial firms, and unions. Changes in the standard of living and demographic consequences. Imperial expansion and the decline of Britain. Worldwide diffusion of economic growth and the Gerschenkron hypothesis.
Mr. Sokoloff

182. Centralized Economics Systems. Lecture, three hours. Prerequisites: courses 101A, 101B. The course will provide an introduction to the theory of centralized systems and an examination of some centralized economies. Considerable attention will be paid to the economy of the U.S.S.R.; some attention will be given to other economies selected in light of the centralized model and with a view to the march of current events. Mr. Murphy

183. Development of Economic Institutions in the United States. Not open to students with credit for course 10. A study of the changing economic conditions in the U.S. from Colonial times to the early 20th century and the effects of these changes on American society. Mr. Sokoloff

190. International Economics. Not open to students with credit for course 191 or 192. A general introduction to international economics, based upon an examination of the theory of trade and the means and significance of balance of payments adjustments, with analysis of major issues of international commercial and monetary policy confronting national and international agencies. May not be applied toward the major requirements, but may be applied as elective credit for the degree. Mr. Becketti

191. International Trade Theory. 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 free and restricted trade on economic welfare and political stability. Mr. Learner

192. International Finance. 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 equilibria through changes in price levels, exchange rates, and national income. Other topics include making international payments, determination of exchange rates under various monetary standards, capital movements, exchange controls, and international monetary organization. Mr. D. Friedman

199. Special Studies in Economics (½ or 1 course). Prerequisites: courses 101A and 101B, junior or senior standing, and consent of instructor. May be repeated, but may be applied only once toward the major requirements.

Graduate Courses

200. Policy Applications of Economic Analysis. Prerequisite: graduate standing. Not open to students in the Economics Department. Survey of the uses of economic theory in public policy applications. Reviews economic analysis in market and nonmarket systems of economic organization.

201A. Theory of Consumption and Exchange. Preferences, demand, exchange, pricing, and markets in an exchange economy. Emphasis is on derivation and interpretation of theorems and is illustrated by applications. Mr. Hirshleifer

201B. Theory of Production and Distribution. Theory of the firm, with particular attention given to the demand for factors of production in the short- and long-runs. May sometimes cover an introduction to general equilibrium theory and welfare economics.
Mr. Welch

201C. Theory of Interest and Capital. Covers the topics of intertemporal choice and equilibrium, interest, and accumulation of capital, decisions under uncertainty, and the allocation of risk. Mr. Alchian

202A. Macroeconomics I (Macrostatics). The Keynesian income-expenditure approach. Expenditures functions. Money demand and supply functions. The IS-LM Model and its extensions. Large-scale macroeconometric models. Mr. Darby, Mr. Leijonhufvud

202B. Macroeconomics II (Macrodynamics). The neoclassical growth model. Money and growth. Adjustment dynamics. Rational expectations. Unemployment and inflation. The Keynesianmonetarist controversy. International macroeconomics. Stabilization policy. Mr. Darby, Mr. Leijonhufvud

202C. Macroeconomics III (Disequilibrium Approaches and Critiques). Microfoundations. The Wicksellian theme. Keynes and the classics. Theory of effective demand failures. Critiques and critics of mainstream macroeconomics.
Mr. Darby, Mr. Leijonhufvud

M203A. Economics of Decision. (Same as Management M203A.) Prerequisites: rudiments of economic theory, calculus, and probability of statistics. Norms and facts of decision making in the household, business, and government. Consistent behavior in terms of personal utilities and probabilities. Multiattribute value theory. Departures from consistency: descriptive theories of behavior and resulting models. Mr. Sarin

M203B. Economics of Information. (Same as Management M203B.) Prerequisites: rudiments of economic theory of the firm, calculus, and probability of statistics; course M203A or consent of instructor. Optimal decision and information rules. Amount, cost, and value of information. Risk aversion, stochastic dominance, and their impact on economic decisions in a stochastic environment. Mr. Lippman

M203C. Economics of Organization. (Same as Management M203C.) Prerequisites: courses M203A, M203B. Rational models of teams. Relation to the theory of games.

204A-204H. Applications of Economic Theory. (Formerly numbered 204A-204B-204C.) Lecture, three hours.

207. History of Economic Theory. Mr. Allen

211. Economic Development. Prerequisite: graduate standing in economics or consent of instructor. General survey of current literature, emphasizing empirical tests of development theories.
Mr. Edwards

212. Applied Topics in Economic Development. Prerequisite: course 211 or consent of instructor. Applications of theories of development to case studies, including project analysis, policymaking at the national level, and economic planning. Occasionally the course focuses on a single applied research area for the entire quarter. Mr. Edwards

213A-213B. Selected Problems of Underdeveloped Areas. Seminar for graduate students.

221. Urban and Regional Economic Analysis I. Development of theoretical and empirical analysis of the major urban markets, including land and housing, transportation, labor, and the local public sector. Interdependencies within and between these markets will be given particular emphasis.
Mr. Ellickson, Mr. Hirsch

222. Urban and Regional Economic Analysis II. Prerequisite: course 221. Development of theoretical and empirical analysis of the major urban markets, including land and housing, transportation, labor, and the local public sector. Interdependencies within and between these markets will be given particular emphasis. Mr. Ellickson, Mr. Hirsch

231. Public Finance. Criteria for organization of economic activity by government and by the private sector. Use of cost-benefit analysis in selection of proposed public projects. Effects of various taxes. Use of tax policy in influencing level of economic activity and distribution of wealth. Debt management and its interaction with monetary and fiscal policy.
Mr. Somers

232. Economics of Government Expenditures. Evaluation of various areas of government expenditure on basis of efficiency and other criteria. Selection of appropriate discount rate. Use of program budgeting techniques to control expenditure. Areas covered include education, judicial system, prison reform reclamation, health insurance, child care, energy conservation, regulatory activity, defense.
Mr. Somers

233. Topics in Public Finance. Lecture, three hours. After a discussion of tax incidence and optimal taxation, various taxes will be analyzed: personal income, corporate income, property, capital gains, consumption, and windfall profits. Both the excess burden and the incidence of these tax policies will be examined, with the emphasis placed on the different types of models economists have used to consider these questions. Other topics of current interest may be covered from year to year.

234. Economics of Federalism. Theories of perfect games and social organization. Collective goods, collective defense, and the role of government. Local public goods, spillovers, and intergovernmental relations. Mr. Thompson

M240. Control and Coordination in Economics. (Same as System Science M222G.) Prerequisites: graduate standing in economics or engineering, consent of instructor. Recommended: appropriate mathematics course. Stabilization policies, short- and long-run dynamics and stability analysis; decentralization, coordination in teams; certainty equivalence and separation theorems; stochastic and learning models. Bayesian approach to price and output rate adjustment. Mr. Aoki

241A-241B-241C. The Economics of Uncertainty and Information. Prerequisites: calculus and introductory probability. The sequence begins by examining how individuals adapt to the fact of uncertainty, with special emphasis on topics such as private versus social risk, adverse selection and moral hazard, and asset pricing under uncertainty. It next explores the ways in which individuals overcome uncertainty by engaging in informational activities. Topics include speculation, innovation, market signaling, and rational expectations. Third, the emphasis switches from event uncertainty to market uncertainty. Topics include price searching, queueing, Brownian motion, and auction design.
Mr. Hirshleifer, Mr. McCall, Mr. Riley

242A-242B. Game Theory. Lecture, three hours. Prerequisites: course 245A or suitable mathematics courses. Elements of the theory of cooperative and noncooperative games, with applications to economic models. Strategic and coalitional games, minimax, Nash-Cournot equilibrium, bargaining theory, the core, value, and other solution concepts; applications to oligopoly, general exchange and production economies, allocation of joint costs. Mr. Shapley

243A-243B-243C. Workshop in Mathematical Economic Theory. Prerequisite: consent of instructor. Workshop for dissertation writers and predissertation writers. Research in progress presented, discussed, and criticized by visiting experts, UCLA faculty members, advanced graduate students. Research paper is required. S/U grading.
Mr. Intriligator, Mr. Ostroy, Mr. Riley

244. Economic Modeling. Course is designed to help students learn to switch back and forth from the precise language of mathematics, as they analyze economic phenomena. Emphasis is given to the techniques of multivariate constrained optimization. Modeling skills are developed by considering a sequence of economic issues (e.g., peak load pricing, regulation monopoly, capital asset pricing, Pareto efficiency). Mr. McCall, Mr. Riley

245A-245B-245C. Advanced Theory and Mathematical Economics. Prerequisite: course 201C or equivalent or consent of instructor. Selected advanced theoretical topics of current interest and an introduction to modern mathematical economics (including general equilibrium theory).
Mr. Intriligator, Mr. Ostroy, Mr. Riley

246B. Introduction to Theory of Econometrics. Least-squares regress, generalized least squares, serial correlation, errors-in-variables, simultaneous equations, multicollinearity. Mr. Intriligator

246C. Applications of Econometrics. Selected econometric studies of consumption, investment, asset demand production functions, goods markets, factor markets, industrial organization, public finance, international trade. Course includes instruction on use of computer. Students are expected to write a research paper. Mr. Cotterman

247. Single Equation Econometrics. Linear regression, specification error, autocorrelation, nonnormality, nonlinear estimation, outliers, qualitative dependent variables, aggregation structural change.
Mr. Leamer

248. Multiple Equation Econometrics. Multivariate regression, error-in-variables, simultaneous equations, proxy variables (latent variables).
Mr. Intriligator, Mr. Leamer

249. Special Topics in Econometrics.
Mr. Intriligator, Mr. Leamer, Mr. McCall

251. Labor Economics I. Analysis of wage determination in competitive labor markets. Wage determination extends to schooling and occupational choice. Empirical literature of life cycle earnings profiles is examined. Special topics include discrimination, minimum wage legislation, and unionism. Mr. Welch

252. Labor Economics II. Prerequisite: course 251. Models of life cycle learning and work behavior together with one-period models of labor supply. Special emphasis on the recent literature of family decisions concerning labor supply behavior of women.
Mr. Welch

253. Labor Problems. Mr. Welch

254A-254B-254C. Studies in Human Resource Economics. Prerequisite: consent of instructor. Workshop for dissertation writers and predissertation writers. Research in progress presented, discussed, and criticized by visiting experts, UCLA faculty members, advanced graduate students. S/U grading.
Mr. Welch

261. Monetary Economics I. Prerequisites: courses 202A, 202B, 202C. The existence of money; financial institutions and markets; supply of money; demand for money; money and wealth; money and growth; money and fluctuations in real income, employment, and inflation; interest rates; international monetary arrangements; monetary policy.
Mr. Clower, Mr. Leijonhufvud, Mr. Thompson

262. Monetary Economics II. Prerequisites: courses 202A, 202B, 202C. The existence of money; financial institutions and markets; supply of money; demand for money; money and wealth; money and growth; money and fluctuations in real income, employment, and inflation; interest rates; international monetary arrangements; monetary policy.
Mr. Clower, Mr. Leijonhufvud, Mr. Thompson

263A-263B-263C. Studies in Monetary Economics. Prerequisite: consent of instructor. Workshop for dissertation writers and predissertation writers. Research in progress presented, discussed, and criticized by visiting experts, UCLA faculty members, advanced graduate students. Research paper is required. S/U grading. Mr. Darby

271. Industrial Organization, Price Policies, and Regulation: Theory. Analysis of the institutional resolution of the problem of economic organization. Major economic aspects of the property right system underlying these institutions are analyzed. The firm and the market are then compared from the perspective of alternative arrangements for allocating resources. Traditional problems of competition, monopoly, and industrial concentration are discussed. Course concludes with brief analysis of those portions of antitrust policy bearing on industrial structure.
Mr. Demsetz

272. Industrial Organization, Price Policies, and Regulation: Policy. Prerequisite: course 271. Study of firm organization and pricing under conditions of less than perfect competition; information costs and advertising; economic and legal analysis of marketing practices, such as discrimination, tie-in selling, resale price maintenance, exclusive dealing, and territorial arrangements. Mr. Klein

273. Public Utility Regulation. Theory, practice, and consequences of regulation in electric power, gas, water, telecommunications, broadcasting, and other regulated industries; experience of unregulated monopoly and public enterprises by way of contrast. Mr. Hilton

275. National Transport Policy. Regulation of surface and air carriers; pricing and investment in public transport facilities; policy toward the merchant marine. Mr. Hilton

277A-277B-277C. Workshop in Law and Economics. Prerequisites: graduate standing, consent of instructor. Workshop for dissertation writers and predissertation writers. Research in progress presented, discussed, and criticized by visiting experts, UCLA faculty members, advanced graduate students. Research paper is required. S/U grading. Mr. Demsetz, Mr. Klein

279A-279B-279C. Dissertation Research Workshop in Economic Organization. Discussion, three hours. Prerequisite: consent of instructor. A workshop for advanced graduate students writing dissertations in the areas of transaction and information costs and the role these costs play in economic organizations and market processes. S/U grading. Mr. Alchian, Mr. Demsetz, Mr. Klein

281. Evolution of Economic Institutions in Western Europe. (Formerly numbered C281.) Lecture, three hours. Prerequisite: graduate standing or consent of instructor. Seminar on selected topics in European economic history, with emphasis on theoretical analysis of institutions and institutional change. Examples: theories of serfdom and its disappearance, open field system and enclosures, social classes and class conflict, guild vs. factory organization of manufacturing. Mr. Leijonhufvud

282. Soviet Economic Theory and Organization. Course deals with the overall strategy of planning used by USSR planners and with specific planning methods. Method is interpreted broadly to cover not only instructions and objectives but also institutional arrangements. Intended and unintended outcomes of the methods will be examined. Mr. Murphy

283. Evolution of Economic Institutions in the United States. An introduction to the professional literature of American economic history and to the most important substantive issues raised therein. Mr. Sokoloff

291. International Trade Theory. Theoretical and empirical analysis of the microeconomic relationships among countries. The determinants of commodity and factor flows, prices, and factor rewards. The effects of trade barrier. Mr. Allen, Mr. Leamer

292. International Finance. Theory of evidence on the balance of payments, exchange rate determination, international transmission of inflation and business cycles, macroeconomic policy in open economics, alternative monetary systems. Mr. Allen, Mr. Leamer

293A-293B. International Economics: Selected Topics. (Formerly numbered 293.) Lecture, three hours. The course combines student presentation of dissertation research, lectures by visiting experts and resident faculty members, and student discussion of current published research. The objective is to expose students to critical analyses of their work and to suggest dissertation topics. S/U grading (based on oral and written performance). Mr. Leamer

299A-299B-299C. Workshop for Preparing a Dissertation Proposal. (Formerly numbered 299.) Lecture, three hours. Workshop for third-year graduate students who are preparing for their oral qualifying examination. During the first part of the course, students will present journal articles for critical analysis to develop their analytical skills. Later, students will be required to present their own research for critical analysis by fellow students and faculty. Workshop is open to research in all fields of economics. S/U grading.

375. Teaching Apprentice Practicum (¼ to 1 course). 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. The Teaching of Economics I (½ course). Limited to teaching assistants handling one or more of the quiz sections in Economics 1. Approximately 20 hours divided between meetings of instructor with all section heads to discuss problems of exposition and structuring of course materials, etc., and visits of instructor to the sections of each teaching assistant. May not be applied toward degree requirements. May be repeated twice for credit. S/U grading.

402. The Teaching of Economics II (½ course). Limited to teaching assistants handling one or more of the quiz sections in Economics 2. Approximately 20 hours divided between meetings of instructor with all section heads to discuss problems of exposition and structuring of course materials, etc., and visits of instructor to the sections of each teaching assistant. May not be applied toward degree requirements. May be repeated twice for credit. S/U grading.

596. Individual Study (½ to 2 courses). Directed individual study or research. S/U grading.

597. Individual Study: Graduate Examinations (½ to 2 courses). Directed individual study in preparation for the M.A. comprehensive examination or the Ph.D. qualifying examination. S/U grading.

599. Individual Research: Ph.D. Dissertation (½ to 2 courses). Prerequisite: advancement to doctoral candidacy. Directed individual research in preparation of Ph.D. dissertation. S/U grading.

Economics/ Business

2256 Bunche Hall, 825-1011

Scope and Objectives

This program is a concentration within the economics major for students who wish a business orientation in their undergraduate studies. It is designed for those who plan careers in accounting, banking, or finance. The major is NOT designed to be adequate preparation for the CPA examination. It consists of the basic economics program plus appropriate courses in accounting, finance, and managerial economics.

Bachelor of Arts Degree

Admission

Resources for the program are limited, and only 250 students per year are admitted. Applications for admission are handled exclusively by the Department of Economics and are available once or twice a year only. 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 regular session at the time of application and have an overall grade-point average of 3.0 AND an average of 3.0 in your economics courses.

Note: The requisite grade-point averages plus the completion of the "Preparation for the Major" 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; Economics 40 or 41 or Mathematics 50A; Management 1A, 1B; Mathematics 3A and 3B or 3A and 3E or 31A and 31B (Mathematics 3E is specifically designed for economics and economics/business majors). All courses must be completed for a letter grade.

The Major

Required: Economics 101A, 101B, 102; five other upper division courses in economics in at least two different fields; five upper division courses chosen from Management 120, 122, 124, 130, 133, 140, 227A. Recommended: a course in elementary computer programming (e.g., Engineering 10C or 10F or Computer Science 10S). All major courses must be completed for a letter grade.

You must maintain a 3.0 grade-point average throughout your program and must have a 3.0 GPA (computed separately) for both management and economics courses in order to stay 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 of 3.0).

For further information, contact Sheryl Massis, Economics, 2256 Bunche Hall (825-1011).

Economics/ International Area Studies

2263 Bunche Hall, 825-1011

Scope and Objectives

This program is a concentration within the economics major 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 foreign study programs. Experience in foreign firms or institutions would be an advantage but yields no academic unit credit toward the major.

Bachelor of Arts Degree

Admission

Qualified students will be admitted to this concentration upon written application to the undergraduate counselor (Economics). 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 regular session at the time of application and have an overall grade-point average of 2.5 AND an average of 2.5 in your economics courses. Language course preparation need not be completed on admission, but must be completed before preparing the required research paper.

Preparation for the Major

Required: Economics 1, 2, 40 or 41 (or Management 115 or Mathematics 50A as a substitute for Economics 40 or 41); two lower or upper division courses in the social sciences other than economics; 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 majors. You may not complete the calculus requirement with Mathematics 4A and/or 4B.) You also must complete the sixth quarter course (or equivalent) of any modern language (e.g., French 6, German 6, Spanish 25, Russian 6. These are most frequently offered in fulfillment of this requirement, but also see the offerings under Portuguese, Italian, Germanic Languages, Near Eastern and African Languages, and Oriental Languages.) All premajor courses must be completed for a letter grade of C or better in each course AND with a 2.5 GPA overall, and you must petition for major status by the time you attain 135 quarter units.

The Major

Required: A total of fifteen upper division courses chosen from economics and the approved course list of noneconomics courses (all courses must be completed for a letter grade). Ten must be from economics, including Economics 101A, 101B, 102 (with a grade of C or better in each). In addition, Economics 191 and 192 must be completed, and at least one course in two different fields in economics must be chosen from the "Major Fields" listed under the regular economics major. Four of the remaining upper division courses must be chosen from the approved list. Economics 199 is also required and includes the preparation of a research paper on the economy of the country or region of your concentration, sponsored and supervised by an Economics faculty member. Sources in the language of the region or country must be utilized.

One or two of the ten courses in economics may include Management 120 and/or 130. (Learning Center courses or courses transferred from other institutions may not be applied toward this option.) A 2.0 GPA (computed separately from the economics courses) is also required in the management courses applied to this part of the concentration.

The noneconomics courses, the research paper, and the language learned must show consistency of purpose, and your program as a whole must be approved by the faculty adviser of the concentration.

To stay 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 when computing the upper division grade-point minimum of 2.5).

Approved Noneconomics Courses

Anthropology 171, 175P, 175Q, 175R, 175S, 176, 177; Geography 181, 182A, 182B, 183, 184, 185, 186, 187, 188, 189, 190; History 106C, 107B, 108A, 109B, 110B, 111B, 112C, 113, 125E, 126E, 128D, 129C, 131C, 131D, 132B, 133B, 134B, 141B, 142A, 142B, 143, 144, 167A, 167B, 167C, 171, 173, 176B, 177, 178A, 178B, 179B, 184, 187C, 188B, 190B; Political Science 152 through 165, 166A, 166B, 166C; Sociology 130, 131, 132, 133, 134.

Economics/System Science (Interdepartmental)

4532 Boelter Hall, 825-6830

Professors

Masanao Aoki, Ph.D. *(Engineering/System Science)*
Michael D. Intriligator, Ph.D. *(Economics)*
Stephen E. Jacobsen, Ph.D. *(Engineering/System Science)*
Nhan Levan, Ph.D. *(Engineering/System Science)*

Associate Professor

Bryan C. Ellickson, Ph.D. *(Economics)*

Scope and Objectives

The major is an alternative to the regular departmental major in economics and combines work in the Department of System Science (School of Engineering and Applied Science) with preparation in economic theory and in those aspects of mathematics and statistics necessary for the study of quantitative aspects of economics and systems theory. The major is appropriate for students with interests in such areas as economic theory, mathematical economics, econometrics, feedback and control systems, optimization, computing techniques, and the modeling and analysis of various socioeconomic systems.

Bachelor of Science Degree

Preparation for the Major

Required: Economics 1 and 2; Engineering 10C or 10F; Mathematics 31A, 31B, 32A, 32B, 33A, 33B. All courses must be completed for a letter grade of C – or better.

At least six of the preparatory courses must have been completed for admission to the major. In addition, at the time of admission you must have a grade-point average of at least 2.5 in preparatory work.

The Major

Required: Fourteen upper division courses (completed for a letter grade of C – or better) as follows: six courses in economics from those numbered Economics 101A and above, including 101A, 101B, 102, and one course from 144, 145, 146, 147A, 147B; six courses in system science from those numbered Engineering 120A through 129A, including 120A (or Mathematics 150A), 120B and/or Mathematics 151; two courses in mathematics from those numbered Mathematics 110A and above (such mathematics courses may not also be applied toward the system science requirements).

Recommended system science courses include Engineering 121A, 122A, 128A in the area of dynamic systems analysis and Engineering 129A, 129L in the area of optimization.

The major is administered by an interdepartmental committee of faculty members chosen from the Departments of Economics and System Science. For further information, contact the System Science Departmental Administrator in the program office.

Education

The College of Letters and Science offers a program of courses through which you may earn a credential to teach in California elementary schools. For details, see "Diversified Liberal Arts" earlier in this chapter.

English

2225 Rolfe Hall, 825-4173

Professors
Michael J. B. Allen, Ph.D.
Martha Banta, Ph.D.
Calvin Bernard Bedient, Ph.D.
Charles Ashton Berst, Ph.D.
A. R. Braunmuller, Ph.D.
Daniel G. Calder, Ph.D., *Vice Chair*
Richard Keith Cross, Ph.D.
Vinton A. Dearing, Ph.D.
Robert William Dent, Ph.D., *Vice Chair*
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 Gullans, Ph.D.
Henry Ansgar Kelly, Ph.D.
Jascha Kessler, Ph.D.
Robert Starr Kinsman, Ph.D.
Richard Alan Lanham, Ph.D.
Richard D. Lehan, Ph.D.
Maximillian Erwin Novak, D.Phil., Ph.D.
Joseph N. Riddel, Ph.D.
Florence Ridley, Ph.D.
Alan Henry Roper, Ph.D.
George S. Rousseau, Ph.D.
William David Schaefer, Ph.D.
Paul Roland Sellin, Ph.D.
Paul Douglas Sheats, Ph.D., *Chair*
Georg Bernhard Tennyson, Ph.D.
Peter Larsen Thorslev, Jr., Ph.D.
Alexander Welsh, Ph.D.
D. K. Wilgus, Ph.D.
Thomas Richard Wortham, Ph.D.
Ruth B. Yeazell, Ph.D.
Stephen Irwin Yenser, Ph.D.

Emeritus Professors
Robert Martin Adams, Ph.D.
John Jenkins Espey, B.Litt., M.A.
Robert Paul Falk, Ph.D.
Charles V. Hartung, Ph.D.
Paul Alfred Jorgensen, Ph.D.
Alfred Edwin Longueil, Ph.D.
Blake Reynolds Nevius, Ph.D.
Ada Blanche Nisbet, Ph.D.
Franklin Prescott Rolfe, Ph.D.

Associate Professors
Walter Eldon Anderson, Ph.D.
Charles Linwood Batten, Jr., Ph.D.
Frederick Lorrain Burwick, Ph.D.
Edward Ignatius Condren, Ph.D.
Ronald E. Freeman, Ph.D.
James Edward Goodwin, Ph.D.
Christopher Waldo Grose, Ph.D.
Albert David Hutter, Ph.D.
Gordon L. Kipling, Ph.D.
Jack Kolb, Ph.D.
Kenneth Robert Lincoln, Ph.D.
Robert M. Maniquis, Ph.D.
Raymund Arthur Paredes, Ph.D.
Jonathan Post, Ph.D.
Karen Elizabeth Rowe, Ph.D.

Assistant Professors
Susan Brienza, Ph.D.
Joseph F. Nagy, Ph.D.
Barbara Lee Packer, Ph.D.
Jeffrey Rubin-Dorsky, Ph.D.
J. Fisher Solomon, Ph.D.
Seth Joshua Weiner, Ph.D.
Richard Alan Yarborough, Ph.D.

Senior Lecturers
David Stuart Rodes, Ph.D.
Jerome Cushman, A.B., B.S.L.S., *Emeritus*
Everett L. Jones, M.A., *Emeritus*

Professor
Brian Moore, *Adjunct*

Scope and Objectives

An interest in English and American literature draws many students to the Department of English, which also offers courses in other fields, including the history and structure of the English language itself. Although committed to no single method or approach, the department encourages an emphasis on literary history and requires of its undergraduate majors a firsthand acquaintance with such influential writers as Chaucer, Milton, and Shakespeare. Students may range outward from this core to a rich variety of other fields — literary criticism, for example, or the ethnic literatures and popular culture of America, or the relation of literature to such complementary disciplines as history, sociology, psychology, and philosophy. Qualified students may elect a concentration in creative writing or an interdisciplinary program in American studies.

An understanding and appreciation of literature can furnish lifelong rewards. In addition to such personal benefits, the department seeks to impart the capacity to make balanced critical judgments and the ability to write the English language persuasively, with point and effect. Such skills are essential to success in a variety of professions for which the major in English can provide excellent preparation, including law, administration, business, and teaching.

A two-year graduate program leading to the Master of Arts degree is often chosen by students planning a career in community college teaching. A second program leads to the Ph.D. degree. As this 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 English 1). 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). For option 2, the department especially recommends Classics 144, Humanities C107, 116. These courses may be taken P/NP.

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 chosen from 140A or 150-190. 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 numbered 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 with 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 175; two courses from 142A, 142B, 143; three courses from 170, 171, 172, 173, 174; and one course pertaining to American studies chosen from the 180 or 190 series,

taken preferably in the senior year. Of the six upper division courses in other departments, four must be in a selected discipline (history, political science, art, etc.). One of these four courses must deal with the methodology of the discipline, while the other three must explicitly treat American culture. These courses must be chosen 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 chosen from courses numbered 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 courses 142A and 142B and a minimum of ten additional upper division English courses: three creative writing courses from the 133A-135C series, taken in a single genre (poetry, short story, or drama), three literature courses paralleling the creative writing specialization (the following pairings are recommended: 100A and 101B with 133A-133B-133C; 100C and 101C with 134A-134B-134C; 100B and 101D with 135A-135B-135C), and four electives chosen from courses 140A through M197. You will be admitted to this program only upon recommendation of your instructor after completing course 133A, 134A, or 135A. If you are planning to choose this major, you are encouraged to take English 20; for further details, contact the department office.

Major for Foreign Students

The department offers a special major in English open to bona fide foreign students whose first 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 as a Second Language 103J, 106J, 109J; two courses from those numbered English 100A-199; 122; 142A, 142B; and four additional courses from those numbered 140A-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 Candidates

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 courses 120A or 120B or 120C, and 130 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 choose additional courses in language and in 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 180-189 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 will take courses 199HB and 199HC, in which you will write a thesis under the direction of a faculty member. The thesis will determine whether you receive high honors, honors, or no honors.

Master of Arts Degree

Admission

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 the junior and senior years of at least 3.2; and a score on the Graduate Record Examination of at least 600 on both the verbal section of the Aptitude Test and the Advanced Literature in English Test. Three letters of recommendation are also required. For a descriptive brochure, write to the Graduate Counselor, Department of English.

The master's program is not preliminary to the doctoral program; if you are seeking the Ph.D., you should apply directly for that program. In a few cases, students who have done exceptionally well in the M.A. program have successfully petitioned the graduate committee for permission to enter the doctoral program.

Major Fields or Subdisciplines

The course requirements for the M.A. are highly flexible in order to permit a course of study that reflects your primary interests. Recommended electives for certain special fields of interest are suggested below.

(1) *Language:* English 120A-122, 130, 190, 210, 211, 212, 213, 240, 241, 242, 272, M274, English as a Second Language M250K.

(2) *Creative Writing:* English 133A-135C.

(3) *English for Minority Groups:* English 114, 122, 130, 190; ESL 109K; Education 102; Linguistics 100, 170; Sociology 124, 155.

Foreign Language Requirement

You may fulfill the language requirement by demonstrating a reading knowledge of any foreign language. This requirement should be satisfied at the beginning of the first quarter of residence, but in any event no later than the mid-point of the quarter in which you complete all degree requirements. A score of 500 or above on one of the Educational Testing Service (ETS) examinations is considered proof of a reading knowledge. Tests in languages not covered by an ETS examination are arranged by the English Department or by other language departments on campus.

Course Requirements

Nine letter-graded courses are required for the degree, five of which must be on the graduate level (200 or above). These nine courses must include one course in literary criticism (English 140A or 201) and three graduate courses in literary history (chosen from English 220-228, M243A-255 and, depending on specific content, 256-259), two of which must deal with periods before 1900 and two of which must be historically contiguous (for example, courses 224 and 225).

Four units of English 595 may be applied toward the total course requirement and the graduate course requirement. This course requires the completion of a substantial project, creative or scholarly.

Teaching Experience

Teaching experience is not required for the degree, but if you are planning to enter community college teaching, you are advised to enroll in English 270A-270B, which provide supervised teaching experience at cooperating community colleges. Consult the instructor early in the Fall Quarter of the year in which you plan to take the courses.

Comprehensive Examination Plan

Upon completion of all requirements, you are given a comprehensive oral examination of no more than 90 minutes to test your comprehension of the major literary documents examined during graduate study and your ability to analyze a work of literature. You must write a paper 10 pages in length on a subject set in consultation with your committee chair and distribute it to the committee at least one week in advance of the examination. During the first half of the examination, the committee discusses the paper. The remainder of the examination is devoted to the fields represented by the nine courses taken for the degree. Comprehensive examinations are offered during the Fall, Winter, and Spring Quarters of each academic year. If you fail the examination, you may repeat it once only.

Ph.D. Degree

Admission

Ordinarily, applicants holding the B.A. and seeking direct admission to the Ph.D. program 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 the junior and senior years of at least 3.4; and a score on the Graduate Record Examination above 600 on both the verbal section of the Aptitude Test and the Advanced Literature in English Test. Applicants holding the M.A. will be expected to have a grade-point average of at least 3.5 in their graduate studies, and correspondingly higher scores on the Advanced Test. Three letters of recommendation are also required. For a descriptive brochure, write to the Graduate Counselor, Department of English.

If you are limited on admission to the M.A. program, 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 3.5 in your graduate studies and are recommended by your examining committee. Such petitions are not automatically approved and should be accompanied by appropriate supporting materials.

Foreign Language Requirement

You are normally expected to have a reading knowledge of two foreign languages, or to demonstrate a superior 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.

A reading knowledge of a language may be demonstrated in one of two ways: (1) by scoring 600 or higher on an Educational Testing Service (ETS) examination or (2) by passing a special reading examination offered by certain UCLA foreign language departments. The first language requirement must be satisfied before the first qualifying examination and the second before the second qualifying examination.

Teaching Experience

Although teaching experience is not required, most students in the doctoral program have the opportunity to serve as teaching assistants after passing English 495A and being in the program for at least one year. Teaching assistantships are awarded on the basis of merit.

Course Requirements and Qualifying Examinations

The doctoral program is divided into three stages, the first two of which culminate in the first and second qualifying examinations.

(1) **First Stage:** In the first stage, which leads to the master's degree, you must take a minimum of nine letter-graded English courses from the 200 series. Course 201 is required. (If you enter with an M.A. in English, you are presumed to have fulfilled the nine-course requirement, but must take course 201 or the equivalent.)

First Qualifying Examination: After passing the required courses and satisfying at least one of the foreign language requirements, you take the first qualifying examination consisting of four written examinations of four hours each. The four parts are graded high pass, pass, low pass, and 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 whether a repeat examination will be permitted.) Further details on breadth, philology, and bibliography requirements are available from the department.

(2) **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 only once.

(3) **Third Stage:** Once you have passed the second qualifying examination, you may advance to candidacy and, upon 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). Prerequisite: unsatisfactory performance on the Subject A Placement Test. English A displaces four units on the student's Study List but yields no credit toward a degree. Required of students with low scores on the Subject A Placement Test. Instruction in standard English usage, including practice in sentence and paragraph construction, diction, punctuation, and spelling. Workshop exercises in writing and revision. P/NP grading.

1. Fundamentals of Exposition (½ course). Prerequisite: English A or qualifying score on Subject A Placement Test. English 1 displaces four units on the student's Study List but yields only two units 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 P meets the Subject A requirement. P/NP grading.

3. English Composition, Rhetoric, and Language. Prerequisite: satisfaction of Subject A requirement by examination or by completion of course 1 with a grade of P. Principles and methods of exposition and argumentation, with readings and analysis of passages of prose. Topics vary; special interest sections are set aside in the class schedule for social science, life science, and fine arts students. Other sections concentrate on literature or on rhetoric and stylistics. Minimum of six papers (three to five pages).

4. Critical Reading and Writing. Prerequisites: satisfaction of Subject A requirement and 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).

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) 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) or equivalent.

10C. English Literature, 1832 to the Present. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B. A study of selected works of the period, including writings by Tennyson, Arnold, Browning, Yeats, Joyce, and Eliot. Minimum of three papers (three to five pages) or equivalent.

20. Introduction to Creative Writing. Prerequisites: satisfaction of Subject A requirement, course 3 or equivalent, and submission of creative or expository writing samples to a screening committee. Designed to introduce the fundamentals of creative writing. Each class focuses either on poetry, fiction, or drama, depending upon the wishes of the instructor(s) during any given quarter. Readings from assigned texts and weekly writing assignments are required.

70. Major British Authors Before 1800. Prerequisite: satisfaction of Subject A requirement. Not open for credit to English majors or students with credit for course 10A or 10B. A study of selected masterpieces of English literature before 1800, including the works of such writers as Chaucer, Shakespeare, Donne, Milton, Swift, Pope, Johnson, and Fielding.
Mr. Rousseau

75. Major British Authors, 1800 to the Present. Prerequisite: satisfaction of Subject A requirement. Not open for credit to English majors or students with credit for course 10B or 10C. A study of selected masterpieces of English literature, 1800 to the present, including the works of such writers as Wordsworth, Coleridge, Keats, Tennyson, Dickens, Browning, Yeats, Joyce, and Eliot.
Mr. Berst, Mr. Hutter, Mr. Kolb

80. Major American Authors. Prerequisite: satisfaction of Subject A requirement. Not open for credit to English majors or students with credit for any courses in the 170 series. An introduction to the chief American men of letters, with emphasis upon the poetry, nonnarrative prose, and short fiction of such writers as Poe, Emerson, Whitman, Twain, Frost, and Hemingway. Mr. Wortham

85. The American Novel. Prerequisite: satisfaction of Subject A requirement. Not open for credit to English majors or students with credit for course 171, 172, or 174. The development, with emphasis on form, of the American novel from its beginning to the present day. Included are works of such novelists as Hawthorne, James, Fitzgerald, and Faulkner.
Mr. Paredes, Mr. Rubin-Dorsky

90. Shakespeare. Prerequisite: satisfaction of Subject A requirement. Not open for credit to English majors or students with credit for course 142A or 142B. A survey of Shakespeare's plays, including comedies, tragedies, and histories, selected to represent Shakespeare's breadth, artistic progress, and total dramatic achievement.
Mr. Guffey, Mr. Rodes, Ms. Rowe

Upper Division Courses

100A. Introduction to Poetry. Prerequisite: satisfaction of Subject A requirement. Recommended for teaching credential candidates. A study of critical issues (metrics, diction, figurative language, symbolism, irony and ambiguity, form and structure) and aesthetic issues, including evaluative criteria, followed by the close critical analysis of a selection of representative poems. Mr. Grose, Mr. Thorslev

100B. Introduction to Drama. Prerequisite: satisfaction of Subject A requirement. Examination of representative plays; readings may range from Greek to modern drama. Emphasis on critical approaches to the dramatic text; study of issues such as plot construction, characterization, special uses of language in drama, methods of evaluation.

100C. Introduction to Fiction. Prerequisite: satisfaction of Subject A requirement. An introduction to prose narrative, its techniques and forms. Analysis of short and long narratives and of critical issues such as plot, characterization, setting, narrative voice, realistic and nonrealistic forms. Mr. Anderson

100D. Introduction of Special Topics and Genres. Prerequisite: satisfaction of Subject A requirement. A study of a particular topic, genre, or subgenre in literature, such as satire, biography, parody, or a specialized classification of literature. May be repeated for credit. Mr. Tennyson, Mr. Thorslev

100W. Intensive Writing (½ course). Prerequisite: course 3. Student 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 by consent of instructor.

101A. Recent British Literature. Prerequisite: satisfaction of Subject A requirement. Recent trends and developments in British fiction and poetry since World War II. Mr. Cross

101B. Recent American Poetry. Prerequisite: satisfaction of Subject A requirement. Recent trends and developments in American poetry since World War II.
Mr. Gullans

101C. Recent American Fiction. Prerequisite: satisfaction of Subject A requirement. Recent trends and developments in American fiction since World War II.
Mr. Goldberg, Mr. Wortham

101D. Recent British and American Drama. Prerequisite: satisfaction of Subject A requirement. Recent trends and developments in British and American drama since World War II.
Mr. Berst, Mr. Goodwin

102. The Short Story in England and America. Prerequisite: satisfaction of Subject A requirement. A historical survey of the short story as a genre, from the 19th century to the present. Mr. Anderson

103. Jewish American Fiction. Prerequisite: satisfaction of Subject A requirement. The study of the fiction of Jewish writers in America, such as Bellow, Malamud, and Roth, focusing on the encounter of Jewish ethical ideals and social values with the contemporary environment. Mr. Novak

104. Afro-American Literature. Prerequisite: satisfaction of Subject A requirement. An introductory survey of the Afro-American literary tradition from the 18th century to the present—including oral and written forms (folktales, songs, sermons; prose, poetry, drama). A study of major trends in Afro-American thought as revealed in the literature.
Mr. Yarborough

M105. The Chicano Experience in Literature. (Same as Chicano Studies M105.) Prerequisite: satisfaction of Subject A requirement. The study of literature in English by and about Chicanos. The course surveys the depiction of the Chicano experience in American literature generally and focuses on the development of Chicano literature itself, its cultural backgrounds, and distinctive uses of language.
Mr. Paredes

106. Native American Literary Studies. Prerequisite: satisfaction of Subject A requirement. The study of Native American oral cultures through translated documents (song-poems, life-stories, myths, tales, dream visions, speeches) and/or the images in writing about Native Americans (poetry, fiction, history, anthropology, sociology). Mr. Lincoln

M107. Women in Literature. (Same as Women's Studies M107.) Prerequisite: satisfaction of Subject A requirement. A survey of literary works by and about women, the course examines 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. Rowe, Ms. Yeazell

108A-108B. The English Bible as Literature. Prerequisite: satisfaction of Subject A requirement. The principal literary monuments of the Old and New Testaments in the King James Version. **108A** deals with the Old Testament, **108B** with the New Testament.
Mr. Cross, Mr. Dearing, Mr. Post

108C. The English Bible as Literature: Special Topics. Prerequisite: satisfaction of Subject A requirement. A study of the English Bible, with attention to particular literary themes, motifs, and genres. The course may also attempt to trace the influence of the Bible upon discreet periods or individual authors in English literature. May be repeated for credit.
Mr. Dearing, Mr. Kinsman

109. Interdisciplinary Approaches to Literature. Prerequisite: satisfaction of Subject A requirement. The study of British or American literature in relation to other disciplines, such as history, politics, philosophy, psychology. May be repeated for credit.
Mr. Condren

110. Studies in Individual Authors. Prerequisite: satisfaction of Subject A requirement. The specialized study of the work of a single poet, dramatist, prose writer, or novelist. May be repeated for credit.

M111A. The Literature of Myth and Oral Tradition. (Same as Folklore M111.) Prerequisite: satisfaction of Subject A requirement. A study of myth, dramatic origins, oral epic, folktale, and ballad, emphasizing Indo-European and Semitic examples. Mr. Nagy

M111B. Anglo-American Folk Song. (Same as Folklore CM106.) Prerequisites: satisfaction of Subject A requirement, junior standing. A survey of Anglo-American balladry and folk song, with attention to historical development, ethnic background, and poetic and musical values. Mr. Wilgus

M111C. British Folklore and Mythology. (Same as Folklore M121.) Prerequisites: satisfaction of Subject A requirement, junior standing. A survey of the folklore of the peoples of Britain, with attention to their history, function, and regional differences.
Mr. Nagy, Mr. Porter

M111D. Celtic Mythology. (Same as Folklore M122.) Prerequisite: Folklore 101 or consent of instructor. A survey of the early materials, chiefly literary, for the study of the mythic traditions of the Celtic peoples, ranging from ancient Gaul to medieval Ireland and Wales. Mr. Ford

M111E. Survey of Medievsl Celtic Literature. (Same as Folklore M112.) Prerequisite: satisfaction of Subject A requirement. Knowledge of Irish or Welsh is not required. A general course dealing with Celtic literature from the earliest times to the 14th century. Mr. Ford

M111F. Celtic Folklore. (Same as Folklore M127.) Prerequisite: Folklore 101 or consent of instructor. The folkloric traditions of modern Ireland, Scotland, and other Celtic countries, with attention to current techniques of folkloristic research. Mr. Nagy

M111G. Oral Traditions in Africa. (Same as Folklore M155.) Prerequisite: upper division standing. A survey 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 types of children's literature, folklore and oral tradition, levels of interest, criticism and evaluation, illustration and bibliography.
Mr. Cushman

113. Literature for Adolescents and Young Adults. Prerequisite: satisfaction of Subject A requirement. The course will analyze and evaluate the literature intended mainly for students in junior and senior high schools. It will also review mature books that are popularly suggested for this age group, and study the interests and reading habits of young adults. Mr. Cushman

114. World Literatures in English. Prerequisites: satisfaction of Subject A requirement, consent of instructor. A survey of contemporary literature from English-speaking regions of the world, reviewing the major genres from several countries and making cross-comparisons with the literatures. Generalizations concerning the nature of the English used by such writers are examined. May be repeated for credit. Mr. Kinsman, Mr. Povey

115A. American Popular Literature. (Formerly numbered 115.) Prerequisite: satisfaction of Subject A requirement. A study of the main currents of popular and cultural taste as reflected in such genres as dime novels, detective fiction, and Western stories.
Mr. Nagy, Mr. Paredes

115B. British Popular Literature. Prerequisite: satisfaction of Subject A requirement. Readings in the literature of the British masses, from 16th-century 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 literatures. Mr. Guffey

117. Detective Fiction. Prerequisite: satisfaction of Subject A requirement. A study of British and American detective fiction and the literature of detection.
Mr. Hutter

118. Film and Literature. Prerequisite: satisfaction of Subject A requirement. A study of the interdisciplinary relationships between film and literature, including theme and structure, and focusing on cinematic adaptations of literary works. Mr. Goodwin

120A. Language Study for Teachers: Elementary School. Prerequisite: satisfaction of Subject A requirement. A survey of topics in English linguistics of special interest to elementary school teachers. Subjects include approaches to English grammar; language acquisition and development; language attitudes; regional and social dialects of American English; bilingual schooling; contribution of English language study to the teaching of reading, writing, spelling, and literature. Ms. Hinofotis

120B. Language Study for Teachers of English: Secondary and Postsecondary. Prerequisite: satisfaction of Subject A requirement. A rapid review of English grammar and an introduction to basic concepts in sociolinguistics, dialectology, and stylistics applied to the analysis and evaluation of writing samples from students in junior and senior high school and junior college.

120C. Language Study for Teachers of Subjects Other Than English: Secondary and Postsecondary. Prerequisite: satisfaction of Subject A requirement. Designed to introduce teachers of subjects other than English to basic concepts in language acquisition, dialectology, sociolinguistics, and composition.

121. The History of the English Language. Prerequisite: satisfaction of Subject A requirement. A study directed toward English majors of the main features in the grammatical, lexical, and phonetic condition of the English language from Indo-European up to the present time. Mr. Calder, Mr. Condren

122. Introduction to the Structure of Present-Day English. Prerequisite: satisfaction of Subject A requirement. An introduction to the techniques of linguistic description as applied to the pronunciation, grammar, and vocabulary of modern English.

130. Composition for Teachers. Prerequisites: satisfaction of Subject A requirement, courses 3, 4. Preparation for future teachers of English composition in the writing and criticism of the kinds of prose discourse usually taught in primary and secondary schools and in junior college.

131. Exposition. Prerequisites: satisfaction of Subject A requirement, courses 3, 4. Further work in expository composition, designed especially to meet the needs of upper division students (including transfer students) who desire training beyond that offered in freshman composition courses. May be taken P/NP by English majors, though English majors who wish to use the course to satisfy departmental prerequisites must take it for a letter grade.

131H. Advanced Exposition. Prerequisites: satisfaction of Subject A requirement, course 3, and consent of instructor (following submission of expository prose samples). An advanced version of course 131 for students who wish to refine and polish their expository skills. Writing assignments will focus upon the expository essays required in upper division literature courses. May be taken P/NP by English majors, though English majors who wish to use the course to satisfy departmental prerequisites must take it for a letter grade.

133A-133B-133C. Creative Writing: Poetry. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, and consent of instructor (following submission of writing samples). Weekly exercises in the writing of poetry, with practice in the standard forms and metres and the study of techniques. Classroom discussion based upon student use. Only one course in the sequence may be repeated for credit.
Mr. Gullans, Mr. Kessler, Mr. Yenser

134A-134B-134C. Creative Writing: Short Story. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, and consent of instructor (following submission of writing samples). Three stories of average length are completed during each quarter. Some of these may, with the instructor's consent and the student's wish, be substantial revisions of the other stories presented. Classroom discussion is based upon stories presented. Only one course in the sequence may be repeated for credit.
Mr. Cross, Mr. Goldberg, Mr. Kessler

135A-135B-135C. Creative Writing: Drama. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, and consent of instructor (following submission of writing samples). An exploration of the capacity of each student to write for the theater. Class discussion of student writing, individual conferences, rehearsed readings, and laboratory productions. Only one course in the sequence may be repeated for credit. Mr. Kessler, Mr. Rodes

136A-136B-136C. Practical Writing and Editing. Lecture, three hours. Prerequisites: satisfaction of Subject A requirement, consent of instructor. A sequence in practical writing and editing ability specifically designed to prepare students for a career. Analysis of prose and literary styles necessary to the variety of writing in professional, nonacademic fields is combined whenever possible with practical experience in a variety of writing internships and training in a wide range of editorial skills. In Progress grading for courses 136A-136B only.

140A. Criticism: History and Theory. (Formerly numbered 140.) Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A study of some of the major historical documents and theoretical statements in the history of literary criticism, including works by such writers as Plato, Aristotle, Horace, Sidney, Dryden, Johnson, Kant, Coleridge, Wordsworth, Shelley, Arnold, James, Croce, and T. S. Eliot. The course focuses on the major critical positions posed and developed by these writers, the basis of their theoretical positions, and the practical consequences of those positions. Some portion of the course may be devoted to recent trends in criticism. Mr. Kolb, Mr. Solomon

140B. Criticism: Special Topics. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A study of limited periods and specialized issues and approaches in the history of literary criticism, including moral, biographical, sociological, psychological, formal, structural, and deconstructionist. The area of concentration will be determined by the instructor and listed in the *Schedule of Classes.* Some study of literary texts, to illuminate the value and practical application of the approach, may be required. Mr. Riddel, Mr. Solomon

141A. Chaucer: *The Canterbury Tales.* Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. Introductory study of Chaucer's language, versification, and historical and literary background, including analysis and discussion of his long major poem, *The Canterbury Tales.* Satisfies the department's Chaucer requirement.
Mr. Calder, Mr. Condren, Ms. Ridley

141B. Chaucer: *Troilus and Criseyde* and Selected Minor Works. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. Intensive study of *Troilus and Criseyde* and selected minor works of Chaucer, such as *The Book of the Duchess, The House of Fame, The Parliament of Fowls,* etc. Satisfies the department's Chaucer requirement. Mr. Condren, Mr. Kelly, Ms. Ridley

142A. Shakespeare: The Poems and Early Plays. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. An intensive study of selected poems and representative comedies, histories, and tragedies through *Hamlet.*
Mr. Allen, Mr. Dent, Mr. Post

142B. Shakespeare: The Later Plays. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C, 142A. An intensive study of representative problem plays, major tragedies, Roman plays, and romances.
Mr. Braunmuller, Mr. Foakes, Mr. Kipling

142C. Shakespeare: Selected Topics. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. Designed for students interested in further study of Shakespeare. Limits of investigation will be set by the individual instructors.
Mr. Allen, Mr. Braunmuller, Mr. Rodes

143. Milton. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A study of the major works of Milton, with emphasis on *Paradise Lost.* 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 writers of the 14th and 15th centuries (e.g., the Gawain-poet, Langland, Gower, Malory, miracle and morality plays, prose, lyrics, and the minor poems of Chaucer). The more difficult texts will be 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 interrelationships of poetry, prose, fiction, and literary theory 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 the 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. Dent

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. The work of Milton is excluded. Mr. Grose, Mr. Gullans, Mr. Post

154. Literature of the Reatoration and Earlier 18th Century (1660-1730). 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 the Restoration and earlier 18th-century thought. Mr. Novak, 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 major works as literary documents and as products of later 18th-century thought.
Mr. Novak, Mr. Roper, Mr. Rousseau

156. The Drama, 1660-1842. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A survey of the English drama from the Restoration to the Licensing Act.
Mr. Batten, Mr. Novak, Mr. Rodes

157. The Novel to 1832. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A survey of the works of the major English novelists from Defoe through Scott.
Mr. Lehan, Mr. Rousseau, Ms. Yeazell

160. Earlier 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, Ms. Packer, 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 Peacock.
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 passage of the first Reform Bill through the high Victorian period, including such authors as Tennyson, Browning, Arnold, Carlyle, Mill, and Newman.
Mr. Freeman, Mr. Kolb, 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 later Victorian age from Pre-Raphaelitism through the aesthetic and decadent movements, along with other intellectual trends, including such authors as Ruskin, Swinburne, Pater, Hopkins, Hardy, Wilde, and Yeats. Mr. Freeman, 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 and Prose. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A study of the dominant trends of 20th-century poetry and prose, with emphasis on experimental work in short fiction, poetry, and the contemporary critical sensibility.
Mr. Bedient, Mr. Cross, Mr. Lincoln

166. The Novel, 1900 to the Present. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A survey of the major English novelists from Conrad to the present.
Mr. Lehan, Mr. Lincoln

167. The Drama, 1842 to the Present. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C (for theater arts majors the prerequisite of courses 10A, 10B, 10C is waived). A survey of British and American drama, with its principal continental influences.
Mr. Berst, Mr. Braunmuller, Mr. Goodwin

170. American Literature to 1800. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A historical survey of American literature through the Colonial and early national periods.

171. American Literature, 1801-1865. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A historical survey of American literature, including fiction, from the beginning of the 19th century to the end of the Civil War.
Ms. Packer, Mr. Rubin-Dorsky, Mr. Wortham

172. American Literature, 1866-1912. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. A historical survey of American literature from the end of the Civil War to the founding of *Poetry* magazine.
Mr. Rubin-Dorsky, Mr. Wortham

173. 20th-Century American Poetry. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. The development of American poetry since 1912, including the works of Frost, Eliot, Pound, and Stevens. Mr. Bedient, Mr. Riddel, Mr. Yenser

174. 20th-Century American Fiction. Prerequisites: satisfaction of Subject A requirement, courses 3, 4, 10A, 10B, 10C. The development of the American novel and short story since 1912, including the works of Hemingway, Fitzgerald, and Faulkner.
Mr. Goodwin, Mr. Paredes, Mr. Yarborough

175. Perspectives in the Study of American Culture. 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. The course concentrates 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. Enrollment is handled through the department at the time of preenrollment in the quarter *preceding* that in which the course is offered. For further details, see the departmental counselor. These courses may be repeated for credit.

180. Specialized Studies in Medieval Literature.

180X. Specialized Studies in Literature.

181. Specialized Studies in Renaissance Literature.

182. Specialized Studies in 17th-Century Literature.

183. Specialized Studies in 18th-Century Literature.

184. Specialized Studies in Romantic Literature.

185. Specialized Studies in Victorian Literature.

186. Specialized Studies in 20th-Century British Literature.

187. Specalized Studies in Colonial American Literature.

188. Specialized Studies in 19th-Century American Literature.

189. Specialized Studies in 20th-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.

M197. 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; Afro-American Literature in the Nadir: 1890-1914; Contemporary Afro-American Fiction. May be repeated for credit.
Mr. Yarborough (Sp)

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.
(Sp)

199. Special Studies in English (½ to 1 course). Prerequisite: consent of instructor. An intensive directed research project. To enroll or obtain information, see departmental counselor.

199HA. Honors Seminar. Prerequisite: course 140A. An introduction to research techniques and a study of various approaches and applications of critical methodology as it relates to the interpretation and evaluation of texts. Mr. Goodwin

199HB-199HC. Honors Tutorial. (Formerly numbered 199H.) Prerequisites: course 199HA and consent of instructor. A tutorial in which students write a thesis under the direction of a faculty member. In Progress grading.

Graduate Courses

200. Approaches to Literary Research. The bibliographical tools of English and American literary scholarship; an introduction to descriptive bibliography and basic methods of research.
Mr. Batten, Mr. Gullans, 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. 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. Computer and Literary Research. Practice in writing and using computer programs for the analysis of literary style, content, and authorship. Prior knowledge in this area is not necessary. Mr. Dearing

M205. Perspectives in American Folklore Research. (Same as Folklore M205.) Prerequisites: Folklore 101 and one other upper division folklore course. An examination of American folklore studies compared and contrasted with investigations in other countries, with emphasis upon the principal conceptual schemes and research orientations employed in the study of folklore in American society.
Mr. Georges, Mr. Jones, Mr. Wilgus

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.
Mr. Condren

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

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. Ridley

213. Modern English. Detailed study of the language's history and characteristics since 1500. Phonological, grammatical, and lexicographical developments will be studied in relation to accompanying intellectual, political, and social changes.

M215. Advanced Seminar in the Structure of Present-Day English. (Formerly numbered 215.) (Same as English as a Second Language M250K.) Prerequisite: English as a Second Language 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. Structures are studied to determine their function in a variety of English texts representing several discourse types. Ms. Celce-Murcia

216A-216B. Old Irish. Prerequisite: consent of instructor. Studies in grammar. Readings in the glosses and other texts. Comparative considerations.
Mr. Ford

217A-217B. Medieval Welsh. Prerequisite: consent of instructor. Studies in grammar. Readings in the Mabinogi 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 works and their cultural background. Students with adequate undergraduate preparation in one of the following periods may proceed directly to a seminar.

220. Readings in Medieval Literature.
Mr. Calder, Mr. Kelly, Ms. Ridley

221. Readings in Renaissance Literature.
Mr. Allen, Mr. Kinsman, Mr. Lanham

222. Readings in Earlier 17th-Century Literature.
Mr. Guffey, Mr. Gullans, Mr. Sellin

223. Readings in Restoration and 18th-Century Literature. Mr. Dearing, Mr. Novak, Mr. Rousseau

224. Readings in Romantic Literature.
Mr. Burwick, Mr. Maniquis, Mr. Sheats

225. Readings in Victorian Literature.
Mr. Freeman, Mr. Tennyson, Mr. Welsh

226A. Readings in Earlier American Literature. Mr. Rubin-Dorsky

226B. Readings in 19th-Century American Literature. Ms. Packer, Mr. Wortham

227. Readings in 20th-Century American Literature. Mr. Lehan, Mr. Riddel

228. Readings in 20th-Century British Literature. Mr. Bedient, Mr. Cross, Mr. Kessler

Seminar courses (230 through 260) are open to all graduate students with adequate preparation and may be repeated for credit. Enrollment is by consent of instructor, and continuing students must sign up for seminars before the end of the preceding quarter. A prospectus announcing topics for all seminars will be available in the department office by June 1 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.

M235. African Myth and Mythology. (Same as Folklore M235.) Prerequisite: graduate standing. The seminar will examine the methods of analyzing and appreciating African myths and mythological systems.

240. Studies in the History of the English Language. Individual seminars will deal 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.

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.

242. Language and Literature. The application of linguistics to literary analysis. Individual seminars will deal with a historical period (medieval and Renaissance, neoclassical, or 19th century and modern), specific authors, or the contributions of specific groups of linguists to literary analysis. Ms. Brienza, Mr. Grose, Mr. Lanham

M243A. 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. Wilgus

M243B. 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. Wilgus

244. Old and Medieval English Literature. Studies in the poetry and prose of Old and medieval English literature; limits of investigation to be set by the individual instructor. Mr. Calder, Mr. Kelly, Ms. Ridley

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 to be set by the individual instructor. Mr. Allen, Mr. Dent, Mr. Kinsman

247. Shakespeare. Mr. Allen, Mr. Dent, Mr. Foakes

248. Earlier 17th-Century Literature. Studies in the poetry and prose of 17th-century English literature up to the Restoration; limits of investigation to be set by the individual instructor. Mr. Guffey, Mr. Gullans, Mr. Sellin

249. Milton. Studies in the poetry and prose of John Milton; particular emphases to be set by the individual instructor. Mr. Grose, Mr. Post, Mr. Sellin

250. Restoration and 18th-Century Literature. Studies in English poetry and prose, 1660 to 1800; limits of investigation to be set by the 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 to be set by the individual instructor. Mr. Freeman, Mr. Kolb, Mr. Tennyson

253. Contemporary British Literature. Mr. Bedient, Mr. Kessler, Mr. Yenser

254. American Literature to 1900. Studies in Colonial and 19th-century American literature; limits of investigation to be set by the individual instructor. Mr. Wortham

255. Contemporary American Literature. Studies in contemporary American poetry and prose; limits of investigation to be set by the individual instructor. Mr. Lehan, Mr. Riddel, Mr. Yenser

256. Studies in the Drama. Studies in the drama as a genre from its beginning to the present; limits of investigation to be set by the 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 to be set by the individual instructor. Mr. Bedient, Mr. Kessler, Mr. Riddel

258. Studies in the Novel. Studies in the evolution of the genre from its beginnings to the present; limits of investigation to be set by the individual instructor. Mr. Lehan, Mr. Novak, Mr. Welsh

259. Studies in Criticism. Mr. Hutter, Mr. Riddel

260. Studies in Literature and its Relationship to the Arts and Sciences. Studies in the interrelationships of literature, the arts, and the sciences; limits of investigation to be set by the individual instructor. Mr. Guffey, Mr. Lincoln, Mr. Rousseau

270A-270B. English for the Two-Year College. Prerequisite: course 120B or 275. The courses will involve both discussion and practice of two-year college instruction in reading and composition. In Progress grading.

M271. Studies in African Literature in English. (Formerly numbered 271.) (Same as English as a Second Language M285K.) Prerequisite: consent of instructor. Special problems and trends of African literature in English. Mr. Povey

272. Current Issues in the Teaching of English. Prerequisite: course 120B or Linguistics 100. The course will focus each time on one of a variety of topics of special current interest. Mr. Lanham

M273. Studies in Afro-American Literature. (Same as Afro-American Studies M200E.) Seminar. 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. Mr. Yarborough

M274. The Teaching of English for Minority Groups. (Formerly numbered 274.) (Same as English as a Second Language M224K.) Prerequisites: English as a Second Language 370K, Linguistics 100, or consent of instructor. The course includes 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 are presented, relevant research reviewed, and educational implications discussed. Mr. Bowen, Ms. McGroarty

275. Stylistics and the Teaching of English. An introduction to the study of language and style and its application to the teaching of English, including rhetoric, linguistics, and grammar. Teaching assistants must take this course during their first year of teaching. Ms. Brienza

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.

375. Teaching Apprentice Practicum (¼ to 1 course). 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 not be substituted for any departmental enrollment requirements. May be repeated for credit. S/U grading.

495A-495B. Supervised Teacher Preparation (½ course each). (Formerly numbered 495.) Discussion, one hour; laboratory, one-half hour. **495A** is required of all applicants for a teaching assistantship in English and covers the practical concerns of designing a course, creating assignments, grading papers, and holding conferences for English 3 classes. **495B** must be taken concurrently with the first teaching assignment. It examines the specialized problems which occur in teaching English 3 and introduces students to techniques for teaching English 1 and ESL. In Progress and S/U grading. Ms. Brienza

496. Directed Individual Study in Pedagogy (½ course). Limited to teaching assistants working under a member of the faculty. Supervised individual instruction in teaching, including monitoring of teaching assistant's pedagogical activities and regular consultation with assistant concerning all teaching responsibilities. S/U grading.

501. Cooperative Program (½ to 2 courses). Prerequisite: consent of UCLA graduate adviser and Graduate Dean and host campus instructor, department Chair, and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

595. Directed Individual Study for M.A. Candidates. An independent study course for M.A. candidates which involves the completion of a substantial piece of work, creative or scholarly. Four units may be applied toward the five graduate courses required for the degree.

596. Directed Individual Study. For first-stage Ph.D. students preparing for the first qualifying examination. May not be repeated and may not be applied toward any course requirement for the degree. S/U grading.

597. Preparation for Ph.D. Examination. Ph.D. candidates are restricted to one course (four units) before the second qualifying examination. S/U grading.

599. Ph.D. Dissertation Research (1 or 2 courses). 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.

English Composition

UCLA Writing Programs:
371 Kinsey Hall, 206-6815

Freshman Writing Program:
271 Kinsey Hall, 206-1145

Professor

Richard A. Lanham, Ph.D., *Executive Director, UCLA Writing Programs; Vice Chair, Composition*

Adjunct Lecturers

Carol Hartzog, Ph.D., *Director, UCLA Writing Programs*

Mike Rose, Ph.D., *Director, Freshman Writing Program*

Visiting Lecturers
Dibakar Barua, Ph.D.
Charles Berezin, Ph.D.
Jennifer Bradley, Ph.D.
Irina Bragin, Ph.D.
Patricia Chittenden, M.A.
Ruth Clements, M.A.
Gary Colombo, C. Phil.
Robert Cullen, Ph.D.
Patricia Donahue, Ph.D.
Paul Douglass, Ph.D.
Dianne Dugaw, Ph.D.
Diane Durkin, Ph.D.
Carol Edwards, Ph.D.
Sandy Feinstein, M.A.
Gretchen Flesher, C.Phil.
George Gadda, C. Phil.
Mary Georges, M.A.
Lisa Gerrard, Ph.D.
Patricia Gilmore-Jaffe, Ph.D.
Cheryl Giuliano, M.A.
Donna Gregory, Ph.D.
Eugenia Gunner, C.Phil.
Michael Gustin, M.A.
Virginia Hornak, M.A.
Patricia Hunt, Ph.D.
Jeff Jeske, Ph.D.
John Johnston, C.Phil.
Malcolm Kiniry, Ph.D.
Janette Lewis, Ph.D.
Kathryn Lindberg, Ph.D.
Bonnie Lisle, Ph.D.
Sonia Maasik, M.A.
John Mascaro, M.A.
Mary Morgan, Ph.D.
Faye Peitzman, Ph.D.
Susan Popkin, M.A.
Ellen Quandahl, Ph.D.
Paul Schiffer, Ph.D.
Jeffrey Skoblow, M.A.
Ellen Strenski, Ph.D.
Patricia Taylor, Ph.D.
Cynthia Tuell, M.A.
Jim Williams, M.A.
Jennifer Wilson, Ph.D.
John Yockey, 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 adjunct courses (linked with courses in other departments) and advanced courses in exposition and 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 English 1. Placement in these courses is determined by performance on the Subject A Placement Test. For more information regarding Subject A, see "Undergraduate Degree Requirements" in Chapter 2.

Composition Requirement

Each of the University's colleges and schools sets its own composition requirement. Completing English 3 with a C or better meets the requirement in all divisions. For further information about the composition requirement, see the introductory copy for your college or school.

Students who score 660 or better on the CEEB English Achievement Test are eligible to take the English Proficiency Examination. Outstanding performance on this examination fulfills the composition requirement. For further information, contact the Freshman Writing Program.

Courses

See departmental listings for English A, 1, 3, 100W, 120A, 120B, 120C, 130, 131, 136A-136B-136C.

English as a Second Language

3303 Rolfe Hall, 825-4631

Professors
J. Donald Bowen, Ph.D.
Russell N. Campbell, Ph.D.
Evelyn R. Hatch, Ph.D.
John F. Povey, Ph.D., *Vice Chair*
Clifford H. Prator, Ph.D., *Emeritus*

Associate Professors
Roger W. Andersen, Ph.D.
Marianne Celce-Murcia, Ph.D.
Earl J. Rand, Ph.D.
John H. Schumann, Ph.D.

Assistant Professors
Frances B. Hinofotis, Ph.D.
Mary E. McGroarty, Ph.D.

Assistant Professor
Peter A. Shaw, Ph.D., *Visiting*

Lecturer
Donna Brinton, M.A., *Adjunct*

Scope and Objectives

The program in teaching English as a second language in the Department of English is designed for teachers who wish to develop a professional specialization in the instruction of students whose mother tongue is not English (or is a dialect other than standard English). This program is a two-year course of graduate study leading to a Master of Arts degree. Students who already have an M.A. in another field or who, for any reason, can pursue graduate study only for one year, may receive a certificate in TESL.

The first year of the TESL program is designed to improve teachers' performance in the ESL classroom. The second year provides an opportunity to investigate in depth some particular aspect of teaching and learning English as a second language. The course of study includes a substantial practical element: observing classes, preparing lesson plans, and actual classroom teaching. There is, however, an equal or 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. This program is therefore probably not appropriate for the student who is interested exclusively in receiving vocational training.

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 Applied Linguistics, 3306 Rolfe Hall, UCLA, Los Angeles, CA 90024. (Also see the section on "Applied Linguistics" earlier in this chapter.)

Certificate Program and 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. A one-year program leading to the TESL certificate is also available for students whose circumstances preclude longer study.

To be admitted to the certificate or the M.A. program, U.S. citizens and students from other countries must have the equivalent of an American bachelor's degree or an educational background sufficient to qualify them as teachers in their country.

The certificate program, which represents the first year of study for the M.A., includes nine courses, which can normally be completed within the nine-month period of an academic year.

Since several of the courses are given only once a year and must be taken in fixed order, students are admitted only at the beginning of Fall Quarter.

In order to complete the certificate program, you must maintain a grade-point average of at least B (3.0). A GPA of 3.25 (B+) is required if you are entering the second year of the M.A. program and must be maintained throughout the second year.

Prior teaching experience is preferred, but not required for admission. The admissions committee in the ESL Section screens all applications using the following criteria: grade-point average, letters of recommendation, statement of purpose, and relevant professional experience. Since admission is limited to approximately 40 students per year, it is important that complete applications and supporting papers be submitted.

Applications for admission may be obtained from and returned to the Graduate Admissions Office. The TESL program does not have a separate departmental application, but requires three letters of recommendation in support of the application. You are requested to submit the letters of recommendation and the statement of purpose directly to the Graduate Adviser, English as a Second Language Section, Department of English, 3306 Rolfe Hall, UCLA, Los Angeles, CA 90024. 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; and (3) knowledge of languages other than English.

The Graduate Record Examination (GRE) is not a requirement for admission. Personal interviews are not required, but are welcome.

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 111K plus an unrestrictive elective.

Those particularly interested in working with Mexican-American, Asian-American, or American Indian pupils will normally choose the third of these alternatives. When there is doubt as to which language will be most appropriate, a non-European language should be selected because of the greater broadening of linguistic horizons that such a selection offers. Foreign language courses that deal with linguistic structure should be selected whenever possible.

Non-native speakers of English, depending on the results of the University's placement examination in English as a Second Language, may be required to take a course to improve their practical command of English. Courses such as English 33A, 33B, and 33C (course descriptions follow) are remedial and may not be applied toward the certificate.

You are urged to fulfill the language requirement by taking courses after admission to the certificate program. Exemption from the courses 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.

Course Requirements

The typical course of study for both the certificate program and 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):

Fall Quarter: Linguistics 100, English 370K, foreign language requirement or elective (course depends on language requirement plan)

Winter Quarter: English 240K, 241K, foreign language requirement or elective (course depends on language requirement plan)

Spring Quarter: English 106K or 107K or 109K, 380K, Linguistics 103 or English 103K

Exceptions to the above requirements will be made only after consultation with the graduate adviser.

Of the nine courses required for the certificate, at least seven must be in TESL, English, linguistics, or structure of language courses in language departments.

Work completed in regular undergraduate status may not be applied toward the certificate or M.A. program requirements.

Teaching Experience

You are required to teach ESL under the supervision of a master teacher either in one of the UCLA ESL service courses, in an adult school, in a secondary school, or in an elementary school. In addition to supervision and observation by the master teacher of the host schools, you are observed several times during each course by an ESL faculty member.

The Certificate in Teaching English as a Second Language leads to a credential to teach on the adult school level only.

Master of Arts Degree

Major Fields or Subdisciplines

The M.A. in TESL is designed to provide an opportunity to investigate in depth some particular aspect of teaching and learning English as a second language or dialect. Whereas the major emphasis of the certificate year is on improving the teacher's performance in the classroom, the M.A. program is particularly relevant to out-of-class responsibilities such as research, planning, curriculum development, the formulation of policy, and the preparation of instructional materials.

Foreign Language Requirement

There are no foreign language requirements for the M.A. in TESL other than those included among the certificate requirements.

Course Requirements

A total of 14 courses is required for the M.A. degree. Four of the nine courses taken during the first year (usually Linguistics 100, Linguistics 103 or English 103K, English 240K and 241K) are applied toward the University's nine-course minimum requirement for master's degrees. This leaves five courses, four of which must be at the graduate level, to be completed during the second year.

You should consult with the M.A. adviser about a choice of electives. Eight units of 500-series courses may be applied toward the M.A. degree. You must enroll in course 598K each quarter you are registered; however, only four units may be applied toward the degree. In addition, you may take up to four units of course 596K or other 500-series courses (on a letter grade basis) in other departments if relevant to the thesis preparation.

English 400K is a seminar in which TESL M.A. candidates present and defend the results of their thesis research. Enrollment is required in the Spring Quarter but does not count as one of the 14 courses required for the M.A.

Teaching Experience

One quarter of supervised teaching is required during the certificate year unless you have had extensive teaching experience.

Thesis Plan

By the end of the fourth quarter, a thesis proposal, signed by two faculty members, is submitted to the faculty. At this time, plans for the thesis are approved and the thesis committee is established. An outside member is required.

Undergraduate Courses

Courses 33A, 33B, 33C, 34, 35, 36, 103J, 106J, 109J are only for students whose first 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 mother tongue is not English must take instead of the Subject A Placement Test (see Subject A in Chapter 2). Depending on the results of this examination, entering students are (1) exempted 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, followed by courses 33A, 33B, 33C.

Lower Division Courses

33A. Low Intermediate English as a Second Language. Lecture, ten hours. Prerequisite: grade of C or better in X832 or proficiency demonstrated on the English as a Second Language Placement Examination. Intensive instruction in the structure of English, with a focus on vocabulary building, reading and listening skills, and basic composition techniques.

33B. Intermediate English as a Second Language. Lecture, five hours. Prerequisite: grade of C or better in course 33A or proficiency demonstrated on the English as a Second Language Placement Examination. Emphasizes writing and reading comprehension skills. Additional work on grammar review, vocabulary development, listening, and speaking.

33C. High Intermediate English as a Second Language. Lecture, five hours. Prerequisite: grade of C or better in course 33B or proficiency demonstrated on the English as a Second Language Placement Examination. Emphasizes composition research skills and reading of unsimplified academic materials.

34. Oral Communication Skills for ESL Students. Prerequisite: grade of C or better in course 33C or proficiency demonstrated on the English as a Second Language Placement Examination. Develops oral skills that prepare nonnative speakers of English to participate in class discussion, make oral presentations before an audience, respond to questions, and improve through self-evaluation of speech.

35. Developmental Composition for ESL Students. Prerequisite: grade of C or better in course 33C or proficiency demonstrated on the English as a Second Language Placement Examination. Developmental composition skills for ESL students, with a focus on the mechanics of writing, grammatical structures, and recognition of and practice with the major academic discourse modes.

36. Intermediate Composition for ESL Students. Prerequisite: grade of C or better in course 33C or proficiency demonstrated on the English as a Second Language Placement Examination. A course designed to improve English language writing skills for nonnative speakers of English. Special attention is given to 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, Mr. Bowen

106J. Advanced Composition for ESL Students. Prerequisite: grade of C or better in course 33C or proficiency demonstrated on the English as a Second Language Placement Examination. Exercises in writing based on readings dealing with American life and thought, with the aim of developing idiomatic control of expression. Mr. Rand

106K. Writing in the ESL Context. Limited to TESL certificate or M.A. candidates. Provides opportunities for practice and improvement in writing skills and thus fulfills the composition requirement for the TESL certificate. Surveys important theoretical and methodological issues related to the teaching of writing/composition to ESL students and examines appropriate classroom materials. Mr. Rand

107K. Reading in the ESL Context. Limited to TESL certificate or M.A. candidates. Provides opportunities for practice and improvement in writing skills and thus fulfills the composition requirement for the TESL certificate. Surveys important theoretical and methodological issues related to the teaching of reading to ESL students and examines appropriate classroom materials. Ms. Hatch

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. Mr. Povey

109K. Literature in the ESL Context. Limited to TESL certificate or M.A. candidates. Provides opportunities for practice and improvement in writing skills and thus fulfills the composition requirement for the TESL certificate. Surveys important theoretical and methodological issues related to the teaching of literature to ESL students and examines appropriate classroom materials. Strongly emphasizes the cultural basis for literature. Ms. Brinton, Mr. Povey

111K. Background Language for Teachers of English as a Second Language. Prerequisite: consent of instructor. Fulfills the foreign language requirement for the Certificate in Teaching English as a Second Language. Beginning course in a non-Indo-European language taught as a demonstration of recommended pedagogical techniques and designed to acquaint prospective language teachers with a wide variety of linguistic structures. 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

Graduate Courses

All graduate courses are open to qualified graduate students from other departments by consent of department.

209K. Current Issues in Experimental Design and Statistics for Applied Linguistics. (Formerly numbered 272K.) The course deals with 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, Ms. Hinofotis, Mr. Rand

220K. Materials Development for Language Teaching. (Formerly numbered 272K.) Prerequisites: course 370K and at least two years of ESL/EFL teaching experience. Planning and preparation of an 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 are emphasized. Ms. Celce-Murcia, Mr. Shaw

221K. Media for Language Teaching. (Formerly numbered 272K.) The course provides 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 is provided, focusing on the application to ESL instruction. Ms. Brinton, Mr. Shaw

222K. Language Testing for Teachers of English as a Second Language. (Formerly numbered 261K.) Prerequisites: course 370K, Linguistics 100. Theories and techniques for language assessment across the skill areas are covered. Emphasis is on classroom testing and the functions of testing within a language program. Basic statistical concepts are presented, as is hands-on experience with the construction of language tests. Ms. Hinofotis, Mr. Rand

223K. Role of English as a Second Language in Bilingual Education. (Formerly numbered 210K.) Prerequisites: course 370K, Linguistics 100. Survey of the literature, presentation of major research, and discussion of bilingual education programs in the United States. The course explores the linguistic, psychological, and sociological manifestations of bilingualism, with particular reference to aspects of learning, teaching, and testing language skills. Mr. Campbell, Ms. McGroarty

M224K. The Teaching of English for Minority Groups. (Formerly numbered 224K.) (Same as English M274.) Prerequisites: course 370K, Linguistics 100, or consent of instructor. The course includes 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 are presented, relevant research reviewed, and educational implications discussed. Mr. Bowen, Ms. McGroarty

225K. Program Evaluation in Applied Linguistics. Evaluation of the effectivenes 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. Ms. Hatch

229K. Current Issues in Language Education. (Formerly numbered 272K.) The course deals with specialized topics in language education of interest to graduate students in TESL and applied linguistics. Emphasis varies according to current topics of theoretical and practical import in the field.

232K. Advanced Seminar in the Construction and Administration of Language Tests. (Formerly numbered 263K.) Prerequisite: course 222K or consent of instructor. The course is designed to explore current issues in language testing research from both theoretical and practical perspectives and to provide actual experience in addressing a current issue. Specific topics vary according to trends in the field. Ms. Hinofotis, Mr. Rand

241K. Contrastive and Error Analysis in the ESL Context. (Formerly numbered 250K.) Prerequisites: course 370K, Linguistics 100. Analysis of English and other languages at 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. Observation of ESL classes. Mr. Andersen, Mr. Bowen, Mr. Schumann

249K. Current Issues in Language Analysis. (Formerly numbered 272K.) The course deals with specialized topics in language analysis of interest to graduate students in TESL and applied linguistics. Emphasis varies according to current topics of theoretical import in the field. Mr. Andersen, Ms. Celce-Murcia, Mr. Schumann

M250K. Advanced Seminar in the Structure of Present-Day English. (Formerly numbered 250K.) (Same as English M215.) 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. Structures are studied to determine their function in a variety of English texts representing several discourse types. Ms. Celce-Murcia

251K. Advanced Seminar in Interlanguage Analysis. (Formerly numbered 272K.) Prerequisites: courses 241K, M250K. Students analyze interlanguage from various points of view (e.g., topic-comment structure, tense, aspect, modality, thematic structure of utterances), with the aim of understanding how interlanguage is organized. Students undertake original research projects. Mr. Andersen, Ms. Hatch, Mr. Schumann

260K. Psycholinguistics and Language Teaching. Prerequisites: courses 103K, 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

261K. Second-Language Acquisition. (Formerly numbered 262K.) Prerequisite: consent of instructor. The literature on child and adult second-language acquisition forms the basis for this lecture class. Language variables (phonological, morphological, sentential, and discourse levels) and social and psychological variables which may account for differences in learning are considered. Mr. Andersen, Ms. Hatch, Mr. Schumann

269K. Current Issues in Language Acquisition. (Formerly numbered 272K.) The course deals with specialized topics in language acquisition of interest to graduate students in TESL and applied linguistics. Emphasis varies according to current topics of theoretical concern in the field. Mr. Andersen, Ms. Hatch, Mr. Schumann

280K. Language Policy in Developing Countries. (Formerly numbered 270K.) 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. Prator

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. (Formerly numbered 272K.) Prerequisite: consent of instructor. An introduction to the field of cross-cultural communication, with special attention given 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. (Formerly numbered 272K.) 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, Mr. Shaw

284K. English for Specific Purposes. (Formerly numbered 264K.) 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, Mr. Shaw

M285K. Studies in African Literature in English. (Formerly numbered 285K.) (Same as English M271.) Prerequisite: consent of instructor. Special problems and trends of African literature in English.
Mr. Povey

289K. Current Issues in Language Use. (Formerly numbered 272K.) The course deals with 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, Mr. Shaw

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 language learning. Analysis of the differences between two languages as a basis of instruction.
Ms. Celce-Murcia, Ms. Hatch, Mr. Schumann

375K. Teaching Apprentice Practicum (¼ to 1 course). 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. Erickson

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. P/NP (undergraduate students) and S/U (graduate students) grading.

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 dissertation. S/U grading. (Sp)

495KA-495KB. Training and Supervision of Teaching Assistants (½ course each). Lecture, two or more hours. Corequisite: appointment as a teaching assistant or Extension Division instructor. Orientation, preparation, and supervision of graduate students who have the 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. (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 (1 to 2 courses). 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 will be 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. Mr. Rand

Environmental Science and Engineering
(Interdepartmental)

This interdisciplinary graduate program, which leads to the Doctor of Environmental Science and Engineering degree (D.Env.), 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)

An intercollege, interdepartmental major in ethnic arts 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 breadth requirements of that college. For details on this undergraduate major, see Chapter 6 on the College of Fine Arts.

Folklore and Mythology
(Interdepartmental)

1041 Graduate School of Management, 825-3962

Professors
Shirley L. Arora, Ph.D. *(Spanish and Portuguese)*
Kees W. Bolle, Ph.D. *(History)*
Margherita Cottino-Jones, Ph.D. *(Italian)*
Elsie Dunin, M.A. *(Dance)*
Patrick K. Ford, Ph.D. *(English)*
Robert A. Georges, Ph.D. *(English), Chair*
Marija Gimbutas, Ph.D. *(Slavic Languages and Literatures)*
Melvyn B. Helstien, Ph.D. *(Theater Arts)*
Nazir A. Jairazbhoy, Ph.D. *(Music)*
Michael O. Jones, Ph.D. *(History), Vice Chair*
Vladimir Markov, Ph.D. *(Slavic Languages and Literatures)*
James W. Porter, M.A. *(Music)*
Douglass Price-Williams, Ph.D. *(Anthropology)*
Jaan Puhvel, Ph.D. *(Classics)*
Stanley L. Robe, Ph.D. *(Spanish and Portuguese)*
Allegra Snyder, M.A. *(Dance)*
Robert M. Stevenson, Ph.D. *(Music)*
Donald J. Ward, Ph.D. *(Germanic Languages)*
Johannes Wilbert, Ph.D. *(Anthropology)*
Wayland D. Hand, Ph.D., *Emeritus (Germanic Languages)*
Charles Speroni, Ph.D., *Emeritus (Italian)*

Associate Professors
Steven Lattimore, Ph.D. *(Classics)*
Philip L. Newman, Ph.D. *(Anthropology)*
Arnold Rubin, Ph.D. *(Art, Design, and Art History)*

Assistant Professors
Jacqueline C. DjeDje, Ph.D. *(Music)*
David E. Draper, Ph.D. *(Music)*
Joseph Nagy, Ph.D. *(English)*
Beverly J. Robinson, M.A. *(Theater Arts)*

Associate Professor
Marianna D. Birnbaum, Ph.D., *Adjunct (Germanic Languages)*

Lecturer
Inkeri A. Rank, M.Ed., *Adjunct (Scandinavian Languages)*

Scope and Objectives

The interdisciplinary folklore and mythology program, which leads to the Master of Arts and Ph.D. degrees, provides coordinated study of the traditional life-styles of specific societies and culture areas, on the one hand, and systematic training in the research methods and investigative techniques of cross-cultural study, on the other. Courses focus upon the nature, history, and functions of such traditional forms as narrative, song, music, art, 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 ethnic arts 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.

Foreign Language Requirement

A 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 chosen 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 500 or better, or

(3) Passing a reading examination administered and evaluated by members of the program faculty (or by outside faculty for languages not familiar to the program faculty).

Course Requirements

All degree candidates, whether electing the thesis or 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 will be followed by an oral examination covering the fields of folklore and mythology studies.

The thesis committee, composed of three or more faculty members chosen 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 will be expected to demonstrate competence in a written examination 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.

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 comprehensive examination. You will be admitted to the doctoral program upon 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 will be selected with the approval of the guidance committee.

Foreign Language Requirement

A 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) related disciplines.

Qualifying Examinations

After the required preparation, you will complete a written examination covering (1) your specialization in folklore and mythology and (2) your related area of concentration. The examination will be administered by a committee appointed with the approval of the interdepartmental committee and will include one or more members from your related discipline.

The written examination is followed by a University Oral Qualifying Examination, which you must pass in order to be advanced to candidacy. The oral examination is administered by the doctoral committee, which will also consider and approve your dissertation topic.

Final Oral Examination

A successful oral defense of the dissertation will constitute the final examination for the degree.

Lower Division Course

15. Introduction to American Folklore Studies. Lecture and 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 will also be given to representative areas of inquiry and analytical procedures.

Upper Division Courses

101. Introduction to Folklore. Prerequisite: junior standing. A survey of the various forms of folklore and an examination of their historical and social significance.

CM106. Anglo-American Folk Song. (Formerly numbered M106.) (Same as English M111B.) Prerequisites: satisfaction of Subject A requirement, junior standing. A survey of Anglo-American balladry and folk song, with attention to historical development, ethnic background, and poetic and musical values. May be concurrently scheduled with course C206. Mr. Wilgus

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

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, folktale, 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 is not required. A general course dealing with Celtic literature from the earliest times to the 14th century. Mr. Ford

118. Folk Art and Technology. Prerequisite: junior standing. A general course concerned with the material manifestations of folk culture and the theoretical concepts and methodologies utilized in their analysis. Mr. Jones

M121. British Folklore and Mythology. (Same as English M111C.) Prerequisites: satisfaction of Subject A requirement, junior standing. A survey of the folklore of the peoples of Britain, with attention to their history, function, and regional differences.
Mr. Nagy, Mr. Porter

M122. Celtic Mythology. (Same as English M111D.) Prerequisite: course 101 or consent of instructor. A survey of the early materials, chiefly literary, for the study of the mythic traditions of the Celtic peoples, ranging from ancient Gaul to medieval Ireland and Wales. Mr. Ford

M123A. Finnish Folklore and Mythology. (Same as Scandinavian M123A.) The methods and results of Finnish folklore studies and the mythic traditions of the Finns. Special attention is paid to the oral epic, beliefs, and legends. Ms. Rank

M123B. Finnish Folk Song and Ballad. (Same as Scandinavian M123B.) Course M123A is not prerequisite to M123B. A survey of Finnish balladry and folk song, with attention to historical development, ethnic background, and poetic and musical values.
Ms. Rank

124. Finnish Folk Art and Technology. Material manifestations of Finnish folk culture: village layout and architecture, folk technology, arts and crafts, textiles, costumes, and design. Ms. Rank

M125. Folklore and Mythology of the Lapps. (Same as Scandinavian M125.) Survey of Lappish beliefs, customs, and various genres of oral tradition, including tales, legends, songs, and music. Attention is also paid to the material manifestations of Lappish culture: arts and crafts, textiles, costume, folk technology. Ms. Rank

M126. Baltic and Slavic Folklore and Mythology. (Same as Slavic M179.) Lecture, three hours. A general course for students interested in folklore and mythology and for those interested in Indo-European mythic antiquities. Mrs. Gimbutas

M127. Celtic Folklore. (Same as English M111F.) Prerequisite: course 101 or consent of instructor. The folkloric traditions of modern Ireland, Scotland, and other Celtic countries, with attention to current techniques of folkloristic research. Mr. Nagy

M128. Hungarian Folklore and Mythology. (Same as Hungarian M135.) A general course for the student in folklore and mythology, with emphasis on types of folklore and varieties of folklore research.
Ms. Birnbaum

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

130. North American Indian Folklore and Mythology Studies. Prerequisite: course 101 or 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 been evolved historically for the analysis of such data.
Mr. Georges

131. Folklore of India. Prerequisite: course 101 or consent of instructor. A survey of the folklore of India, with special reference to the content and dissemination of oral epics, ballads, legends, and beliefs.
Mr. Jairazbhoy

M140. From Boccaccio to Basile (in English). (Same as Italian M140.) Lecture, three hours. A study of the origins and the development of the Italian novella in its themes, in its structure, in its historical context, and in its European ramifications. The course is designed for students in other departments who wish to become acquainted with either the premises or the growth of similar literary genres. It is also intended for students majoring in folklore and mythology, who will be 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 tradition of the Western world.
Mrs. Cottino-Jones

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. Ms. Arora, Mr. Robe

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 West African, Afro-American, and Afro-Brazilian musical traditions. Ms. DjeDje

M155. Oral Traditions in Africa. (Same as English M111G.) Prerequisite: upper division standing. A survey of African folk traditions: folktale, epic, heroic poetry, and folk song.

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 in historical sources; how the folk traditionalize history to reflect their point of view.

M170. Russian Folklore. (Same as Russian M170.) Lecture, three hours. A general introduction to Russian folklore, including a survey of genres and related folkloric phenomena. Lectures and readings in English.

172. Folklore in Ethnic Context. Prerequisite: course 15 or 101 or consent of instructor. The role of folklore in ethnic relations; the processes by which ethnic folklore is generated, transmitted, and maintained by immigrant groups and subsequent generations.

M180. Analytical Approaches to Folk Music. (Same as Music M180.) Prerequisites: Music 5A-5B-5C or consent of instructor. An intensive study of the methods and techniques necessary to the understanding of Western folk music. Mr. Porter

M181. Folk Music of Western Europe. (Same as Music M181.) Prerequisite: consent of instructor. The course introduces students to the forms and styles of traditional music in Western Europe. Historical and ethnological perspectives on this music are combined with numerous recorded examples from the major cultural subdivisions of the region.
Mr. Porter

190. Selected Topics in Folklore and Mythology Studies. Prerequisites: course 15 or 101 and consent of instructor. A proseminar focusing upon selected problems, data, or themes in folklore and mythology studies.

199. Special Studies in Folklore (½ to 1 course). Prerequisites: senior standing and 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.
Mr. Georges, Mr. Ward

201A. Folklore Collecting and Field Research. Prerequisite: course 200. Discussion-demonstration concerning the theoretical concepts, methods, and techniques of data gathering and field research in folklore. Mr. Jones, Mr. Wilgus

201B. Folklore Collecting and Field Research. Prerequisite: course 201A. The supervised completion of a fieldwork project developed in course 201A.
Mr. Jones, Mr. Wilgus

202A-202B. Folklore Archiving (½ course each). Prerequisite: course 200. One quarter of lecture-demonstration in the principles and techniques of the classification and preservation of folklore collectanea, followed by one quarter of directed experience in archiving. Mr. Georges

M205. Perspectives in American Folklore Research. (Same as English M205.) Prerequisites: course 101 and one other upper division folklore course. An examination of American folklore studies compared and contrasted with investigations in other countries, with emphasis upon the principal conceptual schemes and research orientations employed in the study of folklore in American society.
Mr. Georges, Mr. Jones, Mr. Wilgus

C206. Anglo-American Folk Song. Prerequisite: graduate standing. A survey of Anglo-American balladry and folk song, with attention to historical development, ethnic background, and poetical and musical values. May be concurrently scheduled with course CM106. Mr. Wilgus

208. Afro-American Folklore and Culture. Prerequisite: graduate standing. The course will examine the theoretical and methodological constructs which have contributed to the body of Black cultural expression in the United States. Ms. Robinson

213. Folk Belief and Custom. Prerequisites: course 101 and one course chosen from 118, M121, M122, M123A, M123B, 124, M125, M126, M128, M149, M150, Anthropology 156, German 134, 240A, 240B, 240C. A study of beliefs and customs in the folk community: the life cycle, calendrical and agricultural customs, and legal antiquities. Mr. Jones, Mr. Ward

215. The Popular Legend. Prerequisite: course 200 or consent of instructor. A study of the categories of legendry and their relation to myth, custom, ritual, popular beliefs, and ballads. Mr. Ward

216. The Folktale. Prerequisite: course 200 or consent of instructor. Mr. Georges, Mr. Ward

217. Folk Speech. Prerequisite: course 101, M106, or M111. Recommended: Anthropology M140, English 121, or Linguistics 100. A study of the ethnography of communication and its relevance to the study of social and regional dialects, proverbs, riddles, onomastics, folk poetry and verse, and traditional humor. Mr. Georges

218. Folk Art, Craft, and Aesthetics. Lecture, three hours. Prerequisite: course 200. An examination of research orientations and findings in regard to what has been called folk art, craft, and aesthetics. Course organization reflects major perspectives and areas of inquiry from the latter part of the 19th century to the present. Mr. Jones

M219. Seminar in the Puppet Theater. (Same as Theater Arts M217B.) Lecture, three hours. Prerequisite: consent of instructor. Studies in the puppet theaters of the world: techniques, literature, aesthetics.

228. Seminar: Topics in Celtic Folklore and Mythology. Lecture, three hours. Prerequisites: course 200 plus coursework in Celtic studies. The seminar prepares students 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 *(laoidhe/duain)* and prose tales; "fairy" beliefs; collecting and archiving methods of the Irish Folklore Commission; folklore studies and nationalism. Mr. Ford, Mr. Nagy

M230A-M230B. Folk Tradition in Italian Literature. (Same as Italian M230A-M230B.) Lecture, two hours.

M235. African Myth and Mythology. (Same as English M235.) Prerequisite: graduate standing. The seminar will examine the methods of analyzing and appreciating myths and mythological systems.

240. Introduction to Jewish Folk Literature. Prerequisites: upper division standing and consent of instructor or graduate standing. An examination of both the historic and generic methods used in the study of Jewish folk literature.

M241. Folklore and Mythology of the Near East. (Same as Near Eastern Languages M241.) Prerequisite: course 101 or equivalent.

M243A. The Ballad. (Same as English M243A.) Prerequisite: consent of instructor. 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. Intensive 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.

M249. Hispanic Folk Literature. (Same as Spanish and Portuguese M249.) Seminar, three hours. Prerequisite: graduate standing. An intensive study of folk literature as represented in (1) ballad and poetry, (2) narrative and drama, (3) speech. Ms. Arora, Mr. Robe

251. Seminar in Finno-Ugric Folklore and Mythology. Advanced studies in the folk traditions and mythologies of the Finno-Ugric speaking nations.

M257. South American Folklore and Mythology Studies. (Same as Anthropology M232R.) 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, Mr. Wilgus

259. Seminar in Folklore. Prerequisites: course 200 and consent of instructor.

M286A-M286B-M286C. Studies in Hispanic Folk Literature. (Same as Spanish M286A-M286B-M286C.) Seminar, two hours:

M286A. The Romancero. Prerequisite: Spanish 222.

M286B. Narrative and Drama. Prerequisite: course M249. Ms. Arora, Mr. Robe

M286C. Ballad, Poetry, and Speech. Prerequisite: course M249. Ms. Arora, Mr. Robe

375. Teaching Apprentice Practicum (¼ to 1 course). 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.

400A-400B-400C. Directed Professional Activities. Prerequisite: consent of department Chair. Directed individual projects in professional editing, bibliography, 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.

495A-495B. The Teaching of Folklore and Mythology. Prerequisite: course 200. Analysis and design of alternative organizational schemes, teaching aids and techniques, and evaluation methods for folklore and mythology courses at college level, with opportunities for observation and apprentice teaching. May not be applied toward the M.A. course requirements. S/U and In Progress grading. Mr. Georges, Mr. Jones

501. Cooperative Program (½ to 2 courses). Prerequisite: consent of UCLA graduate adviser and Graduate Dean and host campus instructor, department Chair, and Graduate Dean. The course is 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 (½ to 1½ courses).

597A. Preparation for M.A. Comprehensive Examinations (½ to 1 course). (Formerly numbered 597.) Prerequisites: graduate standing in folklore and mythology and consent of instructor. S/U grading.

597B. Preparation for Ph.D. Qualifying Examinations (1 to 2 courses). Prerequisites: successful completion of the M.A. comprehensive examination and consent of instructor. S/U grading.

598. M.A. Thesis Preparation (½ to 1 course).

599. Ph.D. Dissertation Research (1 to 2 courses). Prerequisite: advancement to doctoral candidacy. S/U grading.

Related Courses in Other Departments

African Languages (Linguistics) 150A-150B-150C. African Literature 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 102. Art of the Ancient Near East

C117A. Advanced Studies in Pre-Columbian Art: Mexico

C117B. Advanced Studies in Pre-Columbian Art: Central America

C117C. Advanced Studies in Pre-Columbian Art: The Andes

118A. The Arts of Oceania

118B. The Arts of Pre-Columbian America

118C. The Arts of Sub-Saharan Africa

118D. The Arts of Native North America

C119A. Advanced Studies in African Art: Western Africa

C119B. Advanced Studies in African Art: Central Africa

203. Museum Studies

220. The Arts of Africa, Oceania, and Pre-Columbian America

Bulgarian (Slavic Languages) 99. Introduction to Bulgarian Civilization

Classics 161. Introduction to Classical Mythology

162. Classical Myth in Literature

166A. Greek Religion

166B. Roman Religion

168. Introduction to Comparative Mythology

268. Seminar in Comparative Mythology

Comparative Literature C240. Medieval Epics

Dance 140A-140B-140C. Dance Cultures of the World

141A-141B. Dance Forms

142. Dance in the Balkans

143. Dance in India

144. Dance in Indonesia

145. Dance in Japan

146. Dance in Latin America

151A. History of Dance in Western Culture, Origins to 1600

226A-226E. Dance Expression in Selected Cultures

English 112. Children's Literature

220. Readings in Medieval Literature

French 115A-115D. Medieval French Literature

215A-215E. The Medieval Language and Literature

German (Germanic Languages) 134. German Folklore

240A. Theories, Methods, and History of Germanic Folklore

240B. Folk Song and Ballad

240C. Oral Prose Genres

245B. Germanic Antiquities

262. Seminar in Germanic Folklore

History 193A. History of Religions: Myth

Italian 214E. The *Decameron*

217B. Commedia dell'arte and the Theatre

218C. The Theater, Especially Metastasio, Goldoni, C. Gozzi

Music 132A-132B. Development of Jazz

140A-140B-140C. Musical Cultures of the World

141. Survey of Music in Japan

142A-142B. Folk Music of Eastern Europe and the Mediterranean

143A-143B. Music of Africa

147A-147B. Music of China

148. Folk Music of South Asia

149. The Anthropology of Music

152. Survey of Music in India

153A-153B-153C. Music of the American Indians

158. New Orleans Jazz

C190A-C190B. Proseminar in Ethnomusicology

253. Seminar in Notation and Transcription in Ethnomusicology

254A-254B. Seminar in Field and Laboratory Methods in Ethnomusicology

255. Seminar in Musical Instruments of the Non-Western World

280. Seminar in Ethnomusicology

281A-281B. Music of Indonesia

282. Music of Iran and Other Non-Arabic Speaking Communities

283. Music of Thailand

285. Music of Tibet

287. Seminar in African Music

288. Seminar in North American Indian Music

Old Norse Studies (Germanic Languages) 40. The Heroic Journey in Northern Myth, Legend, and Epic

140. Viking Civilization and Literature

Romanian (Slavic Languages) 99. Introduction to Romanian Civilization

Russian (Slavic Languages) 251A-251B. Old Russian Literature

291A. Seminar in Old Russian Literature

Slavic (Slavic Languages) 99. Introduction to Slavic Civilization

Sociology 124. Ethnic and Status Groups

130. Social Processes in Africa

131. Latin American Societies

132. Population and Society in the Middle East

133. Comparative Sociology of the Middle East

Spanish (Spanish and Portuguese) 262B. Epic Poetry

Theater Arts 117. The Puppet Theater

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-150C. African Literature in English Translation

Ancient Near East (Near Eastern Languages) 150A-150B-150C. Survey of Ancient Near Eastern Literatures in English

Arabic (Near Eastern Languages) 150A-150B. Survey of Arabic Literature in English

Armenian (Near Eastern Languages) 150A-150B. Survey of Armenian Literature in English

Bulgarian (Slavic Languages) 154. Survey of Bulgarian Literature

Classics 141. A Survey of Greek Literature in English

142. Ancient Drama

143. A Survey of Latin Literature in English

144. A Survey of Greek and Roman Epic in Translation

Czech (Slavic Languages) 155A-155B. Czech Literature

Dutch-Flemish and Afrikaans (Germanic Languages) 112. Dutch, Flemish, Afrikaans Literature in Translation

English 108A-108B. The English Bible as Literature

French 142. Contemporary French Theater in Translation

143. Modern French Thought

144A-144B-144C. The French Novel in Translation

145. Topics in French Literature

German (Germanic Languages) 119A. Older German Literature in Translation

119B. Classical German Literature in Translation

119C. 19th-Century German Literature in Translation

119D. Modern German Literature in Translation—Narrative Prose I

119E. Modern German Literature in Translation—Narrative Prose II

119F. Modern German Literature in Translation—Drama and Lyrics

119G. Modern German Jewish Literature in Translation

119J. The Faust Tradition from the Renaissance to the Modern Age

Humanities All courses

Hungarian (Germanic Languages) 121A-121B. Survey of Hungarian Literature in Translation

Iranian (Near Eastern Languages) 150A-150B. Survey of Persian Literature in English

Italian 42A-42B. Italian Civilization or Italy through the Ages

46A-46B-46C. Italian Cinema and Culture (in English)

50A-50B. Main Trends in Italian Literature

110A-110B. The Divine Comedy in English

M140. From Boccaccio to Basile (in English)

150. Modern Italian Fiction in Translation

Jewish Studies (Near Eastern Languages) 151A-151B. Modern Jewish Literature in English

Old Norse Studies (Germanic Languages) 40. The Heroic Journey in Northern Myth, Legend, and Epic

140. Viking Civilization and Literature

Oriental Languages 140A-140B-140C. Chinese Literature in Translation

141A-141B. Japanese Literature in Translation

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. Luso-Brazilian Literature in Translation

Russian (Slavic Languages) 100. The Russian Novel in Translation

118. Survey of Russian Literature to Pushkin

119. Survey of 19th-Century Russian Literature

120. Survey of 20th-Century Russian Literature

124A-124F. Studies in Russian Literature

125. The Russian Novel in its European Setting

126. Survey of Russian Drama

Scandinavian 138. Survey of Finnish Literature

141. Backgrounds of Scandinavian Literature

142. Scandinavian Literature of the 19th Century

143. Modern Scandinavian Literature

C144. Henrik Ibsen

C145. August Strindberg

C146. Søren Kierkegaard

C147. Knut Hamsun

C182. The Theory of the Scandinavian Novel

Serbo-Croatian (Slavic Languages) 154A-154B. Yugoslav Literature

Spanish (Spanish and Portuguese) 160A-160B-160C. Hispanic Literatures in Translation

Ukrainian (Slavic Languages) 152. Ukrainian Literature

Yiddish (Germanic Languages) 121A. 20th-Century Yiddish Poetry in English Translation

121B. 20th Century Yiddish Prose and Drama in English Translation

121C. Special Topics in Yiddish Literature in English Translation

French

160 Haines Hall, 825-1145

Professors

Marc Bensimon, Ph.D.
Eric Gans, Ph.D., *Chair*
Hassan el Nouty, Docteur ès Lettres
Francis J. Crowley, Ph.D., *Emeritus*
Milan S. La Du, Ph.D., *Emeritus*
Oreste F. Pucciani, Ph.D., *Emeritus*

Associate Professors

Patrick Coleman, Ph.D.
Stephen D. Werner, Ph.D.

Assistant Professors

Mary-Ann Burke, Ph.D.
Jean-Claude Carron, Ph.D.
Shuhsi Kao, Ph.D.
Sara Melzer, Ph.D.
James Reid, Ph.D.

Lecturers

Colette Brichant, Docteur
Jacqueline Hamel-Baccash, Licenciée-ès-Lettres
Madeleine Korol-Ward, Ph.D.
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 approximately a dozen new graduate students a year, including many from France and a wide variety of other countries.

Bachelor of Arts Degrees

Preparation for the Majors

Before undertaking upper division work in *grammar, composition, advanced phonetics, or civilization,* you will be required to take French 1, 2, 3, 4, 5, 6, and 15, or equivalent.

Before undertaking upper division work in *literature,* you will, in addition to the above courses, be required to take French 12. You will normally take French 6 before undertaking French 12 or 15. If you received a grade of A in French 5, you may enroll in French 12 concurrently with French 6 by 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 master's degree (Plan A) or to the standard elementary or secondary credential. *Required:* 15 full courses of upper division work, including French 100A, 100B, 100C, 103, 114A-114B-114C; two quarters from courses 132-135*; three courses in French literature chosen from courses 115A-120D**; three elective courses normally cho-

*A course in French history may be substituted for one of these by consent of the major adviser.

sen 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 by 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 (Plan B or C). *Required:* 15 full courses of upper division work, including French 100A, 100B, 100C, 103, 114A-114B-114C; six courses in French literature chosen from 115A-120D**; two elective upper division courses to be chosen upon 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, the social sciences, linguistics, etc. *Required:* 15 full courses of upper division work, including French 100A, 100B, 100C, 103, 114A-114B-114C; three courses in French literature chosen from courses 115A-120D**; five upper division elective courses in the fields relevant to French studies to be chosen in or out of the Department of French upon consultation with the undergraduate adviser. This program does not normally prepare you for admission to the master's program in French at UCLA (see Plans A and B).

**In all major plans one course from the 121 series and/or one undergraduate seminar (French 150-160, not including 157) may be substituted for courses in the 115A-120D offerings.

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 upon 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 major students 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 (must be approved in advance by the undergraduate adviser).

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 in fulfillment of the major.

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 French 140C where you will receive personal supervision from a faculty member in researching and writing on this topic. The three courses will count as literature courses for the purpose of satisfying major requirements.

Teaching Credential Requirements

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 upon 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 aptitude test, a sample of written work in French, and three letters of recommendation are required. 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/Renaissance; (2) classical (roughly the 17th and 18th centuries); and (3) modern (since 1800), with Franco-African literature as an option.

Foreign Language Requirement

The foreign language requirement will be fulfilled by passing a course of at least level three in either German, Latin, Spanish, or Italian; by passing the University reading examination in one of these languages; or by passing the ETS language examination with a score of 500 or better. In special cases, substitution of another foreign language will be accepted if approved by the Chair of the department. You must complete the foreign language requirement before taking the M.A. examination (Plan A or B) or submitting your thesis (Plan C). All candidates for the M.A. must be proficient in spoken French.

Plans of Study

The department offers three master's programs: Plan A, designed for teachers of French at the secondary and junior college levels (students whose goal is not the Ph.D. in French) and Plans B (comprehensive examination plan) and C (thesis plan), leading to the Ph.D. in French.

Plan A Course Requirements: At least 12 courses in French are required, normally including 201D and 310A-310B or 370/495 (or any combination of one theory and one observation course). Among these 12 courses, you must take at least seven courses in literature, including at least three courses in each of two periods (one of which must be in the modern period). At least six of the courses must be at the graduate level.

Plan A Comprehensive Examination: Written examinations of three hours in length in each of the two periods prepared, a two-hour examination in translation and literary composition, a two-hour *explication de texte,* and an oral examination in French are required. The examinations are given in the Fall and Spring Quarters by a committee of four professors appointed by the Chair. At the discretion of the department, you may be permitted to retake the examinations once.

Plans B and C Course Requirements: At least 12 courses in French are required, normally including 201D, at least three courses in each of two periods, and at least one course from 202 through 207. At least eight of the courses must be at the graduate level. Students in Plan C may include four units of credit for course 598.

Plan B Comprehensive Examination: 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 are required. The examinations are given in the Fall and Spring Quarters and may be retaken once.

Plan C Admission Requirements and Oral Qualifying Examination: You may apply to the Chair of the department for admission into Plan C 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 C (i.e., permission to write the thesis) is contingent upon passing a one-hour oral examination in the two periods prepared. If you fail this examination, the committee will determine whether you may be permitted another attempt or be advised to take the comprehensive examination (Plan B).

The thesis should demonstrate proficiency in the methods and concepts of literary research; a suitable length will normally be 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.

Terminal M.A. Degree

Decision to award a terminal M.A. degree to students in Plan B or C 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 (Plan B or C) with recommendation for continuance by the M.A. committee is required; outside applicants need an M.A. degree or equivalent and three letters of recommendation.

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 should be taken during the first year of residence. In case of failure it may be repeated once.

Major Fields or Subdisciplines

The corpus of French literature is divided into three chronological periods: (1) medieval/Renaissance; (2) classical (roughly the 17th and 18th centuries); and (3) modern (since 1800), with Franco-African literature as an option.

Foreign Language Requirement

(1) Two languages up to courses 5 and 6 respectively are required. These are to be chosen upon consent of the guidance committee from Latin, German, Russian, and Spanish. Language requirements may also be satisfied by taking the Educational Testing Service (ETS) examination with level three corresponding to a score of 500; level five, 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 Chair of the department.

(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) at least three courses from the 202 through 207 series, including one from the 203 series; (2) at least four seminars, two of which should be in your proposed area 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 will be 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 will be admitted to the University Oral Qualfying Examination. This examination, normally of two hours duration, will bear 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.

Final Oral Examination

This examination is no longer required, but may be imposed at the discretion of an individual doctoral committee.

Candidate in Philosophy Degree

You are eligible to receive the C.Phil. degree upon advancement to candidacy for the Ph.D.

Lower Division Courses

Students who have had special advantages in preparation may, upon examination or by recommendation of the instructor, be permitted a more advanced program. No credit will be allowed for completing a less advanced course after successful completion of a more advanced course in grammar and/or composition.

1. Elementary French. Lecture, five hours. Not open for credit to students who have completed two years of high school French or equivalent with grades of C or better. Ms. Hamel-Baccash in charge

1G. Elementary French for Graduate Students (¾ course). Preparation for ETS or other language examinations. A passing grade does not imply satisfaction of language requirements. S/U grading. Ms. Brichant

2. Elementary French. Lecture, five hours. Prerequisite: course 1 or one year of high school French. Not normally open for credit to students who have completed two years of high school French or equivalent. Ms. Hamel-Baccash in charge

2G. Elementary French for Graduate Students (¾ course). Prerequisite: course 1G or equivalent. Preparation for ETS or other language examinations. A passing grade does not imply satisfaction of language requirements. May be repeated. S/U grading. Ms. Brichant

3. Elementary French. Lecture, five hours. Prerequisite: course 2 or two years of high school French or advanced placement standing. Ms. Hamel-Baccash in charge

4. Intermediate French. Lecture, five hours. Prerequisite: course 3 or three years of high school French or advanced placement standing.

5. Intermediate French. Lecture, five hours. Prerequisite: course 4 or four years of high school French or advanced placement standing.

6. Intermediate French. Lecture, five hours. Prerequisite: course 5 or advanced placement standing.

10A-10D. French Conversation (½ course each). Discussion, three hours. Prerequisite: course 3 with a grade of A or B or consent of department.

12. Introduction to the Study of French Literature. Lecture, three hours. Prerequisite: course 6 or equivalent or 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 consent of instructor. French pronunciation, diction, intonation in theory and practice; phonetic transcription, phonetic evolution of the modern language; remedial exercises; recordings. Ms. Korol-Ward in charge

31A-31B-31C. France through the Ages (in English). A survey of French civilization with emphasis on social, intellectual, and artistic trends:

31A. From the Origins through the Renaissance.

31B. From the Renaissance to the 20th Century.

31C. Contemporary France. Ms. Brichant

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 will ordinarily not be allowed for completing a less advanced course after successful completion of a more advanced course in grammar and/or composition. French 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: course 6 and (normally) 15, or equivalent. A placement examination will be administered, and qualified students will be advanced to course 100B or 100C.

100B. Advanced Grammar II. Prerequisite: course 100A or equivalent. A placement examination will be administered, and qualified students will be advanced to course 100C or 103.

100C. Advanced Grammar III. Prerequisite: course 100B or equivalent. A placement examination will be administered, and qualified students will be advanced to course 103.

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.
Ms. Korol-Ward in charge

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.
Ms. Korol-Ward

107. Contemporary Spoken French. Discussion, three hours; laboratory, added as needed. Prerequisite: course 103 or consent of instructor.

108A-108B-108C. Advanced Practical Translation. Lecture, three hours:

108A. Prerequisite: course 103 with a grade of B or consent of instructor. An introduction to the translation of advanced texts of general interest, with work in the theory of translation.

108B. Prerequisite: course 108A or consent of instructor. Practice in the translation of technical documents and texts; comparative stylistics of translation.

108C. Prerequisite: course 108B or consent of instructor. Advanced work in areas of general and specialized interest, with exercises in consecutive and simultaneous translation.

114A-114B-114C. Survey of French Literature I, II, III. Prerequisite: course 12 or equivalent. A survey of French literature from the medieval period through the 20th century:

114A. Medieval and Renaissance Literature.

114B. Literature of the Classical Era (17th and 18th Centuries).

114C. Modern Literature (19th and 20th Centuries).

115A-115D. Medieval French Literature:

115A. The Medieval Epic.

115B. The Medieval Romance.

115C. The Medieval Theater.

115D. Medieval Lyric Poetry. Ms. Burke

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 Theatre: Racine and His Contemporaries.

117C. Moliere 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. Mr. 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, Mr. Reid

121A-121D. Contemporary Literature of French Expression:

121A. Franco-African Literature.

121B. Franco-Canadian Literature.

121C. Franco-Helvetian and Franco-Belgian Literature.

121D. Franco-Caribbean Literature.
Mr. Coleman, Mr. el Nouty

122. French Folklore and Young People's Literature. Ms. Korol-Ward

123. French Popular Literature. "Romans policiers," "Theatre des boulevards," "chansons-poemes," etc.

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 will act in or direct a scene from a play to be performed under rehearsal conditions.
Ms. Korol-Ward

132. Contemporary France. Lecture, three hours. A fourth hour may be required for the viewing of films and other laboratory activities. Ms. Brichant

133. French Institutions from the Revolution to the Present. Lecture, three hours. A fourth hour may be required for the viewing of films and other laboratory activities. Ms. Brichant

134. The "Ancien Regime." Lecture, three hours. A fourth hour may be required for the viewing of films and other laboratory activities. Ms. Brichant

135. From Prehistoric Times to the Renaissance. Lecture, three hours. A fourth hour may be required for the viewing of films and other laboratory activities.
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 grade-point average in the major, a 3.3 overall average, and consent of department:

140A. Honors Seminar in French. Seminar on different aspects of a selected literary genre, such as drama, poetry, the novel, etc.

140B. Honors Seminar in French. Seminar on a chosen theme or particular problem of French literature, civilization, or ideas.

140C. Honors Tutorial in French. Individual study on a topic related to that of course 140A or 140B leading to an essay to be written under the guidance of a faculty member.

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. Ms. Korol-Ward

143. Modern French Thought. Lecture, two hours. Contemporary works will be read and discussed in translation.

144A-144B-144C. The French Novel in Translation. Lecture, two hours. Authors to be studied will be announced quarterly.

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 by consent of the major adviser.

150. Studies in Medieval Literature.

151. Studies in 16th-Century Literature.

152. Studies in 17th-Century Literature.

153. Studies in 18th-Century Literature.

154. Studies in 19th-Century Literature.

155. Studies in 20th-Century Literature.

156. Studies in Contemporary Literature of French Expression.

157. Studies in the French Language.

158. The Woman in French Literature. The course will explore a selected aspect of the situation of woman in French literature as author, character, symbol, etc.

160. Studies in the History of Ideas. Specific themes will be chosen and developed which will address a particular problem of French literature, civilization, or ideas. May be repeated for credit by consent of major adviser.

199. Special Studies in French (½ to 2 courses). Prerequisites: junior or senior standing, consent of instructor, and consultation with undergraduate adviser. May be repeated once.

Graduate Courses

201A. Theme. Lecture, three hours. Advanced translation into French.

201B. Version. Lecture, three hours. Advanced translation into English.

201C. La Dissertation Française. Lecture, three hours. Advanced composition.

201D. Problems of French Literery Composition. Lecture, three hours. Practical work of an advanced nature in the expression and presentation of literary research.

202. Explication de Textes. Mr. Bensimon

203A-203B-203C. French Literary Criticism:

203A. Topics in Literary Criticism from Aristotle to Sainte-Beuve.

203B. Modern Theories of Criticism.

203C. The Techniques of Literary Criticism.
Mr. Coleman, Ms. Kao

204A. Phonology and Morphology from Vulgar Latin to French Classicism. The evolution of the French language. Required of candidates for the Ph.D. in Romance Linguistics and Literature who specialize in philology.

204B. Syntax and Semantics from Vulgar Latin to French Classicism. The evolution of the French language. Required of candidates for the Ph.D. in Romance Linguistics and Literature who specialize in philology.

205A-205D. The Intellectual Background of French Literature:

205A. Scholasticism (with Ancient Sources), Humanism.

205B. Rationalism, Empiricism, Positivism.

205C. Criticism, Idealism, Dialectical Materialism.

205D. Phenomenology, Existentialism, Structuralism.

206. French Linguistics. Prerequisite: course 105 or Linguistics 100 or equivalent. Discussion of modern linguistic theory in the area of French grammar, syntax, and semantics.

207. Introduction to Stylistics. Discussion of the basic stylistic devices of the French language.

215A-215E. The Medieval Language and Literature:

215A. Old and Middle French. Course 215A is prerequisite to 215B through 215E. Phonology and morphology of the language. Introduction to Old French texts.

215B. The Chanson de geste.

215C. The Romance.

215D. Medieval Theater.

215E. Provencal Poetry. Ms. Burke

216A-216H. The Renaissance:

216A. Topics in Early 16th-Century French Literature.
216B. Topics in the Pleiade.
216C. Topics in Late 16th-Century French Literature.
216D. Ronsard.
216E. Rabelais and Prose Writers.
216F. Baroque Poetry.
216G. Montaigne.
216H. Theater. Mr. Bensimon, Mr. Carron
217A-217I. The 17th Century:
217A. Topics in Classical Theater.
217B. Topics in Nondramatic Literary Genres.
217C. Topics in Classical Prose and Thought.
217D. Moliere.
217E. Corneille.
217F. Racine.
217G. The Novel.
217H. Moralists.
217I. Religious Thought. Ms. Melzer
218A-218D. The 18th Century:
218A. Topics in the Early Enlightenment (1680-1747).
218B. Topics in the Enlightenment (1748-1765).
216C. Topics in the Late Enlightenment (1766-1791).
218D. The Theater. Mr. Coleman, Mr. Werner
219A-219K. The 19th Century:
219A. Topics in Romanticism.
219B. Topics in Realism and Naturalism.
219C. Topics in Symbolism.
219D. Poetry.
219E. The Novel.
219F. The Theater.
219G. Historians and Critics.
219H. Victor Hugo.
219I. Balzac.
219J. Independent Novelists.
219K. Intellectual Trends. Mr. el Nouty, Mr. Gans
220A-220P. The 20th Century:
220A. From Symbolism to Surrealism: Selected Topics.
220B. From Surrealism to Existentialism: Selected Topics.
220C. From Existentialism to the Present: Selected Topics.
220D. Paul Valery.
220E. Marcel Proust.
220F. Andre Gide.
220G. Andre Malraux.
220H. The Theater.
220I. The Anti-Theater.
220J. The Novel.
220K. The Anti-Novel.
220L. Surrealism.
220M. Existentialism.
220O. Poetry.
220P. Cinema and Literature. Ms. Kao, Mr. Reid
221A-221D. French-African Literature:
221A. Introduction to the Study of the French-African Literatures.
221B. French-African Literature of Madagascar and Bantu Africa.
221C. French-African Literature of Berbero-Sudanese and Arabo-Islamic Africa.
221D. Franco-Caribbean Literature. Mr. el Nouty

Courses 250A through 260B may be repeated for credit.

250A-250B. Studies in Medieval Literature. Ms. Burke
251A-251B. Studies in the Renaissance. Mr. Bensimon and the Staff
252A-252B. Studies in the Baroque. Mr. Bensimon and the Staff
253A-253B. Studies in the 17th Century. Ms. Melzer
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, Mr. Reid
257A-257B. Studies in French-African Literature. Mr. el Nouty and the Staff
258A-258B. Studies in Literary Criticism. Mr. Gans and the Staff
259A-259B. Studies in Philosophy and Literature.
260A-260B. Studies in the History of Ideas. Particular problems of French literature and ideas.
261. Studies in French Linguistics.
262. Studies in Stylistics.
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 (½ course). 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
375. Teaching Apprentice Practicum (¼ to 1 course). 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. Hamel-Baccash
495. The Teaching of French in the Secondary School and at the College Level. Prerequisite: course 370. Theory of language teaching.
596. Directed Individual Studies or Research (½ to 1 course).
597. Preparation for M.A. Comprehensive Examination or Ph.D. Qualifying Examination (½ to 2 courses). May be repeated for a maximum of sixteen units. S/U grading.
598. Research for and Preparation of M.A. Thesis (½ to 1 course). Prerequisite: consent of instructor. A maximum of four units may be applied toward the M.A. degree requirements. S/U grading.
599. Research for and Preparation of Ph.D. Dissertation (½ to 2 courses).

Geochemistry

See Earth and Space Sciences

Geography

1255 Bunche Hall, 825-1071

Professors

Charles F. Bennett, Ph.D.
C. Rainer Berger, Ph.D.
William A. V. Clark, Ph.D.
Gary S. Dunbar, Ph.D.
Huey L. Kostanick, Ph.D.
Richard F. Logan, Ph.D.
Tom L. McKnight, Ph.D.
Howard J. Nelson, Ph.D.
Antony R. Orme, Ph.D.
Jonathan D. Sauer, Ph.D.
Allen J. Scott, Ph.D.
Werner H. Terjung, Ph.D.
Norman J. W. Thrower, Ph.D.
Hartmut Walter, Ph.D.
Walter E. Westman, Ph.D.
Henry J. Bruman, Ph.D., *Emeritus*
Robert M. Glendinning, Ph.D., *Emeritus*
Clifford H. MacFadden, Ph.D., *Emeritus*
Joseph E. Spencer, Ph.D., *Emeritus*
Benjamin E. Thomas, Ph.D., *Emeritus*

Associate Professors

J. Nicholas Entrikin, Ph.D.
Gerry A. Hale, Ph.D.
Christopher L. Salter, Ph.D.
Stanley W. Trimble Ph.D.

Assistant Professors

Susan W. Beatty, Ph.D.
James H. Johnson, Ph.D.
Frank W. Weirich, Ph.D.

Assistant Professor

Susan J. Smith, Ph.D., *Visiting*

Scope and Objectives

A geographer is concerned with the origins, development, morphology, and processes of the landscapes inherited from nature and with the institutions and patterns associated with the human use of these landscapes. This information helps the geographer to predict the nature and direction of future landscape change and to chart future growth along lines of rational development and careful management of both human and nonhuman resources.

UCLA's Department of Geography, judged sixth best in the nation in a 1982 survey conducted by the Conference Board of the Associated Research Councils, offers training that combines the diversity of a liberal arts education with the technical specialization of a scientific discipline. Curricular offerings and faculty interests encompass the full breadth of geography, including its physical, human, and regional aspects.

The department presents a choice between two undergraduate majors that lead to the Bachelor of Arts degree: (1) the major in geography and (2) the major in analysis and conservation of ecosystems. In both programs the department is committed to quality education concerning the interactions of environment

and society. Students are urged to plan their programs and pursue their coursework with close and frequent personal contact with faculty members appropriate to their interests.

Graduate students are expected to demonstrate a broad background in the discipline before they begin to specialize. Specializations are acceptable in almost any subfield and are especially encouraged in physical geography, biogeography, cultural geography, economic geography, urban geography, political geography, historical geography, social geography, population geography, regional geography, cartography, and remote sensing. Master of Arts and Ph.D. degree programs are offered.

Bachelor of Arts in Geography

Students who select the major in geography may be interested in (1) a broad understanding of the earth's many environments and peoples as part of a liberal education; (2) preparation for employment in areas concerned with environment and society (for example, in environmental impact studies and urban planning); (3) preparation for graduate study in the discipline leading to advanced degrees and professional occupation in both academic and nonacademic areas; and (4) preparation for a teaching credential with a specialty in geography and the physical, biological, or social sciences.

Geography majors are encouraged to consult with the undergraduate adviser for the planning of a program suitable to their particular and individual objective.

Preparation for the Major

Required: Geography 1, 2, 3, 4, and Mathematics 50A or equivalent. A mathematics background, such as Mathematics 3A, 3B, and 3C or 4A-4B or 31A, 31B, and 32A, is recommended.

Foreign Language/Mathematics Requirement

Every geography major is required to pass five quarter courses in foreign language (in no more than two languages) or mathematics, in any combination. Each year of high school language (but not mathematics) will be accepted as equivalent to one quarter course. A score of 500 on an Educational Testing Service (ETS) language examination will also satisfy this requirement. In mathematics, only Mathematics 2, 3A, 3B, 3C, 4A-4B, 31A, 31B, 32A, 50B 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 breadth requirements of the college. (Note: Students should be aware of the college restrictions on duplication of high school foreign language.)

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.

Allied Fields

You must develop some competence in one or two allied fields. This program consists of a group of at least four upper division courses chosen 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, mathematics, philosophy, physics, political science, psychology, public health, sociology. Other disciplines require departmental consent in order to be classified as acceptable.

All courses required for the undergraduate major in geography must be taken for a letter grade. A C average in the major is required for graduation.

Honors Program

Honors in the geography major may be obtained through procedures described under courses 199HA-199HB.

Bachelor of Arts in Analysis and Conservation of Ecosystems

The major in analysis and conservation of 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 important features in common. *First,* a high degree of emphasis is placed on student input and student-faculty interaction — particularly with respect to seminars. The faculty is particularly receptive to student enthusiasm. *Second,* you are encouraged to consult with the undergraduate adviser for the planning of a program suitable to your particular and individual objective. *Third,* all courses required for the major, both within and beyond the Geography Department, must be taken for a letter grade. A C average in the major is required for graduation.

Plan 1 (Environmental Policy)

Preparation for the Major: Biology 2, Economics 1, 2, Engineering 10F, 11, Geography 1, 2, 5, Mathematics 50A. Geography 3, 4, and 6 are recommended. A mathematics background, such as Mathematics 2, 3A, 3B, and 3C or 4A-4B 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 chosen from Anthropology 132, 150, 153A, 153B, 167; Architecture 190; Art 168A, 168B; Communication Studies 120; Economics 110, 111, 170; English 131; Geography: no more than three courses from 100 to 199; one course only from History 195A, 195B, 195C, 195D, M195F, M195G; Political Science 141, 142, 167, 170, 181, 191; Psychology M138; Public Health 150, 152, 154, 186; Sociology 120, 125.

Although there is no foreign language requirement for Plan 1, you are encouraged to acquire some foreign language capability in order to read to pertinent literature written in languages other than English.

Plan 2 (Natural Resources)

Preparation for the Major: Biology 5, 6, 11, Chemistry 11A, Economics 1, Engineering 10F, Geography 1, 2, 5, Mathematics 3A, 3B, and 3C or 31A, 31B, and 32A, 50A. Economics 2, Engineering 11, Geography 3, 4, and 6, Mathematics 50B, and Microbiology 6 are recommended. (Biology 11 is not required for students with credit for 84 or more units prior to Fall Quarter 1982.) A reading knowledge of a modern foreign language is required; this may be met by three years of language in high school or three quarters of one language at the college level.

The Major: One course chosen from Biology 103, 109, 111, M118; Earth and Space Sciences 150; Geography 129, three courses from Group Ia, two courses from Group Ib, two courses from Group III.

Electives: No more than three courses may be taken in any one department to satisfy the elective requirement. Six courses should be chosen from Anthropology 132, 167; Biology 103, 109, 111, M118, 120, 122, 125, 131, 135, 147; Earth and Space Sciences 105, 150; Economics 111, 170; Engineering M107A, 180A, 181A, 184A, 184D; English 131; Geography: no more than three courses from 100 to 199;

Public Health 152, 154. Biology courses taken for elective requirements may not be applied toward the major requirement in biology.

Plan 3 (Environmental Engineering)

Preparation for the Major: Biology 2, Chemistry 11A, Earth and Space Sciences 1 or 100, Economics 1, Engineering 10F, Geography 1, 2, 5, Mathematics 31A, 31B, 32A, 33A, 50A. Chemistry 11B/11BL, 11C/11CL, Geography 3, 4, 6, Mathematics 33B, 50B, 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 162 or 168.

Electives: Six courses chosen from Atmospheric Sciences 104A (or Engineering 105A), 104B (or Engineering 105D), 104C, 144, 156, 198; Earth and Space Sciences 105, 111A; Economics 110; Engineering 103, 105A (or Atmospheric Sciences 104A), 105D (or Atmospheric Sciences 104B), 121A, 124A, 134A, 153A, 181A, 184A, 184B, 184D, 184E; English 131; Geography: no more than three courses from 100 to 199; Mathematics 115, 141A, 141B; Public Health 150.

Honors Program

Honors may be obtained by attainment and maintenance of at least a 3.4 GPA in the major from commencement of senior year to graduation and completion of a senior thesis (Geography 196). The thesis is a substantial though not necessarily lengthy contribution to ecosystem analysis that must be submitted no later than early in your final quarter.

Master of Arts Degree

Admission

The Department of Geography admits students to the graduate program for the Fall, Winter, or Spring Quarter.

The department requires a bachelor's degree or equivalent from an accredited college or university and a grade-point average of 3.3 in courses taken in the junior and senior years and in the major field. Prospective students are required to pass the Graduate Record Examination Aptitude Test (general section only) with a minimum score of 1100 (verbal and quantitative scores combined) and to provide the department with three letters of evaluation from previous instructors. Students not meeting the grade-point average requirements may be admitted in exceptional cases if their letters of evaluation and GRE scores or other evidence indicate that they have unusual promise. Students may be admitted with subject deficiencies, but such deficiencies will have to be made up.

Non-geography majors entering the geography program from another field will be required to show proficiency in six upper division geography courses (in addition to those required for the M.A.), including three courses from Group I and three courses from Group II, embracing at least one course each from Groups Ia, Ib, IIa, and IIb.

Graduate brochures are available by writing to the Graduate Adviser, Department of Geography, UCLA, Los Angeles, CA 90024.

Major Fields or Subdisciplines

Graduate students commonly focus their attentions on one or more of the following subdisciplines: geomorphology, climatology, biogeography, cultural, historical, urban, economic, political, cartography, environmental studies.

Research Tool Requirement

At least one research tool is required for graduate study. A research tool might be a foreign language or a series of mathematics or statistics courses. If a foreign language is approved, the requirement may be fulfilled by a series of courses (with a B average), passing the Educational Testing Service (ETS) examination with a score of 500, or taking a special departmental written examination.

Course Requirements

The work in residence must include at least nine courses plus Geography 200, including a minimum of seven courses at the graduate level, of which Geography 201 and at least one seminar in geography are required. Your program must have the approval of your committee. Geography 200 must be taken at the earliest opportunity.

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.

No more than eight units of Geography 596 may be taken in a given term, and you must also take at least one formal course during that term.

Thesis Plan

Students planning to continue for a Ph.D. in this department must elect this plan. Under the 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 Graduate Division committee. The thesis proposal should include the exact nature of the problem to be studied, 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.

Comprehensive Examination Plan

All formal coursework, including the research tool requirement, must be completed before the examination is attempted. The comprehensive examination normally is given in the final two-week period of the quarter in which you complete work for the degree. It will normally consist of three half-day written examinations embracing a general paper and two further papers drawn from the broad divisions of geography. The examination is designed to test for broad grasp of subject, as well as more specialized abilities. In case of failure, you may be reexamined once within one calendar year of the failure. A student who completes the M.A. degree by this plan may not continue for a Ph.D. degree in this department.

Ph.D. Degree

Admission

The Department of Geography admits students to the doctoral program for the Fall, Winter, or Spring Quarter.

The department requires a B+ (3.5) grade-point average or better, plus a strong showing on the Graduate Record Examination Aptitude Test (minimum score of 1100 — verbal and quantitative scores combined), plus three strong letters of recommendation.

An M.A. or M.S. degree with a geography specialty and a 3.5 GPA in graduate studies is recommended. No screening examination is required. However, students entering the doctoral program who have not previously written a master's thesis must, during their first quarter of residence, produce clear evidence of substantive research and writing ability. Students accepted for the Ph.D. program without having officially completed a master's degree must complete the master's degree within two quarters or be terminated as a Ph.D. candidate. Under exceptional circumstances, you may proceed directly toward the Ph.D. degree without taking a master's degree if you (1) are enrolled in the UCLA M.A. program in geography and have a 4.0 grade-point average; (2) are recommended for a direct Ph.D. by the M.A. guidance committee; (3) have three letters of recommendation in addition to one from the interim adviser or chair; and (4) receive the approval of at least two-thirds of the current faculty in residence by secret ballot.

Research Tool Requirement

At least one research tool (foreign language, statistics, taxonomy, surveying, laboratory methods, etc.) is required for graduate study. The research tool may be fulfilled by a series of courses or, if a foreign language, by passing the Educational Testing Service (ETS) examination with a score of 500, or taking a special departmental written examination. If a series of courses are taken, a B average must be received.

Course Requirements

You must satisfactorily complete Geography 200 and 201 if these have not already been taken at the M.A. level. You are also required to take at least three graduate geography courses in addition to your M.A. coursework (excluding 200, 201, and the 500 series) and three upper division or graduate courses in one or two allied fields to your main field, subject to approval of your committee. The allied field requirement may be met at any time during graduate status. Geography 200 must be taken at the earliest opportunity.

Qualifying Examinations

The written qualifying examinations are administered by your informal guidance committee and consist of five written papers. The examination may be spread over a period of no more than two weeks and should be taken no later than the end of the sixth quarter of the Ph.D. program. In case of failure, you may make one further attempt.

The University Oral Qualifying Examination, conducted by your official Ph.D. dissertation committee, focuses on your dissertation research 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.

Final Oral Examination

A final oral defense of the dissertation may be required by the dissertation committee.

Candidate in Philosophy Degree

Students who have been advanced to candidacy for the Ph.D. degree are eligible to receive this degree.

Lower Division Courses

Check with the department office to learn of additional offerings, seminar topics, and specific instructors for the quarter you wish to enroll in courses in geography.

1. Physical Environment. Lecture, three hours; laboratory, one hour. A study of the earth's physical environment, with particular reference to the nature and distribution of landforms and climate.

2. Biogeography. Lecture, three hours; laboratory, one hour. Prerequisite: course 1 or equivalent. A study of the earth's biosphere, with particular reference to the evolution and distribution of plants, animals, and soils.

3. Cultural Geography. Lecture, three hours; discussion, one hour. A broad examination of the basic cultural variables in the human occupance of the earth's surface. The approach is ecological, spatial, and historical.

4. Human Location and Behavior. Lecture, three hours; laboratory, one hour. Introduction to the basic concepts used in modern urban and economic geography. Emphasis is on giving a better understanding of the effects of location on human behavior. Discussion and practical exercises focus on the analysis of problems in the Los Angeles urban environment.

5. People and the Earth's Ecosystems. Lecture, three hours; laboratory, one hour. An examination of the historical and contemporary roles of man as a major agent of biological change in the earth's ecosystems.

6. Maps and Mapping. Lecture, three hours; laboratory, two hours. 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.

10. Freshman Seminar in Geography. Staff-student discussion, three hours; reading period, one hour. Prerequisite: course 1 or 2 or 3 or 4 or 5 as befits the theme. A seminar designed to explore various themes and issues pertinent to environment and people. Seminar topics are advertised in the department during previous quarter.

Upper Division Courses

Group I: The Environment

(Ia) Basic Environmental Studies

100. Principles of Geomorphology. Lecture, three hours; discussion, one hour. Prerequisite: course 1 or Earth and Space Sciences 1 or 100 or consent of instructor. Strongly recommended: introductory physics and chemistry. A study of the processes that shape the world's landforms, with emphasis on weathering, mass movement, and fluvial erosion, transport, deposition; energy and material transfers; space and time considerations. 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, seacliffs, and coral reefs, together with coastal zone management. Mr. Orme

103. Glacial Geomorphology. Lecture, three hours; reading period, one hour. Prerequisites: course 100 and upper division standing. An introduction to both mountain and continental glaciers, glacial processes, and deposits. Topics include the classification of glaciers, mass balance, glacier motion, erosion processes, glaciofluvial and glaciolacustrine deposition. Mr. Weirich

104. Climatology. Lecture, three hours; reading period, one hour. The many relations between climate and the world of man are examined. The objective is to apply basic energy budget concepts to the microclimates of relevance to the ecosystems of agriculture, animals, man, and urban places. Mr. Terjung

105. Hydrology. Lecture, three hours; reading period, one hour. Prerequisite: course 1 or equivalent. The role of water in geographic systems: hydrologic phenomena in relation to climate, landforms, soils, vegetation, and cultural processes and impacts on the landscape. Field projects required. Mr. Trimble

106. Soils. Lecture, three hours; reading period, one hour. Prerequisites: course 1 or equivalent, Chemistry 11A, or consent of instructor. A study of the origins, evolution, properties, and utilization of soils, with special emphasis on the world's major soil groups.

108. World Vegetation. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 2, or equivalent, or consent of instructor. Characteristics, distribution, environmental and cultural relationships of the world's principal vegetation patterns. Mr. Sauer

109. Ecology of Vegetation. Lecture, three hours; field, twelve hours total. Prerequisites: course 2, Mathematics 50A, Biology 11, or consent of instructor. Principles of plant ecology at the community and ecosystem level. Emphasis on structure, dynamics, and measurement of the characteristics of terrestrial vegetation. Mr. Westman

110. Plant Migration. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 2, Biology 2, or equivalent, or consent of instructor. Mechanisms of geographic patterning of natural and artificially modified vegetation. Emphasis on range changes for which there is direct fossil or documentary evidence. Mr. Sauer

112. Animal Geography: Biophysical Aspects. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 2, Biology 2. A study of the factors and principles of animal distribution and dispersal on continents and islands of the earth in time and space. Mr. Bennett, Mr. Walter

114. Physical Bases of Geography. Lecture, three hours; discussion, one hour. Prerequisites: courses 1, 2, three courses from Group Ia, senior standing. An integrative study to the physical bases of geography in a framework of world climatic regions. Mr. Logan

(Ib) Applied Environmental Studies

116. Origins and Histories of Crop Plants. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 2, Biology 2, or equivalent, or consent of instructor. Geographic patterns of domestication and diffusion of useful plants from antiquity to the present, based on detailed case histories of selected species. Mr. Sauer

117. Animal Geography: Cultural Aspects. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 2, 5, Biology 2, or equivalent. A study of human cultural factors influencing animal distributions; the roles of animals in human societies; origins and diffusion of domesticated animals. Mr. Bennett, Mr. Walter

118. Medical Geography. Lecture, three hours; reading period, one hour. Prerequisite: course 5 or consent of instructor. An examination of patterns of population-place-disease interactions and some effects of change and development on disease etiology and problems of health care.

119. Agricultural and Pastoral Ecosystems. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 2, 5, 116, and 112 or 117, or equivalent. Recommended: courses 120 and 121. Students who do not meet the prerequisites should not attempt this course. A geographical, ecological, and historical analysis of the world's agricultural and pastoral systems. Emphasis is on energy flows, nutrient cycles, and ecological and social problems associated with the various systems. Mr. Bennett

120. Conservation of Resources: North America. Prerequisites: courses 1, 2, or equivalent, or upper division standing. An analysis of the basic principles and problems associated with the conservation of natural resources in the United States and Canada. Mr. Bennett, Mr. McKnight, Mr. Trimble

121. Conservation of Resources: Underdeveloped World. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 2, or equivalent, or upper division standing. An analysis of the principles and problems of the conservation of natural resources of the underdeveloped world. Mr. Bennett

122. Man and Environment in Africa. Lecture, three hours; discussion, one hour. Prerequisites: courses 1, 2, 5. An analysis of the unique ecosystems of tropical and subtropical Africa, with respect to traditional and modern human impacts on vegetation, wildlife, and other natural resources. A discussion of development goals in relation to socioeconomic policies and Africa's environmental heritage. Mr. Walter

123. Bioresource Management. Lecture, three hours; discussion, one hour. Prerequisites: courses 2, 5. Recommended: introductory statistics (i.e., Mathematics 50A or Economics 40). Theory and practice of the management and conservation of bioresources. Introduction to wildlife management, endangered species conservation, and the design and maintenance of National Parks and ecological reserves. Mr. Walter

124. Environmental Impact Analysis. Lecture, three hours; discussion, one hour. Prerequisites: at least two courses from 100-M127 and Mathematics 50A. Recommended: courses 2, 5, 128. Introduction to the interdisciplinary analysis of local and regional impacts on environmental systems. Includes evaluation of state and federal concepts for the analysis of environmental impact. Mr. Westman

125. Marine Ecosystems. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 2, 5, Biology 5, 7, or equivalent. Description and analysis of the principal marine ecosystems, with particular emphasis upon those which are chiefly affected by human activity. There will be a detailed evaluation of the ecological and conservation problems associated with human use of marine ecosystems.

M127. Soil, Plants, and Society. (Same as Biology M127.) Lecture, three hours; field trip. Prerequisites: Chemistry 11A, 11B, 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. Soil profiles examined on the field trip are used to explain developmental phenomena. Mr. Lunt

128. The World's Ecosystems: Problems and Issues. Lecture, three hours; discussion, one hour. Prerequisite: course 120 or 121. Principal objectives are (1) to identify past, current, and projected problems associated with man-induced ecological disturbances and (2) to identify and evaluate the societal and biophysical factors which have contributed to the identified ecological disequilibria.

129. Problems of the Environment: Seminar. Lecture, three hours; reading period, two hours. Prerequisites: senior standing, four courses from Group I. Highly recommended: Mathematics 152A. Limited enrollment. Qualitative-quantitative analysis of problems associated with rational protection and use of selected environmental systems (urban, rural, forest, desert, coastal, water, soil, or others).

Group II: Human Geography

(IIa) Cultural and Historical Geography

130. Geographical Discovery and Exploration. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, or equivalent, or upper division standing. A survey of the history of exploration, from earliest times to modern, with emphasis on the period from Marco Polo to the present. Mr. Dunbar, Mr. Thrower

132. Cultural Geography of the Pre-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 earth prior to the rise of the modern world system. Mr. Hale, Mr. Salter

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 upon the structure and functioning of its core, semiperiphery, and periphery. 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 analysis of the landscape. The course deals with 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, 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, 3, or equivalent, or upper division standing. The principles of political geography as developed through regional studies of political phenomena throughout the world. Current problems in domestic and international affairs will be considered. Mr. Kostanick

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.

(IIb) Economic and Urban Geography

145. Spatial Organization of Society. Lecture, three hours; reading period, one hour. Prerequisites: course 4, elementary statistics, or consent of instructor. A study of the spatial structure of society as an expression of human decisions. Emphasis is on the processes affecting city size and distribution, the internal structure of cities, rural land use, and industrial location. Mr. Entrikin

146. Human Spatial Behavior. Lecture, three hours; reading period, one hour. Prerequisites: course 4, elementary statistics, or consent of instructor. A study of human behavior within the spatial context. Regularities in patterns of trade, consumer behavior, migration, mobility, communication, and diffusion. Mr. Entrikin

148. Economic Geography. Lecture, three hours; reading period, one hour. Prerequisite: course 4 or consent of instructor. Geographical aspects of economic production and growth. The general theory of the space-economy. Land use processes. Location of industry. Regional development. Mr. Scott

149. Transportation Geography. Prerequisite: course 3 or 4 or upper division standing. A study of the geographical aspects of transportation, focusing on the characteristics and functions of the various modes and on the complexities of intra-urban transport. Mr. McKnight

150. Urban Geography. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, or equivalent, or upper division standing. An analysis of the development, functions, spatial patterns, and geographic problems of American cities. Mr. Clark, Mr. Entrikin, Mr. Nelson

151. Historical Geography of Cities. Prerequisites: courses 3, 4, or equivalent, or upper division standing. A survey of the diffusion and growth of cities in Western civilization. Two themes will be emphasized, the development of city systems and the evolution of urban internal spatial structure. Mr. Entrikin

152. World Cities. Lecture, three hours; reading period, one hour. Prerequisite: upper division standing. A discussion of the growth and structure of selected cities as illustrations of the processes of urbanization in different countries and societies. Topics include rural to urban migration, cities as centers of power, spatial organization, and the tendency to megalopolitanization. Mr. Clark, Mr. Entrikin

156. Metropolitan Los Angeles. Lecture, three hours; reading period, one hour. Prerequisite: upper division standing. A study of the origins, growth processes, internal structure and pattern, interactions, environmental and spatial problems of the Los Angeles metropolitan area. Mr. Nelson

159. Problems in Human Geography. Staff-student discussion, three hours; reading period, one hour. Prerequisites: two courses from Group II, senior standing. Limited to fifteen students. A seminar course in which students carry out intensive research projects. Designed as a "capstone" to courses in this group, the subjects of research will grow out of prior work.

Group III: Procedures

160. Field Analysis: Physical Geography. Saturday fieldwork, 8-5. Prerequisites: courses 1, 2, or equivalent, and consent of instructor. Students desiring to take this course must notify department Chair of their wish, in writing, at least two quarters in advance of enrolling. The basic methods of geographic analysis of small areas, embracing a variety of physical environments in Southern California and including consideration of related human activities. Mr. Logan, Mr. Trimble

161. Field Analysis: Cultural Geography. Fieldwork, once a week from 8 to 5. Prerequisites: courses 1, 3, two upper division courses in geography, consent of instructor. Enrollment priority to geography majors. The observation, analysis, and mapping of landscape phenomena of human origin. Techniques of data collection will be examined for such topics as settlement form and pattern, environmental change, historical and demographic change, and land use. Mr. Salter

162. Field and Laboratory Analysis: Geomorphology, Climatology, Hydrology. Laboratory and field, eight hours. Prerequisites: course 1 or equivalent, two courses from 102, 104, 105. Limited to geography and ecosystems majors, with enrollment priority to ecosystems majors. Examination of field and laboratory procedures and intellectual concepts used in the observation, measurement, analysis, and interpretation of phenomena pertinent to the physical environment and interrelated human influences.

163. Field and Laboratory Analysis: Biogeography. Laboratory and field, eight hours. Prerequisites: courses 2, 5, or equivalent, two courses from 106, 108, 109, 112. Limited to geography and ecosystems majors, with enrollment priority to ecosystems majors. Examination of field and laboratory procedures and intellectual concepts used in the observation, measurement, analysis, and interpretation of phenomena pertinent to biogeography and interrelated human influences.

166. Map Analysis. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, or equivalent, or upper division standing. The analysis of maps, with the aim of deducing the physical, cultural, and economic aspects of the region portrayed, including such elements as geomorphic history, hydrography, settlement history, forms of economic livelihood, transportation problems, and toponomy. Mr. Logan

167. Cartography (1½ courses). Lecture, two hours; laboratory, six hours; independent work, three hours. Prerequisites: courses 1, 3, or equivalent, or consent of instructor. Survey of the field of cartography. Includes theory and construction of map projections, compilation procedures, principles of generalization, symbolization, terrain representation, lettering, drafting and scribing, and map reproduction methods.

168. Computer Cartography. Lecture, two hours; laboratory, two hours; independent study, two hours. Prerequisites: course 167, Engineering 10F or Computer Science 10S, and consent of instructor. Theory and methods of mapping quantitative information with a computer. Includes problems of acquiring and processing machine readable map data and representing them as point symbols and surfaces.

169. The Earth from Above. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, 4, or consent of instructor. The course examines the interface between cartography and remote sensing. By means of a wide variety of imagery from maps and satellite photos, different landscapes are analyzed and explained. Mr. Thrower

170. Presentation and Analysis of Geographic Data. Lecture, two hours; laboratory, one hour. An introduction to the basic techniques that are used in organizing, measuring, and displaying data from field, map, interview, and government sources. Mr. Clark

171. Quantitative Analysis. Lecture, three hours; laboratory, one hour. Prerequisite: Mathematics 50B or consent of instructor. An introduction to the methods of measurement and interpretation of geographic distributions and associations. Mr. Clark

M178. Dating Techniques in Environmental Sciences and Archaeology. (Same as Anthropology M116Q.) Lecture, three hours; reading period, one hour. Prerequisite: consent of instructor. Introduction to scientific dating methods such as radiocarbon dating, radiation 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, 3, or equivalent, or upper division standing. Delimitation and analysis of the principal geographic regions of the United States and Canada. Mr. McKnight, Mr. Nelson

181. Middle America. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 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 Middle America and of 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, 3, or equivalent, or upper division standing. A study of the geographic factors, physical and cultural, that are basic to an understanding of the historical development of Spanish South America and of the contemporary economic and cultural geography of the individual Spanish-speaking countries. Mr. Bennett

182B. Brazil. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 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, 3, or equivalent, or upper division standing. A study of geographic conditions and their relation to economic, social, and political problems in Europe. Mr. Kostanick, Mr. Thrower

184. Soviet Union. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, or equivalent, or upper division standing. A study of geographic conditions and their relation to economic, social, and political problems in the Soviet Union. Mr. Kostanick

185. South and Southeast Asia. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, or equivalent, or upper division standing. A regional synthesis with varying emphases upon 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, 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 course goal is comprehension of the dynamics that have led to China's major role in the East Asian and international scene, with special attention given to China-Japan and Sino-American relations and their geographic bases. Mr. Salter

187. Middle East. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, or equivalent, or upper division standing. An analysis of the economic, social, and political geography of the area extending from Iran to Morocco and from Turkey to Sudan. Emphasis on geographical themes and problems during historical and modern times. Mr. Hale

188. Northern Africa. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, or equivalent, or upper division standing. An analysis of the economic, social, and political geography of the area including Mediterranean Africa, the Sahara, the Sudanic belt, and the eastern Horn. Emphasis on geographical themes and problems during historical and modern times. Mr. Hale

189. Middle and Southern Africa. Prerequisites: courses 1, 3, or equivalent, or upper division standing. The regions of Africa south of the Sahara (middle and southern Africa) in terms of physical features, human settlement, economic production, and political patterns. Mr. Hale

190. Australasia. Prerequisites: courses 1, 3, or equivalent, or upper division standing. A regional synthesis of the physical and cultural features which characterize Australia, New Zealand, and the islands of the South Pacific. Mr. McKnight

191. California. Prerequisites: courses 1, 3, or equivalent, or upper division standing. A systematic and regional treatment of the geography of California, including the physical, cultural, and economic aspects and detailed studies of the various regions. Mr. Logan, Mr. McKnight

Special Studies

196. Senior Thesis in Ecosystems Analysis. Hours to be arranged. Prerequisites: courses 129, 162 or 163, and senior standing. Preparation and data collection and analysis for a senior thesis under the guidance and assistance of a faculty sponsor.

199. Special Study (½ to 2 courses). Hours to be arranged. Prerequisites: senior standing and consent of instructor.

199HA-199HB. Honors in Geography: I and II. Hours to be arranged. Prerequisites: a 3.25 overall GPA and at least five upper division courses in geography with a 3.5 GPA. **199HA** is 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 199HA entails the preparation of a detailed bibliography and outline (to be evaluated by the two faculty members) for the writing of a substantial paper during course 199HB. If that work is determined to be of A quality, the student is allowed to continue in the honors program. If that work is graded B or below, credit is awarded, but the student is not permitted to continue in the honors program. **199HB** is devoted to the writing of the substantial paper researched and outlined in 199HA. It also is evaluated by the two faculty members. If the paper is determined to be of A quality, the student graduates with honors in geography. If the paper is graded B or below, credit is awarded, but the student does not receive honors.

Graduate Courses

200. Trends in Contemporary Geography (½ course). Lecture, three hours. Prerequisite: graduate standing. An analysis and interpretation of contemporary geography, with emphasis on research trends in major subfields of the discipline, each subfield being examined by a faculty expert. S/U grading.

201. History of Geography. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisite: consent of instructor. A survey of geography from classical times onward, with emphasis on the professionalization of geography in Europe and North America from 1870 to present. Mr. Dunbar

Group I: The Environment

202. Advanced Geomorphology. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisite: course M102 or equivalent, or consent of instructor. An extended study of selected geomorphic processes and landforms. Mr. Orme

203. Seminar: Geomorphology. Discussion, three hours; reading period, one hour. Prerequisites: course 202 or equivalent and consent of instructor. Selected geomorphic topics, with emphasis on current research frontiers and techniques. May be repeated for credit. Mr. Orme

204A-204B-204C. Advanced Climatology. Lecture, three hours; laboratory, one hour. Prerequisites: course 104, first year of calculus, acquaintance with Fortran IV, or consent of instructor. Courses must be taken sequentially. An introduction to the tools and concepts of environmental physics of relevance to natural and man-made landscapes. Such basic intellectual, mathematical, and computer programming tools are of special concern to physical geographers, ecologists, and architects. Mr. Terjung

205. Seminar: Climatology. Discussion, three hours; reading period, one hour. Prerequisites: courses 204A-204B-204C or equivalent and consent of instructor. Selected topics. May be repeated for credit. Mr. Terjung

208. Advanced Biogeography: Plants. 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 plant distributions. Mr. Sauer

212. Advanced Biogeography: Animals. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisite: course 112 or 117 or equivalent or consent of instructor. An intensive review and analysis of biophysical and cultural factors influencing animal distributions. Mr. Bennett, Mr. Walter

213. Seminar: Biogeography. Discussion, three hours; reading period, two hours. Prerequisites: course 208 or 212 or equivalent and consent of instructor. Research projects related to or growing out of course 208 or 212. May be repeated for credit.

215. Seminar: Quaternary Studies. Discussion, three hours; reading period, two hours. Prerequisites: courses 202 or 204A-204B-204C or 208 or 212 or an appropriate graduate course in anthropology, botany, earth and space sciences, or zoology, or consent of instructor. An analysis of the changing environment of the Quaternary period. May be repeated for credit. Mr. Orme

218. Advanced Medical Geography. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisite: course 118 or consent of instructor. An in-depth study of selected topics in medical geography and an intense review of recent research.

223. Seminar: Humid Tropics. Discussion, three hours; reading period, two hours. Prerequisite: consent of instructor. Selected topics. Biophysical and cultural complexes of the humid tropics, with emphasis on problems related to human settlement and livelihood. May be repeated for credit. Mr. Bennett

227. Water Quality Management. Discussion, three hours; reading period, one hour. Prerequisites: graduate standing and consent of instructor. Discussion of the basic technical, regional planning, and public policy issues in water quality management.
Mr. Westman

229. Seminar: Man and Environment. Discussion, three hours; reading period, two hours. Prerequisite: course 128 or equivalent. An analysis of man's perception of the environment throughout history and in different parts of the world and its impact on past, present, and future ecosystems. Mr. Walter

Group II: Human Geography

232. Advanced Cultural Geography. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisite: course 132 or 133 or equivalent or consent of instructor. Lectures and discussions around specific aspects of the development of cultural landscape in different geographic environments.
Mr. Hale, Mr. Salter

233. Seminar: Cultural Geography. Discussion, three hours; reading period, two hours. Prerequisites: course 232 or 236 or equivalent and consent of instructor. Discussions centered around particular topics in cultural geography. Content may vary from year to year. May be repeated for credit.

236. Advanced Historical Geography of the United States. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisites: course 136 and consent of instructor. Some major themes in American historical geography. Mr. Dunbar

237. Seminar: Historical Geography. Discussion, three hours; reading period, two hours. Prerequisites: course 236 and consent of instructor. Theory and practice of historical geography 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 140 or equivalent or consent of instructor. Intensive study of the theories and principles of political geography and German geopolitics. Selected regions will be used as specific examples of differing techniques of study in geopolitics.
Mr. Kostanick

241. Seminar: Political Geography. Discussion, three hours; reading period, two hours. Prerequisites: course 240 or equivalent and consent of instructor. Related research projects growing out of course 240. May be repeated for credit. Mr. Kostanick

242. Advanced Population Geography. Lecture, three hours; reading period, one hour. Prerequisite: course 142 or equivalent or consent of instructor. A study of population dynamics and migration, spatial variation in population composition, and population resource problems, diffusion, and epidemiology.

248. Location and Space Economy. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisites: courses 145 and 146, or consent of instructor. Methods of locational analysis as applied to problems of regional growth and development.

249. Seminar: Economic Geography. Discussion, three hours; reading period, two hours. Prerequisite: course 248 or equivalent and 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 diffusion within the urban hierarchy and theories to account for the location and size distribution of cities. Mr. Clark

251. Seminar: Urban Geography. Discussion, three hours; reading period, two hours. Prerequisites: course 250 or equivalent and consent of instructor. Related research projects growing out of course 250. May be repeated for credit.

252. Location and Social Structure within the City. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisites: courses 145 and 146, or consent of instructor. A study of the links between urban social and urban spatial structure, emphasizing urban residential land use, social areas of the city, and accessibility and urban form. Mr. Entrikin

254. Migration and Residential Mobility. Lecture, two hours; discussion, one hour; reading period, one hour. Prerequisite: consent of instructor. The description and modeling of national, regional, and intraurban migration. Mr. Clark

Group III: Procedures

260. Advanced Field Analysis: Physical Elements (2 courses). Fieldwork, once a week from 8 to 5. Prerequisites: one or more courses from 202, 203, 204A, 204B, 204C, 205, 215. Field methods and analysis applied to the physical environment, especially in Southern California, with particular reference to various aspects of geomorphology, hydrology, climatology, and associated human activities.

261. Advanced Field Analysis: Cultural Geography (2 courses). 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. Salter

262. Advanced Field Analysis: Biogeography (2 courses). Fieldwork, ten hours. Prerequisite: consent of instructor. Observation, measurement, and analysis of biogeographic phenomena, including identification and evaluation of biotic populations and communities and their modifications resulting from the impact of human activity.

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 work, 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 is placed on terrain representation, quantitative and computer mapping, scribing, color separation, and reproduction of maps. Mr. Thrower

269. Remote Sensing of Environment. Laboratory, three hours; independent work, 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 is placed on the analysis of landscapes and the interpretation of interrelationships of individual features in their physical and cultural complex. Mr. Thrower

M270. Advanced Quantitative Analysis. (Same as Architecture and Urban Planning M215A.) Lecture, two hours; laboratory, two hours. Prerequisite: course 171 or equivalent or consent of instructor. Advanced topics in the utilization of mathematical and statistical techniques for geographic research. Emphasis is on linear models, factor analysis, and grouping procedures as applied to geographic data bases.
Mr. Clark

M272. Spatial Statistics. (Same as Architecture and Urban Planning M215B.) Lecture, two hours; discussion, one hour; laboratory, one hour. Prerequisites: course 171 or Mathematics 50B and 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: course M270 or consent of instructor. Discussions of the philosophy and methodology of model building. The focus will be on the problems unique to models of spatial structure. Individual research topics will be emphasized. 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, Mr. Nelson

281. Middle America. Prerequisites: course 181 and consent of instructor. Mr. Bennett

282. South America. Prerequisites: course 182A or 182B and consent of instructor. Mr. Bennett

283. Europe. Prerequisites: course 183 and consent of instructor. Mr. Kostanick, Mr. Thrower

284. Soviet Union. Prerequisites: course 184 and consent of instructor. Mr. Kostanick

285. South and Southeast Asia. Prerequisites: course 185 and consent of instructor.

286. Eastern Asia. Prerequisites: course 186 and consent of instructor. Mr. Salter

287. Middle East. Prerequisites: course 187 and consent of instructor. Mr. Hale

288. Northern Africa. Prerequisites: course 188 and consent of instructor. Mr. Hale

289. Middle and Southern Africa. Prerequisites: course 189 and consent of instructor. Mr. Hale

290. Australia. Prerequisites: course 190 and consent of instructor. Mr. McKnight

291. The Arid Lands. Prerequisites: courses 104, 106, 108, 116, 120, and 148, or equivalent, and 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 occupance, including future possibilities for human utilization.

292. Advanced Regional Geography: Selected Regions. Lecture, three hours; discussion, one hour. Prerequisite: appropriate upper division regional course. A lecture series devoted to a specific region at the discretion of the instructor. May be repeated for credit.

295. Seminar: Geographic Thought. Discussion, three hours; reading period, two hours. Prerequisites: graduate standing, consent of instructor. Discussion and study of topics significant to the growth of the modern philosophy of geography. Mr. Entrikin

Special Studies

375. Teaching Apprentice Practicum (¼ to 1 course). 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 (½ course). 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. Mr. McKnight

596. Directed Individual Study or Research (½ to 2 courses). Prerequisite: consent of instructor. May be repeated for credit. S/U grading.

597. Preparation for M.A. Comprehensive Examination or Ph.D. Qualifying Examination (½ to 2 courses). Prerequisite: consent of instructor. Special individual study. May be repeated for credit. S/U grading.

598. Research for and Preparation of M.A. Thesis (½ to 2 courses). Prerequisite: consent of instructor. Independent study. May be repeated for credit. S/U grading.

599. Research for and Preparation of Ph.D. Dissertation (½ to 2 courses). Prerequisite: consent of instructor. Independent study.

Geology

See Earth and Space Sciences

Geophysics and Space Physics

See Earth and Space Sciences

Germanic Languages

310 Royce Hall, 825-3955

Professors

Ehrhard Bahr, Ph.D. *(German), Chair*
Franz H. Bäuml, Ph.D. *(German)*
Wolfgang Nehring, Ph.D. *(German)*
Eli Sobel, Ph.D. *(German)*
Hans Wagener, Ph.D. *(German)*
Donald J. Ward, Ph.D. *(German and Folklore)*
Terence H. Wilbur, Ph.D. *(Germanic Linguistics and Philology)*
Gustave Otto Arlt, Ph.D., LL.D., *Emeritus*
Carl William Hagge, Ph.D., *Emeritus*
Wayland D. Hand, Ph.D., *Emeritus*
William J. Mulloy, Ph.D., *Emeritus*
Victor A. Oswald, Jr., Ph.D., *Emeritus*
Erik Wahlgren, Ph.D., *Emeritus*

Associate Professors

Janet R. Hadda, Ph.D. *(Yiddish)*
Robert S. Kirsner, Ph.D. *(Dutch and Afrikaans)*
Alexander Stephan, Ph.D. *(German)*
Vern W. Robinson, Ph.D., *Emeritus*

Assistant Professors

Jesse L. Byock, Ph.D. *(Old Norse)*
T. Craig Christy, Ph.D. *(Germanic Linguistics and Philology)*
Dieter Jedan, Ph.D. *(German)*
Kathleen Komar, Ph.D. *(German)*
Steven D. Martinson, Ph.D. *(German)*

Lecturer

Margot Michels, Ph.D. *(German)*

Associate Professor

Marianna D. Birnbaum, Ph.D., *Adjunct (Hungarian)*

Scope and Objectives

The Department of Germanic Languages offers an extraordinary scope of Germanic languages and literatures, including philology, linguistics, and folklore. This broad range of studies offers training in specialized fields, in addition to providing a strong background in the literary and cultural traditions. The courses of instruction are designed to enable students to become effective teachers and productive scholars in either German or Germanic languages and literatures, including Germanic folklore, Hungarian, and Finnish.

Undergraduate majors in both German and Scandinavian languages lead to Bachelor of Arts degrees. The graduate program offers Master of Arts degrees in German and Scandinavian and a Ph.D. in Germanic Languages with a variety of specialized fields available. The department also offers courses in Dutch-Flemish and Afrikaans, Hungarian, Old Norse studies, and Yiddish, and a program in Finno-Ugric languages and literatures.

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. German 1 is not open for credit to students who have completed two years of high school German or equivalent with grades of C or better. Students who have completed two semesters of college German should enroll in German 4. Placement examinations may be given in instances where the proper level is difficult to determine. Native speakers of German must consult the undergraduate adviser. 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 chosen from German 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 chosen from German 103, 105, 106, 107, 137; Group IV — four courses chosen from German 121B, 122, 123, 124, 126, 127, 130, 132. Native speakers of German should consult the undergraduate adviser before enrolling in German 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 a reading knowledge of French.

Departmental Honors

To qualify for departmental honors, you must earn a grade-point average of 3.6 or better in German courses, attain a 3.3 overall GPA in your junior and senior years, and complete German 195 with a grade of A.

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.

Master of Arts in German

Admission

A bachelor's degree in German with a minimum grade-point average of 3.0 from an accredited U.S. institution or the equivalent is required. Candidates deficient in their undergraduate preparation may be admitted but will be required to take remedial courses, as recommended by the graduate adviser. A placement examination in German language or literature may be required. Three letters of recommendation are also required.

Major Fields or Subdisciplines

There are two M.A. plans that differ with respect to the course requirements and the comprehensive examinations. Plan A is for stu-

dents 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). In addition, courses 128, 129 (or equivalent), and 370 are required. Undergraduate credit for these courses (or equivalent) is applicable in satisfication of these requirements.

Plan B requires a minimum of nine upper division and graduate courses, of which at least six courses must be graduate level (200 or 500 series). One seminar must be included.

Course 596 may be taken twice; course 597 may be taken once before the M.A. degree; course 598 may be taken three times. However, only one 500-series course may be applied toward the M.A. course requirements.

Thesis Plan

If you choose this plan, a thesis committee will be established no later than the end of the 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, to be 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 examination, 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 will make appropriate study or course recommendations. All deficiencies must be removed prior to application for admission to candidacy for the qualifying examinations. Applicants without an M.A. in German (e.g., with an M.A. in Comparative Literature or in Linguistics) will be required to pass the written part of the M.A. comprehensive examination before beginning doctoral work in the department. Three letters of recommendation are also required.

Major and Minor Fields of Study

At the beginning of work toward the doctorate or as soon as possible thereafter, you must declare your major and minor fields. The field in which you plan to present a dissertation will be the major field and will be 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 choose 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 chosen 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-Flemish and Afrikaans; (9) Old Norse studies. If your major field is German literature, you may not choose options 1 through 3. The following minor may be substituted (unless you are a Scandinavian major): four graduate courses (excluding German 217 and all literature courses taken prior to the M.A. degree) in one of the other fields in which the degree is offered or four appropriate courses in Yiddish or Dutch-Flemish and Afrikaans or Old Norse studies.

Foreign Language Requirement

In addition to French, a second language examination is required either in a modern Scandinavian language or in Dutch-Flemish and Afrikaans or in Latin or in Yiddish (substitution of another language may be approved by petition).

Course Requirements

There are no course requirements *per se* for the Ph.D. in Germanic Languages. However, the following rules apply: (1) you must have successfully completed at least three seminars in residence before taking the qualifying examinations for the Ph.D.; (2) specific course requirements may be assigned to new students by the graduate adviser; (3) you may choose to fulfill minor field requirements by taking specific courses rather than being tested in the minor field on the Ph.D. qualifying examinations.

Qualifying Examinations

The written examinations consist of three parts unless you opt for the course minor, in which case it will consist of two parts: (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.

If you have opted for the formal minor and fail the written examination, you are not permitted to switch to the course minor.

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 will schedule 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 will take 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-Flemish and Afrikaans or in Latin or in Yiddish (or an approved substitute language); (3) successfully completed three seminars; (4) passed the qualifying examinations. When you pass the oral examination, you advance to candidacy and proceed to the writing of the dissertation.

Final Oral Examination

Upon completion of the dissertation and after its acceptance by the certifying members of the doctoral committee, you may be required to defend the dissertation in a final oral examination.

Candidate in Philosophy Degree

The C.Phil. degree is available upon advancement to doctoral candidacy.

German

Lower Division Courses

No credit will be 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 by consent of the instructor.

1. Elementary German. Lecture, five hours; laboratory, one hour. Not open for credit to students who have completed two years of high school German or equivalent with grades of C or better. Students will, however, be credited with four units toward the minimum progress requirement. Mr. Jedan

1G. Elementary German for Graduate Students. Provides preparation for the Graduate Division foreign language reading requirement. May not be applied toward degree requirements. S/U grading.
Mr. Christy, Mr. Wilbur

2. Elementary German. Lecture, five hours; laboratory, one hour. Prerequisite: course 1. Not open for credit to students who have completed two years of high school German or equivalent with grades of C or better. Students will, however, be credited with four units toward the minimum progress requirement.
Mr. Jedan

2G. Elementary German for Graduate Students. Provides preparation for the Graduate Division foreign language reading requirement. May not be applied toward degree requirements. S/U grading.
Mr. Christy, Mr. Wilbur

3. Elementary German. Lecture, five hours; laboratory, one hour. Prerequisite: course 2 or two years of high school German. Mr. Jedan

4. Intermediate German. Lecture, five hours. Prerequisite: course 3 or three years of high school German. Mr. Jedan

5. Intermediate German. Prerequisite: course 4 or four years of high school German. Mr. Jedan

6. Intermediate German. Prerequisite: course 5 or equivalent. Mr. Jedan

12. German Conversation (½ course). Prerequisite: course 1 or one year of high school German. The course utilizes German language teaching films; students have the opportunity to practice spoken German in small groups. Mr. Jedan

14. Intermediate Conversation (½ course). Prerequisite: course 3 or three years of high school German. Students have the opportunity to practice spoken German in small groups. Mr. Jedan

95. Freshman Seminar. Course of variable content limited to topics of current interest and offered whenever a staff member is available.

Upper Division Courses

Prerequisite for all upper division courses (except 100A, 100B, 100C, 119A through 119G, 119J, 121A, 121B) is course 6 or equivalent or consent of instructor.

Courses in the German 119 literature series (except 119A and 119B) 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. 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. Lectures, discussions, and readings in English; knowledge of German is not required.
Mr. Bäuml, Mr. Sobel, Mr. Wagener

100B. Modern German Civilization and Culture from 1700 to 1919. 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. Lectures, discussions, and readings in English; knowledge of German is not required. Mr. Sobel, Mr. Wagener

100C. German Civilization and Culture in the 20th Century. A study of the development of German culture and institutions from 1919 to the present, emphasizing developments in literature, the arts, and architecture. Lectures, discussions, and readings in English; knowledge of German is not required.
Mr. Stephan

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. Ms. Komar, Mr. Wagener

101B. Introduction to German Drama. Analysis of selected examples of drama (e.g., tragedy, comedy, one-act play, lyric drama, lyric theater, etc.), including a systematic introduction to dramatic forms, techniques, and theories. Texts will be 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 examples of narrative prose (e.g., short story, novelle, novel, fairy tale, etc.), including a systematic introduction to narrative forms, techniques, styles. Texts will be selected from modern literature as well as from older periods. Course should be taken at the beginning of literary studies.
Ms. Komar, Mr. Nehring, Mr. Stephan

103. Introduction to German Enlightenment, *Sturm und Drang,* and Classicism. Reading and discussion of representative works by Lessing, Goethe, and Schiller; their historical and social background, their relationship to music (Bach, Mozart) and philosophy (Leibniz, Kant), as well as their place in the history of ideas. Mr. Bahr, Mr. Martinson

105. Introduction to 19th-Century German Literature. Reading and analysis of selected works from Romanticism to realism. Ms. Komar, Mr. Nehring

106. Introduction to Modern Literature. Analysis of selected works of the period from 1890 to 1945.
Mr. Nehring, Mr. Wagener

107. Introduction to Contemporary Literature. Analysis of selected works of the period from 1945 to the present time. Mr. Stephan

108A. Composition and Conversstion.
Mr. Christy, Ms. Michels

108B. Composition and Conversation. Prerequisite: course 108A or consent of instructor.
Mr. Christy, Ms. Michels

Courses Not Open for Credit to Majors or Graduate Students in German

119A. Older German Literature in Translation. (Formerly numbered 121A.) Analysis in English of works of German literature from the medieval period to baroque. May not be applied toward completion of the major in German.
Mr. Bäuml, Mr. Sobel, Mr. Ward

119B. Classical German Literature in Translation. (Formerly numbered 121B.) Analysis in English of works of the classical period. May not be applied toward completion of the major in German.
Mr. Bahr, Mr. Martinson

119C. 19th-Century German Literature in Translation. (Formerly numbered 121C.) Readings and lectures in English on selected 19th-century authors. May not be applied toward completion of the major in German. Ms. Komar, Mr. Nehring

119D. Modern German Literature in Translation — Narrative Prose I. (Formerly numbered 121D.) Readings, lectures, and discussions in English on selected modern authors, including Mann, Kafka, Hesse, and Rilke. May not be applied toward completion of the major in German.
Mr. Nehring, Mr. Stephan, Mr. Wagener

119E. Modern German Literature in Translation — Narrative Prose II. (Formerly numbered 121E.) Readings, lectures, and discussions in English on post-1945 narrative prose. May not be applied toward completion of the major in German.
Mr. Stephan, Mr. Wagener

119F. Modern German Literature in Translation — Drama and Lyrics. (Formerly numbered 121F.) Readings, lectures, and discussions in English on modern German drama and lyric poetry. May not be applied toward completion of the major in German.
Mr. Stephan, Mr. Wagener

119G. Modern German Jewish Literature in Translation. (Formerly numbered 121G.) Readings and lectures in English on selected authors, including Mendelssohn, Heine, Schnitzler, Kraus, Kafka, Feuchtwanger, Anne Frank, Nelly Sachs. May not be applied toward completion of the major in German.
Ms. Hadda

119J. The Faust Tradition from the Renaissance to the Modern Age. (Formerly numbered 121J.) Readings and discussions in English of the Faust theme and tradition in European literature and intellectual history, including the chapbook of *Doctor Faustus,* Christopher Marlowe's and Goethe's Faust dramas, as well as Thomas Mann's novel, *Doctor Faustus: The Life of the German Composer Adrian Leverkühn.* May not be applied toward completion of the major in German. Mr. Bahr, Mr. Martinson

Courses Open for Credit to Majors, Nonmajors, and Graduate Students in German

121A. Special Problems in Literature. (Formerly numbered 121H.) Prerequisite: upper division standing. Varying topics of current importance and immediate relevance to literary study. The course is designed to introduce the student to contemporary trends in literary study and is predominantly concerned with topics related to German literature and criticism. Lectures in English.

121B. The German Film in Cultural Context. (Formerly numbered 121I.) A survey of various aspects of the German film in relationship to literary, artistic, and political directions of the times, with emphasis on the film as a separate mode of artistic expression.
Mr. Stephan

122. Studies in German Literature before 1750. Prerequisites: three upper division courses (including course 100A) or consent of instructor. Readings and analysis of major works from the Middle Ages to the baroque. Mr. Bäuml, Mr. Sobel, Mr. Wagener

123. Goethe. Prerequisites: courses 100A or 100B and 103, or consent of instructor. Reading and discussion of representative works (except *Faust*) from Goethe's early period to his maturity and old age.
Mr. Bahr, Mr. Martinson

124. Romanticism. Prerequisites: courses 100A or 100B, 105, or consent of instructor. Reading and analysis of major works of the Romantic period. Authors include Tieck, Novalis, E.T.A. Hoffmann, and Eichendorff. Ms. Komar, Mr. Nehring

126. Advanced Study in Modern Literature. Prerequisites: courses 100A, 100B, or 100C, 106, or consent of instructor. Reading and analysis of a wide range of the literature from 1890 to 1945.
Mr. Wagener

127. Advanced Study in Contemporary Literature. Prerequisites: courses 100A, 100B, or 100C, 107, or consent of instructor. Analysis of a wide range of German literature from 1945 to the present.
Mr. Stephan

128. Advanced Composition, Grammar, and Conversation. Prerequisites: courses 108A, 108B or consent of instructor. Mr. Christy, Ms. Michels

129. German Phonetics. Study of the articulatory basis of the sounds of German and practice in standard pronunciation. Mr. Christy

130. Methodology of Literary Criticism. Prerequisite: senior standing or consent of instructor. Introduction to the methodology of literary criticism, including a systematic study of motif, topos, plot, space and time, semantics, stylistics, rhetoric, metrics, imagery (emblem, metaphor, allegory, symbol), structural elements (act, stanza, book, flashback, anticipation, interior monologue), narrator and reader response, humor and irony, hermeneutics.
Mr. Bahr, Mr. Bäuml, Mr. Martinson

132. Goethe's *Faust*. Prerequisites: courses 100A or 100B, 123, or consent of instructor. Detailed interpretation of Goethe's *Faust*, Parts I and II, together with general consideration of other treatments of the Faust theme in European literature.
Mr. Bahr, Mr. Martinson

134. German Folklore. A survey of the various genres of German folklore. Mr. Ward

137. Language and Linguistics. (Formerly numbered 117.) Prerequisites: courses 100A or 100B and 108A. Introduction to the historical development of the German language; theories and methods of linguistics. Mr. Christy

195. Senior Thesis Course. Extensive reading, research, and writing of senior thesis. May be used for writing honors thesis.

199A-199ZZ. Special Studies (½ or 1 course). Prerequisite: consent of instructor. To be arranged with faculty member who will direct the study (course section to be identified by a two-letter code using initials of sponsoring instructor — see department for code). A course of independent study for students who desire more intensive or specialized investigation of material covered in a regular course and who present such a course as a prerequisite.

Graduate Courses

201A. Bibliography of German Literary History. Study of the various kinds of bibliographies, reference works, handbooks, lexica, series publications, journals, literary histories, and related materials necessary for advanced studies and research in literary and philological problems. Practical exercises in the analysis and compilation of bibliographical data.
Mr. Sobel

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, Marxist Criticism, Russian and Czech Formalism, structuralism, and semiotics.
Mr. Bahr, Mr. Bäuml

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 are combined with a study of the sociocultural contexts in which the works of the medieval period were produced and performed.
Mr. Bäuml

202B. Readings in Middle High German Literature. Students will do extensive reading of the literary monuments of the medieval period in Germany. The course will also introduce students to the cultural and literary history of the Middle Ages.
Mr. Bäuml, Mr. Ward

203A. The Courtly Epic. An analysis of the major epics of the medieval period in Germany, such as Hartmann's *Erec* and *Iwein*, Wolfram's *Parzival*, and Gottfried's *Tristan*. A study of courtly society, as well as an introduction to methods of interpretation and analysis. Mr. Bäuml

203B. The Courtly Lyric. The medieval songs of courtly performers, beginning with Der von Kürenberg and ending with Johannes von Hadlaub, will be analyzed. Study of the sociocultural context in which the songs were produced and performed, and an introduction to methods of interpretation and analysis.
Mr. Bäuml, Mr. Ward

203C. The Heroic Epic. A survey of German heroic literature, beginning with the *Hildebrandslied* and including such works as the *Niebelungenlied, Kudrun*, and the Dietrich epics. Methods of analysis and interpretation, as well as an analysis of thematic and formal characteristics of the different epics.
Mr. Bäuml, Mr. Ward

204. Renaissance and Reformation Literature. The literature of the 15th and 16th centuries, including an introduction to and the study of the Early New High German language. Selected readings from the works of such authors as Sebastian Brant, Martin Luther, Hans Sachs, and Johann Fischart.
Mr. Sobel

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. Mr. Sobel, Mr. Wagener

206A. Enlightenment and Sentimentalism. Study of representative authors of the earlier part of the 18th century from Gottsched through Lessing, including such authors as Leibniz, Thomasius, Wolff, Bodmer and Breitinger, Johann Elias Schlegel, Haller, Brockes, Anacreontic poets, Gessner, Klopstock, Mendelssohn, and Wieland.
Mr. Bahr, Mr. Martinson

206B. *Sturm und Drang*. Study of representative authors of the *Sturm und Drang* period, such as Herder, Forster, Gerstenberg, Leisewitz, Klinger, Wagner, R.M. Lenz, Moritz, Heinse, Schubart, and the young Goethe and Schiller. Mr. Bahr, Mr. Martinson

207A. Classicism: Goethe. Selected topics from the works of Goethe in the period from 1786 to 1832, such as *Iphigenie auf Tauris, Torquato Tasso, Wilhelm Meisters Lehrjahre, Die natürliche Tochter, Pandora*, and poetry selections. Mr. Bahr

207B. Classicism: Schiller. Selected topics from the critical and dramatic works of Schiller in the period from 1793 to 1805, such as *Über Anmut und Würde, Über das Erhabene, Wallenstein, Maria Stuart, Jungfrau von Orleans*, and *Wilhelm Tell*.
Mr. Bahr, Mr. Martinson

208. Romanticism. Analysis of selected works of the Romantic period by authors such as Wackenroder, Tieck, the brothers Schlegel, Novalis, Hölderlin, Brentano, Arnim, the brothers Grimm, "Bonaventura," E.T.A. Hoffmann, Eichendorff, and others. Course may be genre or topic oriented.
Ms. Komar, Mr. Nehring

209A. 19th-Century Lyrics. 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 *Vormärz*, Droste-Hülshoff, Keller, Storm, C.F. Meyer, Nietzsche, George, and others.
Ms. Komar, Mr. Nehring

209B. 19th-Century Drama. Reading and analysis of selected dramas by Kleist, Büchner, Hebbel, Grillparzer, and others. Discussion and analyses may include topics such as *Schicksalstragödie*, bourgeois trivial drama, sociopolitical drama, historical drama, Viennese *Volkstheater*. Ms. Komar, Mr. Nehring

209C. 19th-Century Narrative Prose. Analysis of German prose works from Romanticism to naturalism. Discussion of the problem of reality and literary realism with respect to narrative techniques. Authors may include Heine, Büchner, Droste-Hülshoff, Stifter, Gotthelf, Keller, C.F. Meyer, Fontane, and the early naturalists. Ms. Komar, Mr. Nehring

210A. Naturalism and Symbolism. Sociological background and theoretical writings concerning naturalism and symbolism. Analysis of representative poems, dramas, and shorter narratives by authors such as Holz, G. Hauptmann, George, Hofmannsthal, Rilke.
Mr. Wagener

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.
Mr. Stephan, Mr. Wagener

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. Ms. Komar, Mr. Wagener

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, will be analyzed and placed in the context of literary, cultural, and political trends.
Mr. Stephan

211B. Contemporary Lyrics and Drama. A study of selected dramas 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 will be analyzed and placed in the context of literary, cultural, and political trends. Mr. Stephan

217. History of the German Language. A historical survey of the development of the standard literary German language from the time of Indo-European unity through proto-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. Mr. Christy, Mr. Wilbur

230. Survey of Germanic Philology. A systematic survey of the major problems in the field of Germanic linguistics: the origin and historical diffusion of the Germanic dialects and their classification; problems in the evolution of the nominal and verbal morphology of the various dialects; problems in the phonological evolution of the various dialects. Mr. Wilbur

231. Gothic. A systematic study of the phonology and grammar of the Gothic language, with readings in Wulfila's translation of the Bible and an introduction to the history of the Goths and their place in the development of modern Europe. Mr. Wilbur

232. Old High German. An introduction to the earliest phases of German literature, with extensive readings in the major documents of that period (750-1050). Emphasis on the grammatical interpretation of these documents and the identification of the dialects used in their composition. Mr. Christy, Mr. Wilbur

233. Old Saxon. An introduction to the study of the earlist documents in Old Low German. Readings in the *Heliand* and the study of the *Old Saxon Genesis*.
Mr. Christy, Mr. Wilbur

240A. Theories, Methods, and History of Germanic Folklore. The history of Germanic folklore studied in the context of European cultural history. The evolution of the theories and methods of the discipline as developed by Herder, the Grimms, Bolte, Meier, Naumann, Bausinger, and others. Mr. Ward

240B. Folk Song and Ballad. Analysis of the poetic and musical aspects of German folk songs and ballads. Study of thematic and formalistic evolution of text and music, combined with an introduction to the theories and methods of analysis of folk music and the function of folk song in its social context. Mr. Ward

240C. Oral Prose Genres. Study of the thematic and formal characteristics of legends, folktales, jests, proverbs, and riddles. The role of popular 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 prehistory 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. Methods of comparative ethnography, religion, and myth will be used to interpret the evidence. Mr. Ward

251. Seminar in Syntax and Phonology of German. Topics chosen from the field of contemporary German syntax and phonology according to the needs and preparation of the students enrolled (e.g., *Dialektgeographie,* generative phonology, generative syntax, *Valenztheorie, Texttheorie).* Mr. Wilbur

252. Seminar in Historical and Comparative German Linguistics. Topics chosen from the field of historical German phonology and syntax according to the needs and preparation of the students enrolled (e.g., the West Germanic problem and the classification of the Germanic languages, the development of Germanic verbal and nominal morphology, proto-Germanic syntax). Mr. Wilbur

253. Seminar in Medieval Literature. Selected topics in medieval literature, with stress 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 on textual analysis or pertinent research to apply the methods of literary history to the literature of the 15th and 16th centuries. Mr. Sobel

255. Seminar in Baroque Literature. Seminar on selected problems of German baroque literature, such as a particular genre, author, or theme. Textual analysis supplemented by critical review of research and the application of methods of literary analysis pertinent to the literature of this age. Mr. Sobel, Mr. Wagener

256. Seminar in Enlightenment and *Sturm und Drang.* Selected topics in 18th-century literature, such as utopian literature, love and money as motifs, family structure and family life, image of women and women's literature, Jacobin literature, seduction and betrayal as motifs, nobility and middle class in 18th-century literature. Textual analysis and review of current research. Mr. Bahr, Mr. Martinson

257. Seminar in the Age of Goethe. Selected topics in German literature between 1775 and 1832, such as Schiller's theoretical writings, Goethe's *Faust II,* Goethe's *Wanderjahre* and *West-Östlicher 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

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

259. Seminar in 19th-Century Literature. Discussion of a specific author or topic of 19th-century literature, possibly in close connection with course 209A, 209B, or 209C. Critical review of secondary works. Ms. Komar, Mr. Nehring

260. Seminar in the Modern Period. Seminar on a selected genre, author, or theme of 20th-century German literature prior to 1945. Mr. Bahr, Mr. Nehring, Mr. Wagener

261. Seminar in Contemporary Literature. Study of selected works, a specific author, genre, period, or topic from 1945 to the present. Texts will be analyzed and placed in the context of literary, cultural, and political trends. Mr. Stephan

262. Seminar in Germanic Folklore. Detailed research on individual aspects of Germanic folklore. The topic selected will generally be drawn from the course in the German 240 series that preceded the seminar. Emphasis on problems of theory and method. Mr. Ward

263. Seminar in Theories of Literature. Specialization in literary theories, such as *Rezeptionsästhetik,* Neo-Marxist Criticism, New Criticism, psychology or sociology of literature, structuralism, semiology, and hermeneutics. Mr. Bahr, Mr. Bäuml

370. The Teaching of German in Secondary Schools. Lecture, three hours; discussion periods. Prerequisite: graduate standing or consent of instructor. Required of all candidates for the general secondary credential in German.

375. Teaching Apprentice Practicum (¼ to 1 course). 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. Preparation for College Teaching of German (½ course 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. S/U and In Progress grading.

596. Directed Individual Study or Research. To be arranged with faculty member who will direct the study or research (course section to be identified by a two-letter code using initials of sponsoring instructor — see department for code). May be repeated once; however, only one course in the 500 series may be applied toward the M.A. graduate course requirement. S/U grading.

597. Preparation for M.A. Comprehensive Examination or Ph.D. Qualifying Examination. To be arranged with faculty member who will direct the study (course section to be identified by a two-letter code using initials of sponsoring instructor — see department for code). May be taken only once before and only once after the M.A. degree; only one course in the 500 series may be applied toward the M.A. graduate course requirement. S/U grading.

598. Research for and Preparation of M.A. Thesis (1 to 3 courses). To be arranged with faculty member who will direct the study (course section to be identified by a two-letter code using initials of sponsoring instructor — see department for code). Only one course in the 500 series may be applied toward the M.A. graduate course requirement. S/U grading.

599. Research for and Preparation of Ph.D. Dissertation (1 to 3 courses). To be arranged with faculty member who will direct the study (course section to be identified by a two-letter code using initials of sponsoring instructor — see department for code). May be repeated. S/U grading.

Dutch-Flemish and Afrikaans

Upper Division Courses

101A. Elementary Dutch-Flemish. Mr. Kirsner

101B. Elementary Afrikaans. Mr. Kirsner

101C. Intermediate Dutch-Flemish. Prerequisite: course 101A or equivalent. Mr. Kirsner

101D. Intermediate Readings in Dutch-Flemish. Prerequisite: course 101C or equivalent. Mr. Kirsner

101E. Intermediate Readings in Afrikaans. Prerequisite: course 101B. Mr. Kirsner

112. Dutch, Flemish, Afrikaans Literature in Translation. Readings and analysis of selected works in translation from Dutch, Flemish, and Afrikaans literature. Mr. Kirsner

120. Introduction to Dutch Studies. Prerequisite: consent of instructor. Brief review of Dutch grammar. Reading and discussion of selections from contemporary Dutch literature, contemporary Dutch literary criticism, and modern Dutch linguistics. Emphasis is on developing reading skill and on acquiring familiarity with and an appreciation of the scope of 20th-century Neerlandistiek. Mr. Kirsner

131. Introduction to Modern Dutch Literature. Prerequisite: course 101D or 120. Analysis of selected works of the literature of the Netherlands and Flemish Belgium, from the symbolist Beweging van Tachtig of the 1880s to the present. Mr. Kirsner

135. Introduction to Afrikaans Literature. Prerequisite: course 101E or equivalent. Analysis of selected works from the founding of the Genootskap van Regte Afrikaners in 1875 to the present time. Mr. Kirsner

199. Special Studies in Dutch-Flemish and Afrikaans (½ to 1 course). Mr. Kirsner

Graduate Courses

234. The Structure of Modern Standard Dutch. A detailed examination, from contrasting theoretical viewpoints, of central problems in Dutch phonology, grammar, and semantics, with attention to related phenomena in German, English, and Afrikaans. Course is equivalent to Linguistics 225. Mr. Kirsner

596. Directed Individual Study or Research in Dutch-Flemish and Afrikaans. To be arranged with faculty member who will direct the study or research (course section to be identified by a two-letter code using initials of sponsoring instructor — see department for code). May be repeated once. S/U grading. Mr. Kirsner

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

101D. Advanced Hungarian. Prerequisites: courses 101A, 101B, 101C, or equivalent. Grammar, conversation, vocabulary building. Ms. Birnbaum

101E. Advanced Hungarian. Prerequisites: courses 101A-101D or equivalent. Conversation, reading, and discussion of literary texts. Ms. Birnbaum

101F. Advanced Hungarian. Prerequisites: courses 101A-101E or equivalent. Conversation and review of Hungarian grammar from a typological point of view. Ms. Birnbaum

120A-120B. Readings in Hungarian. Prerequisite: course 101C or equivalent. Selections of Hungarian prose and poetry read in the original. Ms. Birnbaum

120C. Readings in Hungarian Literature. Prerequisite: reading knowledge of Hungarian and course 101C or equivalent. Selections of Hungarian prose and poetry read in the original. Discussion will be 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. Main trends and contacts with other literatures are surveyed. Ms. Birnbaum

130. Hungarian Civilization and Culture. A study of Hungarian civilization and institutions from the earliest times to the present. Study of Hungarian culture as represented in its arts (literature, fine arts, music). Ms. Birnbaum

M135. Hungarian Folklore and Mythology. (Same as Folklore M128.) A general course for the student in folklore and mythology, with emphasis on types of folklore and varieties of folklore research. Ms. Birnbaum

M136. Folklore and Mythology of the Ugric Peoples. (Same as Folklore M129.) Survey of the traditions of the smaller Ugric nationalities (Voguls, Ostyaks, etc.). Ms. Birnbaum

199. Special Studies in Hungarian (½ to 1 course). Prerequisite: consent of instructor. A course of independent study for students who desire more intensive or specialized investigation of material covered in a regular course and who present such a course as a prerequisite. Ms. Birnbaum

Old Norse Studies

Lower Division Course

40. The Heroic Journey in Northern Myth, Legend, and Epic. (Formerly numbered Scandinavian Languages 40.) The focus is on a comparison of the journeys of heroes. Readings in mythology, legend, folktale, and epic, including the *Niebelungenlied*, the *Volsunga saga*, the *Eddas*, and *Beowulf*. Cultural and historic backgrounds to the texts are considered. All readings are in English. Mr. Byock

Upper Division Courses

139. The Saga. Lecture, three hours. The sagas are the largest extant medieval prose literature. Texts are read in English, with selections from the different types of Icelandic sagas. Consideration is given to the history and culture that produced this literature. Mr. Byock

140. Viking Civilization and Literature. (Formerly numbered Scandinavian Languages 141.) Readings in the history, society, and culture of the early Scandinavians. All texts are in English and include Old Norse sagas, *Eddas*, and early ballad literature. Mr. Byock

C145. Old Norse Literature and Society. Lecture, three hours. Readings in primary texts in conjunction with the critical literature. Specific issues in medieval Scandinavian studies are considered. May be repeated for credit. Concurrently scheduled with course C223. Mr. Byock

151. Elementary Old Norse. (Formerly numbered Scandinavian Languages 151.) Introduction to the grammar and pronunciation of Old Norse. Selected readings from the sagas and the *Prose Edda*. Mr. Byock

152. Intermediate Old Norse. (Formerly numbered Scandinavian Languages 152.) 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. (Formerly numbered Scandinavian Languages 153.) Prerequisite: course 152 or equivalent. Grammar, readings, and conversation. Mr. Byock

199. Special Studies in Old Norse (½ or 1 course). 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. Mr. Byock

Graduate Courses

221. Advanced Old Norse Prose. Prerequisite: course 152 or equivalent. Readings of major saga texts. Also read are secondary sources which bear on specific issues in Old Norse literature and medieval Scandinavian history. Mr. Byock

222. Advanced Old Norse Poetry. Prerequisite: course 152 or equivalent. Readings of mythological and heroic poems from the *Poetic Edda*. Secondary sources used where appropriate. Mr. Byock

C223. Old Norse Literature and Society. Lecture, three hours. Critical issues in medieval Scandinavian studies. May be repeated for credit. Concurrently scheduled with course C145. Mr. Byock

245A. Germanic and Scandinavian Mythology. Lecture, three hours. A study of Northern myth and religion through a close reading of the Eddic texts and secondary sources. Mr. Byock

596. Directed Individual Study or Research. To be arranged with faculty member who will direct the study or research (course section to be identified by a two-letter code using initials of sponsoring instructor — see department for code). May be repeated once; however, only one course in the 500 series may be applied toward the M.A. graduate course requirement. S/U grading. Mr. Byock

Yiddish

Lower Division Courses

1. Elementary Yiddish. Lecture, five hours. Introduction to grammar; instruction in listening, speaking, reading, and writing skills. Ms. Hadda

2. Elementary Yiddish. Lecture, five hours. Prerequisite: course 1 or equivalent. Ms. Hadda

3. Elementary Yiddish. Lecture, five hours. Prerequisite: course 2 or equivalent. Ms. Hadda

Upper Division Courses

104. Intermediate Yiddish. Lecture, five hours. Prerequisite: course 3 or equivalent. Grammatical exercises, reading and linguistic analysis of texts, conversation. Ms. Hadda

121A. 20th-Century Yiddish Poetry in English Translation. Prerequisite: upper division standing or consent of instructor. Readings in 20th-century Yiddish poetry and drama. Ms. Hadda

121B. 20th-Century Yiddish Prose and Drama in English Translation. Prerequisite: upper division standing or consent of instructor. Readings in 20th-century Yiddish prose. Ms. Hadda

121C. Special Topics in Yiddish Literature in English Translation. Varying topics of importance and relevance to Yiddish literary study. Reading and analysis of a wide range of 19th- and 20th-century literature. Ms. Hadda

131A. Modern Yiddish Poetry. Prerequisite: course 104 or consent of instructor. Readings in modern Yiddish poetry. Ms. Hadda

131B. Modern Yiddish Prose and Drama. Prerequisite: course 104 or consent of instructor. Readings in modern Yiddish prose and drama. Ms. Hadda

131C. Special Topics in Yiddish Literature. Prerequisite: course 131A or 131B. Varying topics of importance and relevance to Yiddish literary study. Reading and analysis of a wide range of 19th- and 20-century literature. Ms. Hadda

199. Special Studies in Yiddish (½ to 1 course). 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 Course

596. Directed Individual Study or Research in Yiddish. To be arranged with faculty member who will direct the study or research (course section to be identified by a two-letter code using initials of sponsoring instructor — see department for code). May be repeated once. S/U grading. Ms. Hadda

Scandinavian

332 Royce Hall, 825-2432

Professors

Ross P. Shideler, Ph.D.
Kenneth G. Chapman, Ph.D., *Emeritus*
Erik Wahlgren, Ph.D., *Emeritus*

Associate Professors

James R. Massengale, Ph.D., *Vice Chair*
Mary Kay Norseng, Ph.D.

Adjunct Lecturers

Inkeri A. Rank, M.A., M.Ed. *(Finnish Studies)*
Jules L. Zentner, Ph.D.

Scope and Objectives

Scandinavia consists of five Northern European countries: Denmark, Finland, Iceland, Norway, and Sweden. Together with the Faroe Islands and Greenland, these countries form a geographic bridge between the American and European continents and a political bridge between the West and Eastern Europe. For all students of the future, Scandinavia is of particular interest.

The modern Scandinavian program educates students about Scandinavia through the study of its languages and literatures. The Scandinavian Section offers both undergraduate and graduate degrees in the languages and literatures of Denmark, Norway, and Sweden, as well as a strong set of course offerings in Finnish language, literature, and folklore. Danish, Norwegian, and Swedish are mutually understandable languages, giving the student of one access to the literatures and cultures of the other two. Both undergraduate and graduate majors are expected to concentrate on one Scandinavian language, though they will study the literatures of the other language areas.

Bachelor of Arts in Scandinavian Languages

Preparation for the Major

Required: Scandinavian Languages 1, 2, 3, 4, and 5, or 11, 12, 13, 14, and 15, or 21, 22, 23, 24, 25, and 30, or equivalent.

The Major

Required: Twelve upper division courses in Scandinavian, including 105 and 106 or 110 for two quarters and 141, 142, 143. As an option, three upper division courses in a related field may be taken. These three courses must be approved in advance by the undergraduate

adviser. It is recommended that students who plan to do graduate work in Scandinavian take German 1 through 6.

Master of Arts in Scandinavian

Admission

In addition to the University minimum requirements, prospective students in the M.A. program in Scandinavian languages must have an undergraduate major in Scandinavian languages or equivalent. If you are deficient in the undergraduate major, you must complete it by taking the appropriate courses as recommended by the graduate adviser. A placement examination in the Scandinavian languages, as well as in German, may be required.

Three letters of recommendation are required by the Graduate Division.

For a brochure describing the program and requirements, write to the Scandinavian Section, 332 Royce Hall, UCLA, Los Angeles, CA 90024.

Major Fields or Subdisciplines

There are no clear 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

A reading knowledge of French or German is required (in addition, of course, to a knowledge of the Scandinavian languages). You must pass the Graduate School Foreign Language Test reading examination in French or German with a score of 500 or better or must pass at least one upper division course in French or German.

Course Requirements

A total of 12 courses is required for the M.A. degree. These include a minimum of nine upper division and graduate courses in Scandinavian languages, at least five of which must be graduate courses. Three courses on the upper division or graduate level may be taken in a related field of linguistic or literary study to be determined in consultation with the graduate adviser; at least one of these must be on the graduate level. Comparative Literature 200 or an equivalent course in methodology is required as one of the 12 courses.

Three 596 courses (12 units) may be applied toward the total course requirement, but only one (four units) may be applied toward the minimum graduate course requirement.

Comprehensive Examination Plan

A comprehensive examination, based on the required coursework and a reading list, will be required of all candidates for the M.A. degree. The examination is given whenever you have completed the course requirements and feel prepared to be examined on both the coursework and the reading list.

The comprehensive examination is both written and oral; students who fail may be reexamined once without petitioning.

For the Ph.D. degree in Germanic Languages with Scandinavian literature as a major or minor field, see the "Ph.D. in Germanic Languages."

Lower Division Courses

No credit will be allowed for completing a less advanced course after successful completion of a more advanced course in grammar and/or composition. Students with demonstrated preparation may be permitted a more advanced program by the section or may be transferred to a more advanced course by 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. Shideler in charge

2. Elementary Swedish. Prerequisite: course 1 or equivalent. Mr. Shideler in charge

3. Elementary Swedish. Prerequisite: course 2 or equivalent. Mr. Shideler in charge

4. Intermediate Swedish. Prerequisite: course 3 or equivalent. Mr. Shideler in charge

5. Intermediate Swedish. Prerequisite: course 4 or equivalent. Mr. Shideler in charge

11. Elementary Norwegian. Ms. Norseng

12. Elementary Norwegian. Prerequisite: course 11 or equivalent. Ms. Norseng

13. Elementary Norwegian. Prerequisite: course 12 or equivalent. Ms. Norseng

14. Intermediate Norwegian. Prerequisite: course 13 or equivalent. Ms. Norseng

15. Intermediate Norwegian. Prerequisite: course 14 or equivalent. Ms. Norseng

21. Elementary Danish. Mr. Massengale

22. Elementary Danish. Prerequisite: course 21 or equivalent. Mr. Massengale

23. Elementary Danish. Prerequisite: course 22 or equivalent. Mr. Massengale

24. Intermediate Danish. Prerequisite: course 23 or equivalent. Mr. Massengale

25. Intermediate Danish. Prerequisite: course 24 or equivalent. Mr. Massengale

30. Intermediate Danish, Norwegian, and Swedish. Prerequisite: course 5 or 15 or 25 or equivalent. Readings in Danish, Norwegian, and Swedish. Written and oral exercises. P/NP, S/U, or letter grading.

Upper Division Courses

105. Advanced Swedish. Prerequisite: course 30 or equivalent. Readings, composition, and conversation in Swedish.

106. Advanced Swedish. Prerequisite: course 105 or equivalent. Readings, composition, and conversation in Swedish.

110. Advanced Danish and Norwegian. Prerequisite: course 30 or equivalent. Readings, composition, and conversation in Danish and Norwegian. May be repeated once for credit.

M123A. 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 is paid to the oral epic, beliefs, and legends. Ms. Rank

M123B. Finnish Folk Song and Ballad. (Same as Folklore M123B.) Course M123A is not prerequisite to M123B. A survey of Finnish balladry and folk song, with attention to historical development, ethnic background, and poetic and musical values. Ms. Rank

M125. Folklore and Mythology of the Lapps. (Same as Folklore M125.) Survey of Lappish beliefs, customs, and various genres of oral tradition, including tales, legends, songs, and music. Attention is also paid to the material manifestations of Lappish culture: arts and crafts, textiles, costume, folk technology. Ms. Rank

130. Elementary Finnish. Introduction to pronunciation and grammar. Ms. Rank

131. Intermediate Finnish. Prerequisite: course 130 or equivalent. Grammatical exercises and readings. Ms. Rank

132. Advanced Finnish. Prerequisite: course 131 or equivalent. Readings, composition, and conversation. Ms. Rank

138. Survey of Finnish Literature. Intended for students in general and comparative literature as well as students interested in Finnish studies. Readings and discussions of selected works from the literature of Finland in the 19th and 20th centuries. Conducted in English; knowledge of Finnish is not required. Ms. Rank

141. Backgrounds of Scandinavian Literature. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language is not required. Readings and discussions of representative texts selected from the literature of the medieval, Renaissance, baroque, and Enlightenment periods. Mr. Massengale

142. Scandinavian Literature of the 19th Century. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language is not required. Readings and discussions of selected works from the literature of Scandinavia in the 19th century. Mr. Massengale, Ms. Norseng

143. Modern Scandinavian Literature. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language is not required. Readings and discussions of selected works of modern Scandinavian literature. Mr. Massengale, Ms. Norseng, Mr. Shideler

C144. Henrik Ibsen. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language is not required. Readings and discussions of selected plays by Henrik Ibsen. May be concurrently scheduled with course C251. Ms. Norseng

C145. August Strindberg. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language is not required. Readings and discussions of selected plays by August Strindberg. May be concurrently scheduled with course C252. Mr. Massengale, Mr. Shideler

C146. Søren Kierkegaard. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language is not required. Readings and discussions of selected works by Søren Kierkegaard. May be concurrently scheduled with course C253. Mr. Massengale

C147. Knut Hamsun. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language is not required. Readings and discussions of selected works by Knut Hamsun. May be concurrently scheduled with course C254. Ms. Norseng

C180. Literature and Scandinavian Society. Knowledge of a Scandinavian language is not required. Discussion of selected aspects of Scandinavian society based on readings of the contemporary literature as well as other documentary material. May be repeated for credit (as determined by undergraduate adviser) with topic change. May be concurrently scheduled with course C263.

Mr. Massengale, Ms. Norseng, Mr. Shideler

181. Contemporary Swedish Literature. Prerequisite: reading knowledge of a Scandinavian language. Reading and analysis of selected texts by major 20th-century Swedish authors. The course covers not only specific novelists, playwrights, and poets, but places them within a social and historical milieu.

Mr. Shideler

C182. The Theory of the Scandinavian Novel. Prerequisite for Scandinavian majors: course 30 or equivalent; for nonmajors: knowledge of a Scandinavian language is not required. The course examines the predominant structures of the novel, the Scandinavian novel in particular, starting with its beginnings, concentrating on the rise of the novel in the 19th century, and following the novel's evolution in the 20th century. The works of such writers as Kierkegaard, Andersen, Almquist, Jacobsen, Hamsun, and Hansen are central to the course. May be concurrently scheduled with course C264.

Ms. Norseng, Mr. Shideler

190. Honors Course in Scandinavian. Prerequisites: senior standing with a minimum 3.0 grade-point average in the major and consent of the honors committee. Intensive study of a selected special topic in Scandinavian. Discussions, oral and written reports.

199A-199ZZ. Special Studies in Scandinavian (½ or 1 course). Prerequisites: senior or graduate standing and consent of instructor. To be arranged with faculty member who will direct the study (course section to be identified by a two-letter code using initials of sponsoring instructor — see section for code). A course of independent study designed for graduates or senior undergraduates who desire more intensive or specialized investigation of material covered in a regular course and who present such a course as a prerequisite.

Graduate Courses

C251. Henrik Ibsen. Prerequisites: advanced knowledge of Norwegian and consent of instructor. Intensive study of the works of Henrik Ibsen. May be concurrently scheduled with course C144.

Ms. Norseng

C252. August Strindberg. Prerequisites: advanced knowledge of Swedish and consent of instructor. Intensive study of the work of August Strindberg. May be concurrently scheduled with course C145.

Mr. Massengale, Mr. Shideler

C253. Søren Kierkegaard. Prerequisites: advanced knowledge of Danish and consent of instructor. Intensive study of the works of Søren Kierkegaard. May be concurrently scheduled with course C146.

Mr. Massengale

C254. Knut Hamsun. Prerequisites: advanced knowledge of Norwegian and consent of instructor. Intensive study of the works of Knut Hamsun. May be concurrently scheduled with course C147.

Ms. Norseng

C263. Seminar in Scandinavian Studies. Prerequisites: graduate standing or consent of instructor and knowledge of a Scandinavian language. Intensive study of selected aspects of Scandinavian society based on readings in the literature as well as other documentary material. May be repeated for credit (as determined by graduate adviser) with topic change. May be concurrently scheduled with course C180.

C264. The Theory of the Scandinavian Novel. Prerequisites: advanced knowledge of a Scandinavian language and consent of instructor. The course examines the predominant structures of the novel, the Scandinavian novel in particular, starting with its beginnings, concentrating on the rise of the novel in the 19th century, and following the novel's evolution in the 20th century. The works of such writers as Kierkegaard, Andersen, Almquist, Jacobsen, Hamsun, and Hansen are central to the course. May be concurrently scheduled with course C182.

Ms. Norseng, Mr. Shideler

375. Teaching Apprentice Practicum (¼ to 1 course). 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. 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 grading.

597. Preparation for M.A. Comprehensive Examination or Ph.D. Qualifying Examination (1 to 2 courses). To be arranged with faculty member who will direct the study or research. May be repeated twice. S/U grading.

599. Research for and Preparation of Ph.D. Dissertation. To be arranged with faculty member who will direct the study or research. May be repeated. S/U grading.

History

6265 Bunche Hall, 825-4601

Professors

Edward A. Alpers, Ph.D.
Joyce Appleby, Ph.D.
Kendall E. Bailes, Ph.D. *(U.C. Irvine)*
Amin Banani, Ph.D.
Robert L. Benson, Ph.D.
Kees W. Bolle, Ph.D.
Giorgio Buccellati, Ph.D.
E. Bradford Burns, Ph.D.
Robert I. Burns, S.J., Ph.D.
Robert N. Burr, Ph.D.
Mortimer H. Chambers, Jr., Ph.D.
Claus-Peter Clasen, Ph.D.
Stanley Coben, Ph.D.
Robert Dallek, Ph.D.
Christopher Ehret, Ph.D.
Derek Fraser, Ph.D.
Amos Funkenstein, Ph.D.
John S. Galbraith, Ph.D.
Frank O. Gatell, Ph.D.
Juan Gómez-Quiñones, Ph.D.
Thomas S. Hines, Ph.D.
Richard Hovannisian, Ph.D.
Daniel W. Howe, Ph.D.
Norris C. Hundley, Ph.D.
Michael O. Jones, Ph.D.
Nikki Keddie, Ph.D.
Barîsa Krekić, Ph.D.
John H.M. Laslett, D.Phil.
James Lockhart, Ph.D.
Peter Loewenberg, Ph.D.
Andrew Lossky, Ph.D.
Afaf Marsot, D.Phil.
Lauro R. Martines, Ph.D.
Ronald J. Mellor, Ph.D.
Eric H. Monkkonen, Ph.D.
Gary B. Nash, Ph.D.
Boniface I. Obichere, D.Phil.
Merrick Posnansky, Ph.D.
Peter H. Reill, Ph.D.
Hans J. Rogger, Ph.D.
Richard H. Rouse, Ph.D.
Damodar R. SarDesai, Ph.D.
Alexander P. Saxton, Ph.D.
Stanford J. Shaw, Ph.D.
Kathryn Kish Sklar, Ph.D.
Geoffrey W. Symcox, Ph.D.
Speros Vryonis, Jr., Ph.D.
Eugen Weber, M.Litt.
Richard Weiss, Ph.D.
Robert S. Westman, Ph.D.
James W. Wilkie, Ph.D.
Robert Wohl, Ph.D.
Stanley A. Wolpert, Ph.D.

Emeritus Professors

Milton Anastos, Ph.D.
Eugene N. Anderson, Ph.D.
Truesdell S. Brown, Ph.D.
John G. Burke, Ph.D.
John W. Caughey, Ph.D.
Raymond H. Fisher, Ph.D.
Yu-Shan Han, Ph.D.
Jere C. King, Ph.D.
Gerhart B. Ladner, Ph.D.
Lynn White, jr., Ph.D.
Robert A. Wilson, Ph.D.

Associate Professors

Robert P. Brenner, Ph.D.
David M. Farquhar, Ph.D.
Robert G. Frank, Ph.D.
Philip C. Huang, Ph.D.
Temma E. Kaplan, Ph.D.
Michael G. Morony, Ph.D.
Fred G. Notehelfer, Ph.D.
M. Norton Wise, Ph.D.
Mary A. Yeager, Ph.D.

Assistant Professors

Edward G. Berenson, Ph.D.
Ruth Bloch, Ph.D.
Margaret W. Creel, Ph.D.
Robert A. Hill, M.Sc.
Kenneth M. Morrison, Ph.D.

Lecturers

Ludwig Lauerhass, Ph.D.
Albert Hoxie, M.A., *Emeritus*

Associate Professor

S. Scott Bartchy, Ph.D., *Adjunct*

Assistant Professor

Debora L. Silverman, M.A., *Acting*

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 di-

verse 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 99 (for freshmen and sophomores), 101 (for juniors and seniors), or 100.

(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 will 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 will still be 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; 9D plus one suitable upper division course; 10A-10B. If only one non-Western course is taken in lower division, an appropriate upper division non-Western course must be included in the major.

All history majors are required to take at least four courses in other departments in the social sciences, whether lower or upper division (anthropology, geography, economics, political science, sociology, psychology). These courses may not be taken on a Passed/Not Passed basis. A one-quarter course from the History 6A-6B-6C sequence may be applied to 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 departmental 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 ten 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 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 ten required upper division courses. History 199HA is taken in the Spring Quarter of the junior year; honors students then take History 199HB and 199HC in the Fall and Winter Quarters of their senior year under the guidance of the sponsoring professor. The Justin Turner Prize is awarded for the outstanding honors thesis.

Master of Arts Degree

Admission

For admission to graduate status in the Department of History, you should normally have completed the undergraduate major or its equivalent, have received a Bachelor of Arts degree or its equivalent from an accredited college or university, and have maintained at least a B+ average in upper division work. You also need three letters of recommendation and the scores of the Aptitude Test of the Graduate Record Examination submitted to the department. Students not meeting the grade-point average requirements may be admitted in exceptional cases if their letters of recommendation, GRE scores, or other factors indicate unusual promise. Applicants with a year or more of graduate study at other institutions should have attained a GPA of 3.5 or better if they wish to work toward the Ph.D. degree. Applications should be submitted before December 30; notification will be made on or before May 1. Except for extraordinary cases, students are expected to begin their graduate work in the Fall Quarter.

There is no screening examination. Nonhistory majors may be required to take specified courses, depending upon their background and fields of specialization. A change of fields after admission requires the approval of the relevant admissions 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 an Intent to Register (prior to registration). The guide lists faculty, their representative publications, and descriptions of courses offered during the year, and is available from the graduate adviser.

Major Fields or Subdisciplines

The comprehensive examination covers one of the following fields: (1) ancient (includes ancient Near East); (2) medieval (includes Byzantine and medieval Jewish history); (3) Europe, 1550 to present (includes British history and the British Empire); (4) Africa; (5) Near East (includes candidates with emphasis on Armenia); (6) India and Southeast Asia; (7) East Asia; (8) Latin America; (9) United States; (10) history of science; (11) special fields (students in the history of religions, Russian history, and modern Jewish history will normally be examined in one of the above fields, but with the consent of the faculty in these fields may petition the graduate guidance 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 a reading knowledge of any foreign language approved by the department is required. A score of 500 on the GSFLT for French, German, Russian, or Spanish is required. For other languages, certification is required by the department teaching the language according to that department's standards. 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.

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. For students in United States history, a minimum of seven of the nine courses must be at the 200 level, including at least one two-quarter seminar and History 245. Students in European history must include History 225, and Africanists must take History 275.

Comprehensive Examination Plan

The department follows the comprehensive examination plan. Individual fields specify fulfillment of the examination requirement by (1) a three-hour written examination designed to assess your ability to synthesize a broad field of knowledge or (2) the submission of three essays written for at least two different professors as part of your program of study. At least two of these papers must have been submitted for graduate courses in the 200 series. Students in the United States field must submit the paper from the two-quarter research seminar in United States history.

Field examiners administer the M.A. comprehensive examinations in November, March, and May of each academic year. The committee will recommend the following examination results: pass to continue, pass subject to reevaluation, terminal pass, fail. In cases where the M.A. is awarded pass subject to reevaluation, the field M.A. committee will reevaluate your progress after an additional three quarters of study. Only in exceptional cases are oral examinations required for the M.A. degree.

Cooperative Degree Program

This concurrent degree program of the Graduate School of Library and Information Science and the Department of History allows you to obtain two degrees — the M.L.S. and the M.A. in History. The best sequence of coursework should be discussed with the advisers from this department and the Graduate School of Library and Information Science.

Ph.D. Degree

Admission

Admission requirements for the Ph.D. program are the same as those for the M.A., but applicants for the doctorate are urged to seek an interview or to correspond with a member of the faculty in the field in which they intend to work. Students may be admitted with subject deficiencies, but such deficiencies must be removed by completing courses in addition to the requirements for an advanced degree.

While no examination is required for admission to a Ph.D. program, evaluation examinations are given to determine your continuance to the Ph.D. degree.

An annual *Guide to Graduate Study in History* which explains the requirements and procedures of the graduate program in detail is mailed to all new graduate students who have filed an 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; Byzantine; Russia since 862; Southeast Europe (Balkans); England, 1485-1763; England since 1763; the British Empire; the Near East, 500-1500; the Near East since 1500; ancient Near East; Armenian; survey of African history; topics in African history (preferably on a regional basis); history of science to 1600; history of science since 1600; Europe, Renaissance-Reformation; Europe, Renaissance to the French Revolution; Europe since 1740; European socioeconomic history; European intellectual and cultural history; psychohistory; China 900-1800; China since 1800; modern Japan; South Asia; Southeast Asia; Latin America, 1492-1830; Latin America since 1759; history of religions; Jewish history; comparative history; United States: (1) mastery of the general field of United States history sufficient to teach a college-level survey course and (2) a specialized field chosen from the following: Afro-American, American diplomatic, American West, American Indian, California, antebellum and history of the South, Civil War and Reconstruction, Colonial, cultural, economic, immigration, intellectual, Jeffersonian and Jacksonian American (1800-1850), labor, Mexican-American, social, the new nation (1763-1800), 20th century, urban, women's history. Both the general and a specialized field must be offered by specialists in United States history and only two fields in United States history are permitted. Either field 1 or 2 or both may be chosen as minor fields for the Ph.D.

In addition to the European fields listed above, a program in European intellectual and cultural history may be offered.

Candidates offering a field in comparative history as a fourth field for the Ph.D. degree should choose 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.

Foreign Language Requirement

Foreign language requirements vary according to your major field, although a 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 *Guide to Graduate Study in 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 committee, plus 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 History 245. Students of European history must complete History 225, and students of African history must complete History 275 unless exempted by special petition. Courses taken to fulfill M.A. degree requirements may also be used to satisfy Ph.D. requirements.

Teaching Experience

The department cannot provide teaching experience for all Ph.D. candidates and cannot therefore require it for the degree. You should, however, be able to demonstrate ability to give instruction in your field.

Qualifying Examinations

Full-time graduate students must schedule the written qualifying examination before 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 before taking the University Oral Qualifying Examination. In the oral examination you are examined in four fields, one of which may be an approved field in anthropology, economics, geography, language and literature, philosophy, political science, or other allied subjects. 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. The subject of your choice must be approved by the chair of your doctoral committee.

Final Oral Examination

If required by the qualifying examination committee, a final oral examination will be conducted upon completion of the dissertation to cover the field within which the dissertation falls. 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.

Candidate in Philosophy Degree

Students are eligible for the C.Phil. degree upon advancement to candidacy for the Ph.D.

Lower Division Courses

1A-1B-1C. Introduction to Western Civilization. Lecture and discussion. A broad, historical study of major elements in Western heritage from the world of the Greeks to that of the 20th century, designed to further beginning students' general education, introduce them to ideas, attitudes, and institutions basic to Western civilization, and to acquaint them, through reading and critical discussion, with representative contemporary documents and writings of enduring interest.

2. History of Technology from Antiquity to the 20th Century. (Formerly numbered 2A-2B-2C.) 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 efficiently the natural environment, stressing technology's changing social, economic, scientific, and cultural relationships. Mr. Burke

3A-3B-3C. Introduction to the History of Science. History majors may not apply these courses on the science breadth requirements:

3A. The Scientific Revolution. A survey of the beginnings of the physical sciences involving the transformation from Aristotelian to Newtonian cosmology, the mechanization of the natural world, the rise of experimental science, and the origin of 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. The unifying theme will be theories of matter, but more specifically chemistry, thermodynamics, electromagnetic theory of light, energy conservation, relativity, and quantum mechanics will be discussed. Mr. Wise

3C. The Biological Sciences, 1800-1955. A survey of the development of the biological sciences from the period of Bichat and Müller to the discovery of the double helix. Mr. Frank

4. Introduction to the History of Religions. A discussion of the various systems, ideas, and fashions of thought that have dominated Western approaches to the religions of the world since antiquity. The course surveys 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

6A-6B-6C. History of the American Peoples. A survey of the American peoples from the advent of aboriginal society to the present, emphasizing racial and ethnic interaction, industrialization, urbanization, and cultural change. Ms. Appleby, Mr. Nash, Mr. Saxton

6BH. History of the American Peoples (Honors). A survey of the American peoples from the advent of aboriginal society to the present, emphasizing racial and ethnic interaction, industrialization, urbanization, and cultural change. Mr. Monkkonen

7A-7B. Survey of the Political History of the U.S. This sequence (or two quarters of course 6) is strongly recommended for history majors planning to take more advanced courses in U.S. history. A survey of the history of the U.S. from the Revolutionary era to the present. Emphasis is on political developments and the social, cultural, and economic bases of American politics. Designed for students in the social sciences and other departments who desire a thorough grounding in American political culture. Ms. Appleby, Mr. Gatell, Mr. Howe, Mr. Saxton

8A. Latin America: Reform and Revolution. 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. Course 8A is not prerequisite to 8B. The historical and contemporary perspective 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

8C. Central America: The Struggle for Change. Lecture, three hours; discussion, two hours. The historical analysis emphasizes the economic growth and accompanying dependency of Central America from independence until the Great Depression and the turbulent consequences of that combination from 1930 to the present. Attention is focused on the common characteristics of the five nations, as well as their individuality. Mr. E.B. Burns

9A-9D. Introduction to Asian Civilizations:

9A. History of India. An introductory survey for beginning students of the major cultural, social, and political ideas, traditions, and institutions of Indic civilization. Mr. Wolpert

9B. History of China. 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. Farquhar

9C. History of Japan. A survey of Japanese history from earliest recorded times to the present, with emphasis on the development of Japan as a cultural daughter of China. Attention will be given to the manner in which Chinese culture was Japanized and the aspects of Japanese civilization which became unique. The creation of the modern state in the last century and the impact of Western civilization on Japanese culture will be treated. Mr. Notehelfer

9D. History of the Near and Middle East. An introduction to the history of the Muslim world from the advent of Islam to the present day. Ms. Marsot

10A-10B. Introduction to the Civilizations of Africa. Intended for students with a general interest in Africa, but also strongly recommended for those intending to take upper division courses in African history. Explores African cultures on a thematic basis within a wider framework of political change over time.

M70. Survey of Medieval Greek Culture. (Same as Classics M70.) Classical roots and medieval manifestation of Byzantine civilization: political theory, Roman law, pagan critique of Christianity, literature, theology, and contribution to the Renaissance (including the discovery of America). Mr. Dyck

99. Introduction to Historical Practice. Limited to freshmen and sophomores. The course will take the form of discussion classes of not more than 15 students meeting with a faculty member. They will explore how works of history are written by focusing on problems of historiography and method.

99H. Introduction to Historical Practice (Honors). Limited to freshmen and sophomores. The course will take the form of discussion classes of not more than 15 students meeting with a faculty member. They will explore how works of history are written by focusing on problems of historiography and method. Mr. E.B. Burns, Mr. Posnansky

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. 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. Limited to juniors and seniors. The course will take the form of discussion classes of not more than 15 students meeting with a faculty member. They will explore how works of history are written by focusing on problems of historiography and method.

101H. Introduction to Historical Practice (Honors). Limited to juniors and seniors in the History honors program. The course will take the form of discussion classes of not more than 15 students meeting with a faculty member. They will focus on problems in the philosophy of history, historiography, and historical method.

102. Explorations in Psychoanalysis and History. Prerequisite: consent of instructor. Limited to 35 students. The course will study the art of psychological and historical interpretation and will assess 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. Posnansky

M104A-M104B. Ancient Egyptian Civilization. (Formerly numbered 104.) (Same as Ancient Near East M104A-M104B.) Course M104A is not prerequisite to M104B. The course will study the political and cultural institutions of ancient Egypt and the ideas upon which they were based. Discussion will proceed chronologically and cover Prehistory, the Old and Middle Kingdom in **M104A**. **M104B** will cover the New Kingdom and the Late period until 332 B.C. Mr. Callender

105. History of Ancient Mesopotamia and Syria. (Formerly numbered 105A-105B.) The political and cultural development of the "Fertile Crescent," including Palestine, from the Neolithic to the Achaemenid period. Mr. Buccellati

106A-106B-106C. Survey of the Middle East from 500 to the Present. (Formerly numbered 106A-106B and 108A-108B.) 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. (Formerly numbered 135A-135B.):

107A. Pre-Modern Islam. Origins of Islamic civilization, Muhammad and the Quran; development of Islamic doctrine, ritual, piety and law, sectarian Islam, and mysticism. Mr. Morony

107B. Islam in the Modern World. Reform movements, legal issues, sociopolitical trends, movements of opposition. Ms. Keddie, Ms. Marsot

108A-108B. History of the Arabs. 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:

109A. To 1578. Mr. Morony

109B. From 1578 to the Present. Ms. Marsot

110A-110B. Iranian History. (Formerly numbered 110A-110B-110C.) 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. 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 Stirrings, 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

C112D. Introduction to Armenian Oral History. The uses and techniques of Armenian oral history; the pre-interview, the interview, and post-interview procedures; methods of compilation and evaluation. The course includes field assignments and interviews. May be concurrently scheduled with course C212. Mr. Hovannisian

113. The Caucasus under Russian and Soviet Rule. 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:

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:

116A. The Rise of the Greek City-State. Emphasis is on the archaic period and the early classical age through the Persian Wars. Mr. Chambers

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:

117A. To the Death of Caesar. Emphasis is 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 is 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. The course will provide a survey of the public (constitutional), criminal, and private law of the Romans. Topics include the social context of Roman law, the historical evolution of Roman law, mechanisms and procedures by which the law was administered, and the content of private law. Mr. Mellor

119. The Christian Church. Constitutional, political, and economic history of the Church: Christianization of the Roman 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. The religious experience of Christians — conversion, doctrine, belief, heresy, spirituality, worship, liturgy, and art — from the founding of the Church to the eve of the Reformation. Examines 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. 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 Graeco-Roman antiquity, the history of the manuscript book, and the growth of literacy:

121A. 400 to 1000. Mr. Rouse

121B. 1000 to 1500. Mr. Rouse

121C. Medieval Civilization: The Mediterranean Heartlands. 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. 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:

M122A. (Same as Classics M170A.) Emphasis is on Byzantine theology. Mr. Dyck

M122B. (Same as Classics M170B.) Literature, relations with Rome, and the Renaissance. Mr. Dyck

123A-123B. Byzantine History. The course stresses the political, socioeconomic, religious, and cultural continuity in the millennial history of Byzantium. It begins with the reforms of Diocletian and includes such topics as Byzantium's relations with Latin Europe, Slavs, Sassanids, Arabs, and Turks. Mr. Vryonis

125A-125F. History of Modern Europe. (Formerly numbered 125A-125E.):

125A. The Renaissance: Power and Culture in the Italian City-States. Mr. Martines

125B. The Reformation: Church and Religion in Early 16th Century. Revolutionary tendencies in German society. The peasant uprising. Theology and political thought of Erasmus, Luther, Zwingli, Calvin, and the Anabaptists. The new churches. The effects of the Reformation on society. Mr. Clasen

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. Hoxie

125D. Europe, 1789-1900. The French Revolution and Napoleon. The Industrial Revolution. The uprisings of 1848. The unification of Germany and Italy. Industrialization and imperialism. The rise of socialism. Population growth and changes in social structure. Mr. Reill, Mr. Silverman

125E. Europe in the 20th Century. International rivalries. The First World War and its impact on thought and society. Fascism and Communism. World War II. European recovery and integration. Mr. Loewenberg, Mr. Wohl

125F. Europe: 1945 to the Present. The legacy of World War II. Reconstruction and recovery in Western Europe. The East European revolution. The Jugoslav exception. Scandinavian socialism. The German problem. European integration and the Common Market. Gaullism. The events of 1968 and their aftermath. Eurocommunism and the resurgence of the Left in Western Europe. Poland and the limitations of change in the Soviet Bloc. Mr. Wohl

126A-126E. Cultural and Intellectual History of Modern Europe. Climates of taste and climates of opinion. Educational, moral, and religious attitudes; the art, thought, and manners of the time in a historical context:

126A. 16th Century. Mr. Hoxie, Mr. Westman

126B. 17th Century. Mr. Funkenstein, Mr. Hoxie

126C. 18th Century. Mr. Hoxie, Mr. Reill

126D. 19th Century. Mr. Loewenberg, Mr. Weber

126E. 20th Century. Mr. Loewenberg, Mr. Weber, Mr. Wohl

127A-127B. War and Diplomacy in Europe:

127A. 1650 to 1815. Survey of military and diplomatic history, seen in relation to social and economic developments and the growth of the state. 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-128D. History of Modern France. (Formerly numbered 128A-128E.):

128A. France, 1450-1620. Institutions of the French monarchy and territorial formation of France in the 15th century. French humanism. Catholic and Protestant Reformations in 16th-century France. French wars of religion. Mr. Lossky

128B. France, 1620-1770. Political and intellectual history of France, principally in the 17th century, with special emphasis on the role of Richelieu and of Louis XIV. Mr. Lossky

128C. A Time of Revolutions, 1770-1871. Social and political history of three kingdoms, three republics, and two empires. Mr. Weber

128D. The Making of a Modern France, 1871 to the Present. From oligarchy to democratic bureaucracy in two wars and three republics. Mr. Weber

129A-129C. History of Modern Germany and Austria. (Formerly numbered 129A-129D.):

129A. 1500 to 1648. The political structure of empire and territories, the economy, social classes, daily life, book publishing and universities, the Reformation and Counter Reformation, the Thirty Years' War, military entrepreneurship, population losses, the Peace of Westfalia. Mr. Clasen

129B. 1648 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 reform movement, Restoration and Metternichian reaction, the rise of Romanticism, and the causes and failure of the Revolutions of 1848. Mr. Reill

129C. 1848 to Present. Revolutions of 1848, Prussian constitutional struggle, German unification, the Bismarckian and Wilhelmine eras in Germany and the Ausgleich in Austria, liberalism, industrialism, anti-Semitism, social democracy, the World Wars, revolutions, republics, Fascism and Nazism, occupation, and the Austrian, German Federal, and German Democratic Republics. Mr. Loewenberg

131A-131D. History of Russia:

131A. From the Origins to the Rise of Muscovy. Kievan Russia and its culture, Appanage principalities and towns; the Mongol invasion; the unification of the Russian state by Muscovy, Autocracy and its Servitors; serfdom. Mr. Krekić, Mr. Lossky

131B. Imperial Russia. Westernization of state and society; centralization at home and expansion abroad; the peasant problem; beginnings of industrialization; political reforms; movements of political and social protest; the Revolution of 1905. Mr. Rogger

131C. Revolutionary Russia and the Soviet Union. Relations between state and society; peasantry and working class; Russia in World War I; the Revolutions of 1917; consolidation of the Bolshevik Regime; succession crisis and ascendancy of Stalin, collectivization and industrialization; foreign policy and World War II; death of Stalin and de-Stalinization. Mr. Rogger

131D. Intellectual History. Social thought and movements in modern Russia, late 18th to early 20th century. Mr. Rogger

132A-132B. History of Italy:

132A. 1530 to 1815. Survey of social, economic, political, and cultural history covering the eclipse of the Italian economy and the city-state, the rise of absolutist governments. Enlightenment reforms and the origins of the Risorgimento. Mr. Symcox

132B. 1861 to the Present. Political, economic, social, diplomatic, and ideological developments. Mr. Wohl

133A-133B. The Social History of Spain and Portugal:

133A. The Age of Silver in Spain and Portugal, 1479-1789. The course will deal with the development of popular history in the Iberian Peninsula. Emphasis will be given to peasants and urban history, gold routes, slave trade, history of women, and the development of different types of collective violence. Ms. Kaplan

133B. Rebellion and Revolution in Modern Spain and Portugal, 1789 to the Present. Spain's position in Europe and its potentialities for social change will be discussed through investigations of urban history, agrarian social structure, history of women, problems of slow industrial development, imperialism, anarchism, and labor history. Ms. Kaplan

134A. Southeastern Europe, 500-1500. A political, economic, and cultural survey of the independent Balkan states in the Middle Ages. Mr. Krekić

134B. Southeastern Europe, 1500-1918. The Balkans under Ottoman rule, movements of national liberation, and the formation of nation states. Mr. Krekić

135A-135B. Marxist Theory and History. Prerequisite: consent of instructor. Course 135A is generally prerequisite to 135B. Introduction to Marxist philosophy and method; conception of historical stages; competing Marxist analyses of transition from feudalism to capitalist economy via reading *Capital;* theory of politics and state in relationship to historical interpretation of 19th-century European revolutions; capitalist crises. Mr. Brenner, Ms. Kaplan

136A-136Z. Topics in European History. The individual courses in this series aim to provide students with an integrated introduction to important aspects of European history by focusing on a specific topic within a broad framework:

136A. Social Movements. Ms. Kaplan

136B. Peasants and Agrarian Society. Mr. Brenner

136C. Urban Society. Mr. Symcox

136F. The Family. The social history of the family in Western Europe since the Middle Ages. Household and family organization of peasants, artisans, and aristocrats; kinship, child-rearing, parental authority, marriage and inheritance systems; attitudes toward love, sex, and children.

136G. Psychohistory. Mr. Loewenberg, Mr. Wohl

136I. Special Topics.

136J. Women. Ms. Kaplan

137A-137B. Survey of English History. Lecture, three hours. A basic survey of English history from the Wars of the Roses to the present, dealing with changes in society, economics, and ideas from an agrarian, medieval monarchy to an industrial national and social democracy.

137A. 1450 to 1660.

137B. 1660 to the Present.

138A-138B. Medieval England:

138A. Anglo-Saxon England and the Norman Conquest, 900-1215. The nature of the society that emerged from the Viking invasions; the conquest and colonization by the Normans; the principles of lordship by which they ruled, to the Magna Carta (1215). Mr. Rouse

138B. England in the High Middle Ages: Magna Carta to 1400. Emphasis is on the social and economic developments that underlay constitutional change, peasant revolt, the Black Death, and the Hundred Years' War. Mr. Rouse

139. Renaissance England. Culture and society. Emphasis is on literary culture (Elizabethans, Jacobeans, Carolines), with readings and lectures on different aspects of political and economic life as required for a serious understanding of the culture. Mr. Martines

140A-140B. Early Modern England, 1450-1700:

140A. The Development of Capitalism in England, Especially the Countryside, 1450-1700. The transformation of class relations; the emergence of political conflicts; state centralization and military aristocracy, Crown versus Parliament, the English Revolution. Mr. Brenner

140B. Analysis of the Transformation of Religious and Political Ideology in Relationship to Socioeconomic and Political Conflicts. Recommended prerequisite: course 140A. The English Reformation and the development of the State; Protestantism and political opposition; religious radicalism and the English Revolution. Mr. Brenner

141A-141B. Modern England. Analysis of the English economy, society, and polity since 1688, focusing upon the dynamics of both stability and change:

141A. 18th and 19th Centuries, 1688-1832.

141B. 19th and 20th Centuries, 1832 to World War II and its Aftermath.

142A-142B. The British Empire since 1783. The political and economic development of the British Empire, including the evolution of colonial nationalism, the development of the commonwealth idea, and changes in British colonial policy. Mr. Galbraith, Mr. SarDesai

143. History of Canada. A survey of the growth of Canada into a modern state from its beginnings under the French and British colonial empires. Mr. Galbraith

144. History of Australasia. The history of Australia and New Zealand from the European settlement, with emphasis on the interrelationships between the settlers and the aborigines; comparisons and contrasts between the Australian and New Zealand experience. Mr. Galbraith

145A. Colonial America, 1600-1763. An examination of the molding of an American society in English North America from 1600 to 1763. Emphasis is given to the interaction of three converging cultures: Western European, West African, and American Indian. Ms. Appleby, Ms. Bloch, Mr. Nash

145B. Revolutionary America, 1760-1800. An inquiry into the origins and consequences of the American Revolution, the nature of the revolutionary process, the creation of a constitutional national government, and the development of a capitalist economy. Ms. Appleby, Ms. Bloch, Mr. Nash

146A-146B. The United States: 1800-1850:

146A. Jeffersonian America. Jeffersonian Republican ascendancy and the Era of Good Feelings, 1800-1828; disintegration of the Federalist opposition; the testing of American nationality in the second war with Britain; beginnings of the transportation and industrial revolutions; restructuring of politics in an increasingly egalitarian age. Mr. Gatell, Mr. Howe

146B. Jacksonian America and Beyond. The "Jacksonian Revolution" and its aftermath, 1829-1850; the problem of national power versus state sovereignty; problems of rapid social change through industrialization and urbanization; reform impulse; antislavery movements; territorial expansion as focus for sectional rivalry. Mr. Gatell, Mr. Howe

147A. The United States: Civil War and Reconstruction. Topics include the rise of sectionalism, the antislavery crusade; the formation of the Confederate States; the war years; political and social reconstruction.

147B. The United States, 1875-1900. American political, social, and institutional history in a period of great change. Emphasis on the altering concepts of the role of government and the responses to that alteration. Mr. Saxton

148A-148B. The United States: The 20th Century. The political, economic, intellectual, and cultural aspects of American democracy in the 20th century. Mr. Coben, Mr. Weiss

148C. The United States since 1945. A history of the political, social, and diplomatic developments that have shaped the United States since 1945. Mr. Dallek, Mr. Weiss

149A-149B. American Economic History:

149A. 1790 to 1910. Examines 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. The course explains 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. Ms. Yeager

149B. 1910 to the Present. Examines the dynamics of change in the dual economy, focusing in greater detail upon interrelationships between macro and micro developments in the economy and upon the growing interdependency between the U.S. and the world economy, 1910 to the present. Ms. Yeager

150A-150B. Intellectual History of the United States. The principal ideas about humanity and God, nature and society, which have been at work in American history. Includes 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. Consideration of the religious dimension of people's experience in the United States. A number of religious traditions which have been important in this country will be examined, and attention devoted to relating developments in religion to other aspects of American culture. Mr. Howe

151A-151B. Constitutional History of the United States:

151A. The Origins and Development of Constitutionalism in the United States. Particular emphasis is on the framing of the Federal Constitution in 1787, and its subsequent interpretation. Topics include judicial review, significance of the Marshall Court, and the effects of slavery and the Civil War on the Constitution. Mr. Gatell

151B. Constitutionalism since the Civil War. Particular emphasis is 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:

152A. The establishment of an independent foreign policy, the territorial expansion of the United States, and the emergence of a world power. Mr. Dallek

152B. The Role of the United States in the 20th-Century World. Mr. Dallek

153. The United States and the Philippines. Knowledge of Southeast Asian or United States history, or both, is recommended. 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 of 1898 to the present. Mr. Saxton

154A-154B. United States Urban History:

154A. The Preindustrial and Early Industrial City. Focuses on the social, spatial, and economic development of U.S. cities. Special attention will be paid 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. Focuses 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 are covered.

Mr. Monkkonen

154C-154D. History of American Architecture and Urban Planning: 1600 to the Present. Aspects of American cultural history as explored through architecture, urban planning, and the allied arts. The focus is on the development of an architectural consciousness in America, ways in which the built environment has affected its users and observers, and the extent to which it has reflected their values and ways of living. **154C** covers the period from 1600 to 1890; **154D** covers 1890 to the present. Mr. Hines

155A-155B. American and European Working Class Movements. Examines major episodes in the institutional, economic, and cultural development of the American working class from Colonial times to the present, emphasizing both organized and unorganized labor in a comparative context. A.F. of L., rise of industrial unionism, and labor politics are also discussed. Mr. Laslett

156A-156B. American Social History, 1750-1960. A historical analysis of American society and culture, with emphasis on the family, religious values, Afro-American life, women's work, urbanization and industrialization, immigration and nativism, and movements for social reform. **156A** covers the period from 1750 to 1860; **156B** covers 1860 to 1960.

Mr. Coben

156C-156D-156E. Social History of American Women. A survey of the major demographic, economic, social, and intellectual factors shaping the lives of women in families, at work, and in larger social collectivities. Class, regional, racial, and ethnic comparisons will be emphasized:

156C. Colonial and Early National, 1600-1820.

Ms. Sklar

156D. Victorian and Industrial, 1800-1920.

Ms. Sklar

156E. 20th Century, 1900-1975. Ms. Sklar

157A-157B-157C. North American Indian History. History of Native Americans from contact to the present. Emphasizes the ethnohistorical dimensions of culture change, Indian political processes, and the continuity of Native American cultures. Focuses on selected Indian peoples in each period:

157A. Contact to 1760. Mr. Morrison

157B. 1760 to 1860. Mr. Morrison

157C. 1860 to the Present. Mr. Morrison

158A. Comparative Slavery Systems. An examination of the slavery experience in various New World slave societies. The course focuses on outlining the similarities and the differences among the legal status, treatment, and slave cultures of North American, Caribbean, and Latin American slave societies.

158B-158C. Introduction to Afro-American History. A survey of the Afro-American experience. Focuses 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 milieus. Mr. Hill

158D. Afro-American Urban History. An examination of Afro-American urban life prior to 1945. The course focuses on the transformation from slavery to freedom and the shift from Southern to Northern areas. It looks closely at the forces which both propelled Afro-Americans to the cities and which also inhibited their adjustment to them.

158E. Afro-American Nationalism in the First Half of the 20th Century. A critical examination of the Afro-American search in the first half of the 20th century for national/group cohesion through collectively built institutions, associations, organized protest movements, and ideological self-definition.

Mr. Hill

M159A. History of the Chicano Peoples. (Formerly numbered 159A.) (Same as Chicano Studies M159A.) A survey lecture course on the historical development of the Mexican (Chicano) community and people of Mexican descent (Indio-Mestizo-Mulato) north of the Rio through the 17th, 18th, and 19th centuries, with a 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 forces affecting the community. Deals with social structure, economy, labor, culture, political organization, conflict, and international relations. Emphasis is on social forces, class analysis, social, economic, and labor conflict, ideas, domination and resistance. Developments are related to historical events of significance occurring both in the United States and Mexico. Course involves lectures, special presentations, reading assignments, written examinations, library and field research, and submission of a paper.

Mr. Gómez-Quiñones

M159B. History of the Chicano Peoples. (Formerly numbered 159B.) (Same as Chicano Studies M159B.) 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 a 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 are related to historical events of significance occurring both in the United States and Mexico. Course involves lectures, special presentations, reading assignments, written examinations, library and/or field research, and submission of a paper. Mr. Gómez-Quiñones

160. The Immigrant in America. A historical analysis of the social and economic causes and effects of immigration, particularly after the 1880s, emphasizing the problems of acculturation and adjustment. The restrictionists and the implications of immigration policy on U.S. foreign policy will be stressed.

Mr. Laslett

161. Asians in American History. A study of the politically troubling question of entry into the United States of immigrants ineligible for citizenship and their citizen children in American history.

162. The American West. A study of the West as frontier and as region, in transit from the Atlantic seaboard to the Pacific, and from the 17th century to the present. Mr. Hundley

163. History of California. The economic, social, intellectual, and political development of California from the earliest times to the present.

Mr. Hundley

165A-165B. Colonial Latin America. Studies in the general development of Latin America prior to 1825, with emphasis on social history. Mr. Lockhart

165C. Indians of Colonial Mexico. 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. 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-167B-167C. Latin America in the 20th Century. Experiments in national development are analyzed for "visible" and "invisible" historical problems and processes. Timing of primary and secondary social changes are related to economic, political, cultural, and geographic context. Successive country case studies each focus on world pressures and interplay of centralized-decentralized power struggles (emphasized in course 167A), the role of personalist leaders (emphasized in course 167B), and definition of the national polity (emphasized in course 167C). Mexico is treated in course 171:

167A. Haiti, Uruguay, Costa Rica, Guatemala, Cuba, Chile. Mr. Wilkie

167B. Bolivia, Dominican Republic, Nicaragua, Argentina, Paraguay, Venezuela. Mr. Wilkie

167C. Panama, Colombia, Ecuador, Peru, Honduras, El Salvador, Brazil. Mr. Wilkie

168. History of Latin American International Relations. Emphasis is given to 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 Elitelore. Prerequisite: course 167A or 167B or 171. Study focuses on elitelore (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). Elitelore genres include oral history, literature, and cinema. Mr. Wilkie

170. Latin American Cultural History. Intellectual, artistic, and folk expressions of the Latin American spirit and character are 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

171. The Mexican Revolution since 1910. The concept of "permanent crisis" is examined to describe and explain the structure of "permanent revolution" under "one-party democracy." Mr. Wilkie

173. Modern Brazil. Lectures treat selected topics in the political, economic, social, and cultural development of Brazil. Topical emphasis falls 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. The general intellectual development of Brazil, with emphasis on those introspective movements in which the Brazilians attempted to interpret themselves, their nation, and their civilization. Mr. E.B. Burns

175A-175Z. Topics in African History. Prerequisite: one prior course in African history at UCLA or consent of instructor. Examines 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. Posnansky

175B. Africa and the Slave Trade. Focuses on the social, economic, political, and cultural impact of the slave trade on African society. Emphasizes the Atlantic trade without neglecting those of the ancient Mediterranean, Islamic, and Indian Ocean worlds. Abolition and the African diaspora are also explored.
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 post-colonial state, and the struggle for national liberation in a global context.
Mr. Alpers, Mr. Obichere

176A-176B. History of West Africa:

176A. West Africa from Earliest Times to 1800.
Mr. Obichere, Mr. Posnansky

176B. West Africa since 1800. Mr. Obichere

177. Ethiopia and the Horn of Africa. Lecture, three hours. Surveys the history of Ethiopia, Somalia, and Sudan. Mr. Alpers, Mr. Ehret

178A-178B. History of Eastern Africa. Lecture, three hours:

178A. Examines 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. Posnansky

178B. Concentrates on the economic, social, and political history of Eastern Africa since the imposition of colonial rule. The themes of underdevelopment and protest will provide a focus for the course.
Mr. Alpers, Mr. Ehret, Mr. Posnansky

179A-179B. History of Southern Africa:

179A. History of Southern Africa from the Origins to 1870. The origins of the South African peoples and their interactions to 1870. Attention will be given to social and economic as well as political aspects.
Mr. Ehret

179B. History of Southern Africa since 1870. The interactions between the inhabitants of Southern Africa since 1870. Attention will be given to social and economic as well as political aspects.
Mr. Galbraith

182A-182B-182C. History of China:

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 equivalent readings. The end of aristocratic rule; the mature imperial state and bureaucratic government; the foreign presence; trade, agriculture, and the growth of cities.

182C. 1500 to 1800. The background to modern China; landholding and agriculture; nascent capitalism; peasant movements; neo-Confucianism and the Manchu state. Mr. Farquhar, Mr. Huang

183. Modern China, 1840-1920. From the Opium War to the May Fourth Movement, imperialism, semicolonial China, and popular movements; some attention to contrasts between established and revolutionary interpretations. Mr. Huang

184. The Chinese Revolution. From the founding of the Chinese Communist Party to the present. Special emphasis is 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. The Mongols in East Asian History. Prerequisite: course 9B or 182B or 182C. Emphasis is on the period from 1200 to 1900. Special attention will be paid to nomadic pastoralism, Mongolian society, the first empire, and relations with China and Tibet.
Mr. Farquhar

186. Diplomatic History of the Far East. The role of the Far Eastern states in the international community, beginning with the establishment of the Treaty System in China and the opening of Japan to intercourse with the rest of the world in 1854.

187A-187B-187C. Japanese History. The political, economic, and cultural development of Japan from prehistory to the present:

187A. Ancient: Prehistory to 1600. Mr. Notehelfer

187B. Early Modern: 1600 to 1868.
Mr. Notehelfer

187C. Modern: 1868 to the Present.
Mr. Notehelfer

188A. Early History of India. 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. History of the South Asian subcontinent from the founding of the Mughal Empire through the eras of European expansion, British rule, and the nationalist movement to the present. Mr. Wolpert

190A-190B. History of Southeast Asia:

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.) A survey of social, political, and religious developments:

M191A. From Biblical Times to the End of the Middle Ages. Mr. Funkenstein

M191B. From the End of the Middle Ages to the Present. Mr. Funkenstein

191C-191D. Focal Themes in Jewish History. The course will treat in depth one major theme in Jewish history (such as the history of Messianic Movements, the structure of the Jewish communities) through the ages. Mr. Funkenstein

191E-191F. The Third Reich and the Jews:

191E. The Rise of Nazi Totalitarianism. Anti-Semitic theories, movements, and practices and their impact on German Jewry.

191F. The Second World War. Nazi policies in the occupied territories, expulsion and extermination, Jewish resistance, and the fate of the Jewish communities of Eastern Europe.

192A-192B. Jewish Intellectual History. 192A will cover the medieval period; **192B** the modern period. The course studies the development of Jewish self-understanding in relation to the intellectual climate of the environment as expressed in the halacha, in philosophy, and in cabbalism. Mr. Funkenstein

193A. History of Religions: Myth. The nature and function of myth in the history of religion and culture. Examples are selected from nonliterate as well as from other Asian and European traditions.
Mr. Bolle

193B. Religions of South and Southeast Asia. Prerequisite: course 4 or 193A. 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

193C. Religions of South and Southeast Asia. Prerequisite: course 4 or 193A. Topics vary from year to year and include Buddhism in India; the religions of Java and Bali; the nonliterate traditions of India and Southeast Asia. See *Schedule of Classes* for specifics. May be taken independently for credit.
Mr. Bolle

193D. Religions of the Ancient Near East. The main polytheistic systems of the ancient Near East, with emphasis on Mesopotamia and Syria and with reference to the religion of ancient Israel: varying concepts of divinity, hierarchies of gods, prayer and cult, magics, wisdom, and moral conduct.
Mr. Buccellati

193E. Special Topics in the History of Religions. Topics are announced in the *Schedule of Classes* and include ancient Germanic cults; Renaissance mysticism; mystics of the low countries; goddesses; religion in a secular age. Mr. Bolle

194A. History of the Early Christians. (Formerly numbered 198X.) Lecture, three hours. The Christian movement from its origins to ca. 160 C.E., stressing its continuity/discontinuity with Judaism, the various responses to Jesus of Nazareth, the writings produced during this period, the movement's encounters with its religious, social, and political world, and methods of research. Mr. Bartchy

194B. The Religious Environment of the Early Christians. (Formerly numbered 198G.) Lecture, three hours. The rich variety in religious practice and thought in the Mediterranean world of the 1st century C.E. as in the context of the developing Christian movement. Topics include the Pharisees, Qumran, Philo, Stoics, Epicureans, traditional Greek and Roman religions, "mysteries," astrology, magic, gnosticism, and emperor-worship. Mr. Bartchy

195A-195D. History of Science. Science and scientific thought in relationship to society:

195A. Medieval and Renaissance Science. Prerequisite: course 3A or consent of instructor. Continuity and discontinuity in scientific traditions from the 12th to the 17th century; interrelationships between theology, scientific thought, and social conditions. Theories of force, motion, and space are stressed; some attention is given to the occult sciences.
Mr. Funkenstein, Mr. Westman

195B. Perspectives on the Early Modern Physical Sciences. Prerequisite: course 3A or consent of instructor. A detailed view of selected topics in the development of the physical sciences from 1600 to 1750, with a focus on explanations of historical change in science. Normally, four topics will be studied in order to cover a broad range of scientific, philosophical, and social issues.

195C. The Classical Physical Sciences: 18th and 19th Centuries. Prerequisite: course 3B or consent of instructor. Studies intensively several topics in the development of classical physical science from Newton's mechanics to Maxwell's electromagnetic theory, with special attention to demands of the Enlightenment, the Industrial Revolution, and 19th-century professionalized science. Mr. Wise

195D. Physical Sciences in the 20th Century. Prerequisite: course 3B or consent of instructor. Provides a nonmathematical but nevertheless detailed look at selected physical sciences and scientific issues (for example, the birth of quantum mechanics and relativity; stellar evolution and cosmological theories; nuclear physics, nuclear weapons, and nuclear policy; and the changing character of industrialized science).
Mr. Wise

M195F-M195G. History of Biological Sciences. (Same as Anatomy/Medical History M108A-M108B.) Lecture, three hours. Prerequisite: upper division standing. **M195F.** 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. Limited to 15 students meeting with a faculty member. Seminars are organized on a topics 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. Prerequisite: consent of instructor. An intensive directed research program. Eight units may be applied toward the B.A. degree requirements.

199HA-199HB-199HC. Directed Studies for Honors. Limited to history honors majors. In Progress grading:

199HA. Seminar meetings to help students define their research topics and explore problems of historical research. Extensive reading and research in the field of the proposed honors thesis.

199HB. Continued reading and research culminating in a draft of the honors thesis.

199HC. Revisions of the draft and preparation of polished honors thesis; oral examination on thesis.

Graduate Courses

Admission to all graduate courses is subject to the instructor's consent and to appropriate language qualifications. For multiterm courses, credit and grades will be given only upon 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. 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. May be repeated for credit.

M200V. Advanced Historiography — Afro-American. (Same as Afro-American Studies M200A.) May be repeated for credit. Ms. Creel (W)

M200W. Advanced Historiography — American Indian Peoples. (Same as American Indian Studies M200A.) Mr. Morrison

200X. Advanced Historiography — Oral History. An introduction to the practice, method, and theory of oral history.

201A-201U. Topics in History. Topic titles are the same as for courses 200A-200U. A graduate course involving reading, lecturing, and discussion of selected topics. Does not fulfill the seminar requirements for the Ph.D. degree. May be repeated for credit. When concurrently scheduled with course 197, undergraduates must obtain instructor's consent to enroll.

202A-202B. Seminar in Comparstive Modern Economic History. Discussion, three hours. Prerequisite: graduate standing. The course will focus on the 19th and 20th centuries. It will deal with the study of problems of modern economics, including such topics as industrialization, growth, demography, development, and economic change. In Progress grading. Ms. Yeager

203. Topics in Comparative History. Possible topics include study of European expansion and its impact on non-European societies, the American Revolution in an international perspective, etc.

204A-204B. Seminar in Near and Middle Eastern History. Methodology, socioeconomic and political change in the Arab world. Ms. Marsot

205A-205B. Seminar in Medieval Middle Eastern History. Mr. Morony

206A-206B. Seminar in the Social History of the Middle East. The interrelationship of city, tribe, and village in the Middle East; the role of such 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 M250.) Prerequisite: consent of instructor. 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. Mr. Shaw

211A-211B. Seminar in Armenian History. Mr. Hovannisian

C212. Methods in Armenian Oral History. (Formerly numbered 212.) Prerequisite: proficiency in the Armenian language. Lectures and laboratory in the methods of taking, processing, and utilizing depositions and other oral sources for Armenian history. The course includes a project assignment in the field. May be concurrently scheduled with course C112D. Mr. Hovannisian

215A-215B. Seminar in Ancient History. Mr. Chambers, Mr. Mellor

216A-216B. Seminar in Byzantine History. Mr. Vryonis

217. Sources and Handbooks of Medieval History. 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. Recommended prerequisite: reading knowledge of Latin and German 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. Prerequisite: reading knowledge of Latin and German or French. A history of the manuscript book from antiquity through the Carolingian renaissance, with emphasis on dating and localization as well as on proficiency in reading. Mr. Rouse (alternate years)

219B. Paleography II. Prerequisite: reading knowledge of Latin and German or French. A history of the manuscript book from the Carolingian renaissance through the invention of printing, with emphasis on dating and localization as well as on proficiency in reading. Mr. Rouse (alternate years)

220A-220B. Seminar in Church and Monarchy in the Middle Ages. 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. Mr. R.I. Burns

222A-222B. Seminar in Medieval Intellectual History and History of Science. Selected problems from medieval and early modern philosophy, science, political theory, theology. Mr. Funkenstein

225. Colloquium for Entering Graduate Students in Modern European History. Normally limited to and required of all modern European history graduate students. An introduction to the topics, methods, and historiography of modern European history.

226A-226B. Seminar in the Italian Renaissance. Mr. Martines

227A-227B. Seminar in the Reformation. Mr. Clasen

229A-229B. Seminar in Early Modern European History. Mr. Lossky, Mr. Martines, Mr. Symcox

230A-230B. Seminar in Modern European History. Mr. Loewenberg and the Staff

231A-231B. Seminar in Modern European Intellectual and Cultural History. Mr. Weber, Mr. Wohl

233A-233B. Seminar in Russian History. Mr. Rogger

234A-234B. Seminar in the Modern History of Spain, Portugal, and Italy. Ms. Kaplan, Mr. Wohl

239A-239B. Seminar in English History: Middle Ages.

240A-240B. Seminar in English History: Modern History.

244A-244B. Seminar in British Empire History. Mr. Galbraith

245. Colloquium in U.S. History. 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.

246A-246B-246C. Introduction to United States History. 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:

246A. Colonial Period. Ms. Appleby, Mr. Nash

246B. 1790 to 1900. Mr. Gatell, Mr. Howe, Mr. Saxton

246C. 20th Century. Mr. Coben, Mr. Dallek, Mr. Weiss

247A-247B. Seminar in Early American History. Ms. Appleby, Mr. Nash

249A-249B. Seminar in Jacksonian America. Mr. Gatell

250A-250B. Seminar in United States History of the Middle 19th Century. Mr. Gatell, Mr. Howe

252A-252B. Seminar in Recent United States History to 1930. Mr. Coben, Mr. Hines

253A-253B. Seminar in Recent United States History since 1930. Mr. Hines, Mr. Weiss

254A-254B. Seminar in United States Social and/or Intellectual History. Mr. Howe, Mr. Saxton

256A-256B. Seminar in American Diplomatic History. Mr. Dallek

257A-257B. Seminar in United States Urban History. Mr. Hines, Mr. Monkkonen

258A-258B. Seminar in Working Class History. Mr. Laslett, Mr. Saxton

259A-259B. Seminar in Social History of Women in the U.S. Ms. Sklar

260A-260B. Seminar in Native American History. Mr. Morrison

261A-261B. Seminar in Afro-American History. Social and political history of the Afro-American, including an emphasis on the 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. Mr. Gómez-Quiñones

263A-263B. Seminar in the History of the American West. Mr. Hundley

M264. History of American Education. (Same as Education M201C.) The aim is to depict the social forces impinging on American education from the 1860s to the present and to analyze the relation between these social forces and the philosophy, curriculum, structural organization, and functions of education at all levels. Mr. S. Cohen

M265. Latin American Research Resources. (Same as Latin American Studies M200 and Library and Information Science M225.) The course will acquaint students with general and specialized materials in fields concerned with Latin American studies. Library research techniques will provide the experience and competency required for future bibliographic and research sophistication as the basis for enhanced research results. Mr. Lauerhass

266A-266B. Seminar in Colonial Latin American History. Mr. Lockhart

267A-267B. Seminar in Latin American History: 19th and 20th Centuries. Mr. Burr

268A-268B. Seminar in Recent Latin American History. Prerequisite or corequisite: course 167A or 167B or 171 or equivalent. Mr. Wilkie

275. Introduction to the Professional Study of African History. Required of all entering graduate students in African history. Source identification, research methodologies, historiographical traditions, historical interpretation, and approaches to teaching are examined. Strongly recommended for students with a history concentration in the African Area Studies M.A. program.

276. African Archaeology: Field Techniques (½ to 2 courses). Prerequisite: any introductory course in archaeology and preferably an African history course. A field course on an African excavation to provide the basic skills-reconnaissance, 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. Posnansky

277. African Archaeology: Dsta Analysis (½ to 2 courses). Prerequisite or corequisite: course 276. A field course to equip a student to handle finds from excavations. The course will involve analysis, description, illustration, and interpretation of an actual archaeological and/or ethnographic collection. Mr. Posnansky

278A-276B. Seminar in African History.

282A-282B-282C. Seminar in Chinese History. Mr. Farquhar, Mr. Huang

285A-285B. Seminar in Modern Japanese History. Mr. Notehelfer

286A-288B. Seminar in South Asia. Mr. Wolpert

289A-289B. Seminar in Southeast Asia. Mr. SarDesai

291A-291B. Seminar in Jewish History. Studies in the intellectual and social history of the Jewish people from ancient times to the modern period. Mr. Funkenstein

293A-293B. Seminar in the History of Religions. Mr. Bolle

295. Theories of Scientific Change. Historical and philosophical perspectives on science, focusing upon the rationality of scientific change and the logic and psychology of scientific discovery. Readings and seminar-style discussions of such authors as Popper, Kuhn, Toulmin, Lakatos, Holton, Buchdahl, Feyerabend, and others. Mr. Westman

297A-297B. Seminar in the History of Science. Mr. Westman, Mr. Wise

375. Teaching Apprentice Practicum (¼ to 1 course). 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.

490. Writing Workshop for Graduate Students. 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 historians' work, will help students improve their own writing. May be repeated once. S/U grading. Ms. Strenski

495. The Teaching of History. Prerequisite: graduate standing. Required of all new teaching assistants. Consists of lectures, readings, discussions, and practice teaching sessions within the structure of a seminar. Students receive unit credit toward full-time equivalence, but not toward the nine course requirement for the M.A. degree. S/U grading.

501. Cooperative Program (½ to 2 courses). Prerequisite: consent of UCLA graduate adviser and Graduate Dean and host campus instructor, department Chair, and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596. Directed Studies (¼ to 2 courses). Prerequisites: graduate standing and consent of instructor. Individual directed reading arranged with professor. M.A. candidates may take this course only once. Number of times doctoral candidates may take this course is subject to consent of the graduate studies committee. S/U or letter grading.

597. Directed Studies for Graduate Examinations (¼ to 2 courses). Preparation for either the M.A. comprehensive examination or the Ph.D. qualifying examinations. S/U grading.

599. Doctoral Research and Writing (¼ to 2 courses). Prerequisite: advancement to doctoral candidacy.

Honors Collegium

A311 Murphy Hall, 825-1553

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

Humanities

334D Royce Hall, 825-7650

Professors

Arnold J. Band, Ph.D. *(Hebrew and Comparative Literature)*
A. R. Braunmuller, Ph.D. *(English)*
Philip Levine, Ph.D. *(Classics)*
Ross P. Shideler, Ph.D. *(Scandinavian and Comparative Literature), Chair*
Pier-Maria Pasinetti, Ph.D., *Emeritus (Italian and Comparative Literature)*

Associate Professor

Albert D. Hutter, Ph.D. *(English)*

Assistant Professors

Katherine C. King, Ph.D. *(Classics and Comparative Literature)*
Kathleen Komar, Ph.D. *(German and Comparative Literature)*
Lucia Re, Ph.D. *(Italian and Comparative Literature)*

The following courses are made up of selected masterpieces of world literature. They are recommended to satisfy the humanities breadth requirements in the College of Letters and Science.

Lower Division Courses

1A. World Literature: Antiquity to Early Middle Ages. Lecture, three hours; discussion, one hour. Prerequisite: satisfaction of Subject A requirement. Students with credit for course 2A will not receive credit for this course. A study of major texts in world literature, with an emphasis on Western civilization. Texts studied include major works and authors such as the *Iliad* or the *Odyssey*, Greek tragedies, portions of the Bible, Virgil, Petronious, St. Augustine, and other texts such as *Gilgamesh* or *Tristan and Yseult*.

1B. World Literature: Late Middle Ages to the 17th Century. Lecture, three hours; discussion, one hour. Prerequisite: satisfaction of Subject A requirement. Students with credit for course 2B will not receive credit for this course. A study of major texts in world literature, with an 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, or Racine.

1C. World Literature: Age of Enlightenment to the 20th Century. Lecture, three hours; discussion, one hour. Prerequisite: satisfaction of Subject A requirement. Students with credit for course 2C will not receive credit for this course. A study of major texts in world literature, with an 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. Students with credit for course 1A will not receive credit for this course. The study of selected texts from 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*, Petronious, St. Augustine, or *Tristan and Yseult*.

2B. Survey of Literature: Late Middle Ages to the 17th Century. Lecture, two hours; discussion, two hours. Prerequisite: satisfaction of Subject A requirement. Students with credit for course 1B will not receive credit for this course. The study of selected texts from the Middle Ages to the 17th 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.

2C. Survey of Literature: Age of Enlightenment to the 20th Century. Lecture, two hours; discussion, two hours. Prerequisite: satisfaction of Subject A requirement. Students with credit for course 1C will not receive credit for this course. The study of selected texts from the Age of Enlightenment to the 20th century, with emphasis on literary analysis and expository writing. Texts may include works by authors such as Swift, Voltaire, Diderot, Rousseau, Goethe, Flaubert, Ibsen, Strindberg, Dostoevsky, Kafka, James Joyce, and Wallace Stevens.

Upper Division Courses

101. The Romantic Dilemma. Prerequisite: one course from Humanities 1A, 1B, 1C, 2A, 2B, 2C, or English 3, or consent of instructor. The theme of Romantic individualism and rebellion, pursued through literary examples of Romantic hero types (and antitypes) from Rousseau and Goethe to Dostoevsky and Hesse.

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 sense of social and cultural dissolution felt in early 20th-century Europe. Mr. Pasinetti

C105. The Comic Spirit. Prerequisites: upper division standing, literature major. May be concurrently scheduled with Comparative Literature C205. Literary masterpieces, both dramatic and nondramatic, selected to demonstrate the varieties of comic expression. Undergraduates read all works in translation. Mr. Band

C107. The Classical Tradition: Epic. Seminar, three hours. Prerequisites: upper division standing, literature major, consent of instructor. The *Iliad,* the *Odyssey,* the *Aeneid,* the *Gerusalemme Liberata,* and *Paradise Lost* will be analyzed both in relation to their contemporary societies and to the literary traditions. Emphasis will be on how poets build upon the work of their predecessors. May be concurrently scheduled with Comparative Literature C207. Ms. King

C109. The Crisis of Consciousness in Modern Literature. Prerequisites: upper division standing, literature major. May be concurrently scheduled with Comparative Literature C209. Study of modern European and American works which are concerned both in subject matter and artistic methods with the growing self-consciousness of human beings and their society, focusing on the works of Kafka, Rilke, Woolf, Sartre, and Stevens. Undergraduates read all works in translation. Ms. Komar

110. Man and His Fictions. Prerequisite: one course from Humanities 1A, 1B, 1C, 2A, 2B, 2C, or English 3, or consent of instructor. The course explores the art of tale-telling and the nature of narrative. It examines 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 audience. Ms. Komar

C111. The Classical Tradition: Tragedy. Seminar, three hours. Prerequisite: upper division standing or consent of instructor. Analysis of selected Greek dramas and their recreations in Rome, in the Renaissance, and in the modern period. May be concurrently scheduled with Comparative Literature C211. Ms. King

114. The Short Novel. Prerequisite: one course from Humanities 1A, 1B, 1C, 2A, 2B, 2C, or English 3, or consent of instructor. A study of selected short novels as works of literary art and as relevant intellectual statements. Texts by Melville, Flaubert, Dostoevsky, Kafka, et al. Mr. Pasinetti

115. Four Modern Dramatists. A study of several works by four major modern dramatists, focusing on understanding specific elements in each work and the authors' possible interrelations. Pirandello, Beckett, and Pinter will be read; the fourth author will be chosen from Ionesco, Giradoux, Cocteau. Mr. Braunmuller

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. Explorations of a change in Western man's relationship to his world, himself, and his art; reading of such works as *Don Quixote,* the *Essays of Montaigne, Gargantua and Pantagruel, The Praise of Folly, Utopia.* Mr. Allen

C117. The Mystery Novel. Prerequisites: upper division standing and literature major, or consent of instructor. May be concurrently scheduled with Comparative Literature C297. A study of mystery and detective fiction in England, France, and the United States. The origin, form, and historical significance of mystery fiction will be developed through close readings of selected works. Undergraduates read all works in translation. Mr. Hutter

C139. Early Medieval Literature. Prerequisites: upper division standing, literature major. May be concurrently scheduled with Comparative Literature C239. The course will consist of a survey of the Latin and Germanic literatures from the fall of Rome to the beginning of the 12th century. Undergraduates read all works in translation. Mr. Calder

C140. Medieval Epics. Prerequisites: upper division standing, literature major. May be concurrently scheduled with Comparative Literature C240. The seminar will consider five medieval epics: *Beowulf, El Cid, Chanson de Roland, Niebelungenlied,* and *Njalssaga.* There will be two objectives: first, a critical understanding of each work, and second, an understanding of the nature of epic literature. Assignments will consist of an extended seminar paper and short oral reports. Undergraduates read all works in translation. Mr. Condren

C141. The Literary Mediation of History in the Renaissance. Seminar, three hours. Prerequisites: upper division standing, literature major. May be concurrently scheduled with Comparative Literature C241. 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. Undergraduates read all works in translation. Ms. Re

C145. Renaissance Drama. Prerequisites: upper division standing and literature major, or consent of instructor. May be concurrently scheduled with Comparative Literature C245. The course offers a broad introduction to the subject matter and types of plays in the Renaissance. Historical and literary influences on the plays will be considered. Readings include works of such dramatists as Tasso, Machiavelli, Lope de Vega, Racine, Jonson, Shakespeare. Undergraduates read all works in translation. Mr. Braunmuller

C170. The Dream in English and German Romantic Literature. Lecture, three hours. Prerequisites: upper division standing and literature major, or consent of instructor. May be concurrently scheduled with Comparative Literature C270. A study of the use of the dream as a standard narrative technique in English and German Romantic literature. 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. May be concurrently scheduled with Comparative Literature C272. A study of the grotesque in the visual and verbal arts of the Romantic period; interpretation will address the aesthetics of tragic-comic interaction, the demonic vision, and the satirical sketches of man's abnormality and perversity. Undergraduates read all works in translation. Mr. Burwick

C173. Theory and Texts of the Fantastic. Seminar, three hours. Prerequisites: upper division standing, literature major. May be concurrently scheduled with Comparative Literature C273. An attempt to define the fantastic as a theoretical genre separate from the wider genre of fantasy. Critical texts by Todorov and Brooke-Rose. Primary texts by Hoffman, Nerval, James, Poe, Borges, Casares, Cortazar, Landolfi, and Calvino. Undergraduates read all works in translation. Ms. Re

C175. The 19th-Century Novel. Seminar, three hours. Prerequisites: upper division standing, literature major. May be concurrently scheduled with Comparative Literature C275. A comparative study of the 19th-century novel in England and on the continent. Novels will be selected so as to allow the seminar to concentrate on a particular tradition or critical problem. Undergraduates read all works in translation. Mr. Lehan

C176. Fiction and History. Seminar, three hours. Prerequisites: upper division standing and literature major, or consent of instructor. May be concurrently scheduled with Comparative Literature C276. The course analyzes 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 20-century novels by authors such as Stendahl, Verga, Tomasi di Lampedusa, Carpentier, and Kundera. Use of fictional methods by historians may also be analyzed. Emphasis is on how aesthetic, ideological, and political factors influence the authors' choice and use of historical material. Mr. Pasinetti, Ms. Re

178. Darwinism and Literature. Seminar, three hours. Prerequisite: upper division standing or consent of instructor. The course studies the impact of Darwin's theories on European and American literature. While texts include major works in the development of naturalism, such as novels by Zola, Hardy, Crane, or Dreiser and plays by Strindberg and Ibsen, the course moves forward into the continuing influence of other "determinist" and behaviorally oriented theories in works by authors such as Mann, Sartre, Camus, Stevens, and Skinner. Mr. Shideler

C180. The Symbolist Tradition in Poetry. Prerequisites: upper division standing and literature major, or consent of instructor. May be concurrently scheduled with Comparative Literature C280. A study of the symbolist tradition in 19th- and 20th-century English, French, and German poetry. 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. May be concurrently scheduled with Comparative Literature C281. 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. Undergraduates read all works in translation. Ms. Komar, Mr. Shideler

Indo-European Studies
(Interdepartmental)

1037 Graduate School of Management, 825-4242

Professors

Raimo A. Anttila, Ph.D. *(Linguistics)*
Henrik Birnbaum, Ph.D. *(Slavic)*
Patrick K. Ford, Ph.D. *(English, Celtic Studies)*
Marija Gimbutas, Ph.D. *(Slavic, European Archaeology)*
Bengt T. M. Löfstedt, Ph.D. *(Classics)*
Jaan Puhvel, Ph.D. *(Classics, Indo-European Studies)*
Hartmut E. F. Scharfe, Ph.D. *(Indic Studies)*
Hanns-Peter Schmidt, Ph.D. *(Indo-Iranian Studies)*
Alan H. Timberlake, Ph.D. *(Slavic)*
Donald J. Ward, Ph.D. *(German and Folklore)*
Terence H. Wilbur, Ph.D. *(Germanic Linguistics and Philology)*

Assistant Professor
Joseph F. Nagy, Ph.D. *(English)*

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 status must have a B.A. degree with a major in an Indo-European language field (e.g., German, Slavic, Celtic, Romance languages, Latin, Greek), linguistics (with concentration in historical and comparative linguistics), anthropology, or archaeology. Letters of recommendation (at least two, preferably three or four) are required; GSAT 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, University of California, Los Angeles, CA 90024.

Admission to the program itself constitutes admission to the doctoral program; there is no master's degree offered. Should deficiencies exist in prerequisites to specific work at the graduate level, you may be granted provisional admission and directed to remove those deficiencies in the initial period of enrollment.

Major Fields or Subdisciplines

The Ph.D. in Indo-European Studies is offered with three alternative major emphases: (1) Indo-European linguistics; (2) Indo-Iranian or other specialized language area studies; (3) European and related archaeology.

Foreign Language Requirement

French and German are required, one during the first year. A third language is added only when relevant to your field of specialization. Proficiency in a language may be demonstrated by (1) passing the 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 the introductory courses 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 chosen 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 chosen 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 chosen 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 will be administered. These will 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, will be 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. Upon successful completion of the written and oral examinations, you will be advanced to doctoral candidacy and begin work on the dissertation.

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.

Candidate in Philosophy Degree

The C.Phil. degree is available upon formal advancement to candidacy.

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 course covers the Aegean area and the rest of Europe. Mrs. Gimbutas

M150. Introduction to Indo-European Linguistics. (Same as Linguistics M150.) Prerequisites: one year of college-level study (course 3 or better, eight units minimum) of either Greek or Latin and either German or Russian. A survey of the Indo-European languages from ancient to modern times; their relationships and chief characteristics. Mr. Anttila

199. Special Studies (½ to 2 courses).

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

250A-250B. European Archaeology. (Formerly numbered M250A-M250B.) 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. Mrs. Gimbutas

280A-280B. Seminar in Indo-European Linguistics. Prerequisite: course 210. Selected topics in Indo-European comparative grammar for advanced graduate students. Mr. Anttila

596. Directed Individual Studies (½ to 2 courses).

597. Preparation for Ph.D. Qualifying Examination (½ to 2 courses).

599. Research for Ph.D. Dissertation (½ to 2 courses).

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
168. Introduction to Comparative Mythology
180. Introduction to Classical Linguistics
230A-230B. Language in Ancient Asia Minor
251A. Seminar in Classical Archaeology: The Aegean Bronze Age

260. Topics in Ancient Religion
268. Seminar in Comparative Mythology
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
Folklore and Mythology M112. Survey of Medieval Celtic Literature
M122. Celtic Mythology
M126. Baltic and Slavic Folklore and Mythology
M127. Celtic Folklore
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 Linguisitics
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
160. History of Linguistics through the 19th Century
Old Norse Studies (Germanic Languages) 140. Viking Civilization and Literature
151. Elementary Old Norse
152. Intermediate Old Norse
245A. Germanic and Scandinavian Mythology
Oriental Languages 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
Semitics (Near Eastern Languages) 140A-140B. Elementary Akkadian
141. Advanced Akkadian
220A-220B. Ugaritic
Slavic (Slavic Languages) 177. Baltic Languages and Cultures
M179. Baltic and Slavic Folklore and Mythology
201. Introduction to Old Church Slavic
202. Introduction to Comparative Slavic Linguistics
241A-241B. Advanced Old Church Slavic
242. Comparative Slavic Linguistics
251. Introduction to Baltic Linguistics
Urdu (Near Eastern Languages) 101A-101B-101C. Elementary Urdu

International Relations

4256 Bunche Hall, 825-3862

Scope and Objectives

The Special Undergraduate Program 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 for this program. Students completing the program will receive a degree with a major in political science and specialization in international relations. The program is designed to serve the needs of (1) students desiring a general education focused on international affairs and (2) students preparing for graduate work in international affairs, whether in a social science or area study.

The program is also beneficial for (1) students planning careers (in business, law, journalism, or library service) with an international emphasis and (2) those preparing to teach social science in the secondary schools. These students should structure their programs primarily by the preparation requirements of the professional school or teaching credential of their choice.

Courses in management and administration, and in verbal and written communications, will ordinarily increase the career options of students in this program.

Special Undergraduate Program

Preparation for the Program

Required: Political Science 1, 2A or 2B, and 3; History 1A-1B-1C or any three courses from History 8A, 8B, 9A, 9B, 9C, 9D, 10A, 10B; Economics 1 and 2 or 100; Sociology 1 or 101; Anthropology 5 or 22; Geography 3 or 5.

Upper Division

The political science major should be completed as follows: Political Science 110; any four upper division courses in Field II; Political Science 168L or 168S and three additional upper division courses in Field IV; one additional course from Field I or two additional courses both in Field III, Field V, or Field VI.

Other required social science courses include one course from Geography 140, 181, 182A, 182B, 183, 184, 185, 186, 187, 188, 189, 190; one course from Anthropology 171, 173P, 173Q, 174P, 175P, 175Q, 175R, 175S, 176, 177; two courses from Economics 110, 111, 112, 180, 182, 190, 191, 192; two courses from History 116A, 117A, 127A, 127B, 142A, 142B, 148C, 152A, 152B, 168, 186.

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 and African Languages, and Oriental Languages. Arabic, Chinese, French, German, Japanese, Russian, and Spanish are the languages of widest career utility in international affairs.

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, 825-1181

The undergraduate major in this discipline is called "Near Eastern Studies." For details, see the program by that name later in this chapter.

Scope and Objectives

The interdepartmental program for the Master of Arts and Ph.D. degrees in Islamic Studies is designed primarily for students desiring to prepare for an academic career. It may, however, be found useful for students seeking a general education and desiring a special emphasis in this particular area or for those who plan to live and work in this area, whose career will be aided by a knowledge of the people, languages, and institutions. (Such a career might be centered on teaching, research, business, engineering, journalism, librarianship, or government service.) Subject to the limitations of the program, the special course of studies is formulated for candidates according to their experience and requirements.

Master of Arts Degree

Admission

In addition to the general University requirements, a Bachelor of Arts degree in Near Eastern Studies or equivalent is required. The interdepartmental degree committee will pass on the application for admission to the pro-

gram. You are normally expected to have completed the equivalent of Arabic 102A-102B-102C and Iranian 102A-102B-102C or Turkic Languages 103A-103B. In addition, you should have completed the equivalent of two years of Near Eastern history (classical and modern). Some coursework in Islamic culture and institutions may be applied toward the history requirement. Deficiencies in any of these prerequisites will have to be removed by taking the appropriate courses without credit toward the advanced degree. No special application form is required.

The Graduate Record Examination is required of graduates of American universities and recommended for overseas applicants. No screening examination is required.

A departmental brochure may be obtained by writing to the G.E. von Grunebaum Center for Near Eastern Studies, 10286 Bunche Hall, UCLA.

Major Fields or Subdisciplines

Arabic, Persian, Turkish, history of the Near East, political science, anthropology, sociology, Islamic art.

Foreign Language Requirement

You will be required to show proficiency in either French or German. You are expected to pass the graduate foreign language reading examination (Educational Testing Service) in French or German by the end of the third quarter of residence.

Course Requirements

A minimum of nine courses is required, five of which must be graduate. You must take no fewer than four courses on the appropriate level in the two Near Eastern languages of your choice, and no fewer than five courses chosen from the relevant upper division and graduate courses in history, political science, or any of the other fields represented in the program. The selection must be limited to two of these disciplines. The omission of history may be approved only in exceptional cases. Only eight units of 500-series courses may be applied toward the total course requirement, as well as toward the minimum graduate course requirement, providing they are not in the same discipline.

Comprehensive Examination Plan

The thesis plan is not available in this program. You must pass written examinations in two Near Eastern languages and literatures, the history of the Near East, and one other social science. The examinations are constructed by the instructor responsible for each discipline. Reexamination in exceptional cases will be determined by the interdepartmental degree committee. The examiner or examiners will be appointed by the Chair of the interdepartmental degree committee.

Ph.D. Degree

Admission

Students intending to work for the Ph.D. in Islamic Studies are normally expected first to fulfill all requirements for the M.A. degree. Those who enter the program with an M.A. from another university should have attained a level of preparation in languages, history, and social sciences equivalent to that required for the M.A. at UCLA. Those who have not done so should make up any deficiences by taking the appropriate courses without credit toward the degree. No special application form is required, but applications must be accompanied by three letters of recommendation.

The Graduate Record Examination is required of graduates of American universities and recommended for overseas applicants.

A departmental brochure may be obtained by writing to the G.E. von Grunebaum Center for Near Eastern Studies, 10286 Bunche Hall, UCLA.

Major Fields or Subdisciplines

Arabic, Persian, Turkish, history, anthropology, sociology, political science, Islamic art.

Foreign Language Requirement

At the beginning of your first quarter in residence, you must present to the Chair of the interdepartmental degree committee a written statement explaining your preparation in one of the two modern languages required by the University (generally French and German). You are expected to pass the graduate foreign language reading examination in both languages by the end of your second year of residence. For work in some fields, a reading knowledge of Italian, Spanish, or Russian may be substituted for one of the above European languages after satisfactory advisement. The Educational Testing Service examination is acceptable.

Course Requirements

If you are entering directly into the Ph.D. program, course requirements are the same as in the M.A. program. Beyond this, you will continue advanced courses in your two Near Eastern languages, in Near Eastern history, and in one of the social sciences, upon specific advisement of the interdepartmental degree committee.

Qualifying Examinations

Written qualifying examinations in four fields are required: two Near Eastern languages and literatures as approved by the advisory committee, the whole range of Near Eastern history, and one other social science field (anthropology, political science, sociology). After successfully completing the written examinations, you must pass the University Oral Qualifying Examination in order to be advanced to doctoral candidacy. Reexamination in any field is at the discretion of the doctoral committee in consultation with the Chair of the program.

Research proposals, dossiers, research papers, propositions, etc. are not permitted as alternatives to the written qualifying examinations.

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.

Candidate in Philosophy Degree

Students are eligible to receive the C.Phil. degree upon advancement to candidacy.

Islamic Studies Course List

Anthropology 130. The Study of Culture
133P. Social and Psychological Aspects of Myth and Ritual
150. Comparative Society
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 Thoughts
232Q. Myth and Ritual
239P. Selected Topics in Field Training in Ethnography
239Q. Analysis of Field Data
273. Cultures of the Middle East
Arabic (Near Eastern Languages) 102A-102B-102C. Intermediate Arabic
103A-103B-103C. Advanced Arabic
111A-111B-111C. Spoken Arabic
112A-112B-112C. Spoken Egyptian Arabic
114A-114B-114C. Spoken Moroccan Arabic
130A-130B-130C. Classical Arabic Texts
132A-132B-132C. Philosophical Texts
140A-140B-140C. Modern Arabic Texts
141. Modern Arabic Literature
150A-150B. Survey of Arabic Literature in English
199. Special Studies in Arabic
220A-220B-220C. Islamic Texts
230A-230B-230C. Arabic Poetry
240A-240B-240C. Arab Historians and Geographers
250A-250B-250C. Seminars in Arabic Literature
596. Directed Individual Study
597. Examination Preparation
599. Ph.D. Dissertation Research and Preparation
Archaeology 259. Fieldwork in Archaeology
596. Individual Studies for Graduate Students
597. Preparation for Ph.D. Qualifying Examinations
Armenian (Near Eastern Languages) 130A-130B. Elementary Classical Armenian
131A-131B. Intermediate Classical Armenian
132A-132B. Advanced Classical Armenian
210. History of the Armenian Language
220. Armenian Literature of the Golden Age (A.D. 5th Century)
Art 104B-104C-104D. Architecture and the Minor Arts of Islam in the Middle Ages
105E. Byzantine Art
213. Problems in Islamic Art

Berber (Near Eastern Languages) 101A-101B-101C. Elementary Berber
102A-102B-102C. Advanced Berber
120A-120B-120C. Introduction to Berber Literature
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-Sudanese and Arabo-Islamic Africa
257A-257B. Studies in French-African Literatures
Geography 187. Middle East
188. Northern Africa
287. Middle East
288. Northern Africa
Greek (Classics) 231A-231B-231C. Seminar in Later Greek and Byzantine Literature
Hebrew (Near Eastern Languages) 230. Seminar in Medieval Hebrew Literature
231. Texts in Judaeo-Arabic
History 106A-106B-106C. Survey of the Middle East from 500 to the Present
107A-107B. Islamic Civilization
108A-108B. History of the Arabs
109A-109B. History of North Africa from the Moslem Conquest
110A-110B. Iranian History
111A-111B. History of the Turks
123A-123B. Byzantine History
188B. Recent History of India and Pakistan
190A-190B. History of Southeast Asia
204A-204B. Seminar in Near and Middle Eastern History
205A-205B. Seminar in Medieval Middle Eastern History
206A-206B. Seminar in the Social History of the Middle East
209A-209B. Seminar in Ottoman and Modern Turkish History
216A-216B. Seminar in Byzantine History
596. Directed Studies
597. Directed Studies for Graduate Examinations
599. Ph.D. Research and Writing
Iranian (Near Eastern Languages) 101A-101B-101C. Elementary Persian
102A-102B-102C. Intermediate Persian
103A-103B-103C. Advanced Persian
140. Contemporary Persian Belle Lettres
141. Contemporary Persian Analytical Prose
150A-150B. Survey of Persian Literature in English
169. Civilization of Pre-Islamic Iran
170. Religion in Ancient Iran
190A-190B. Introduction to Modern Iranian Studies
199. Special Studies in Iranian
211A-211B. Modern Iranian Dialects
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
598. Thesis Research and Preparation
599. Ph.D. Dissertation Research and Preparation
Jewish Studies (Near Eastern Languages) 110. Social, Cultural, and Religious Institutions of Judaism
Linguistics 220. Linguistic Areas
225. Linguistic Structures
Music 282. Music of Iran and Other Non-Arabic-Speaking Communities
284. Music of the Arabic-Speaking Near East
Near Eastern Languages 200. Bibliography and Method of Near Eastern Languages and Literatures
210. Survey of Afro-Asiatic Languages
M241. Folklore and Mythology of the Near East
290. Seminar in Paleography
596. Directed Individual Study
597. Examination Preparation
599. Ph.D. Dissertation Research and Preparation
Philosophy 104. Topics in Islamic Philosophy
Political Science 132A-132B. International Relations of the Middle East
164. Government and Politics in the Middle East
165. Government and Politics in North Africa
C250F. Seminars in Regional and Area Political Studies: Middle Eastern Studies
250K. North African Studies
Semitics (Near Eastern Languages) 215A-215B. Syriac
Sociology 132. Population and Society in the Middle East
133. Comparative Sociology of the Middle East
151. Culture and Personality
236. Social Change in the Middle East
237. Social Stratification in the Middle East
Turkic Languages (Near Eastern Languages) 101A-101B. Elementary Turkish
102A-102B. Intermediate Turkish
103A-103B. Advanced Turkish
112A-112B-112C. Uzbek
114A-114B-114C. Bashkir
160A-160B. Cultural History of the Turks
180A-180B-180C. Introduction to Turkic Studies
199. Special Studies in Turkic Languages
210A-210B-210C. Introduction to Ottoman
211. Ottoman Diplomatics
220A-220B-220C. Chagatay
230A-230B-230C. A Historical and Comparative Survey of the Turkic Languages
235A-235B. Middle Turkic
240A-240B-240C. Advanced Ottoman
250A-250B-250C. Islamic Texts in Chagatay
280A-280B. Seminar in Modern Turkish Literature
290A-290B. Seminar in Classical Turkish Literature
596. Directed Individual Study
597. Examination Preparation
599. Ph.D. Dissertation Research and Preparation
Urdu (Near Eastern Languages) 199. Special Studies in Urdu

Italian

340 Royce Hall, 825-1940

Professors

Franco Betti, Ph.D.
Giovanni Cecchetti, 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., *Chair*
Pier-Maria Pasinetti, Ph.D., Dottore in Lettere, *Emeritus*
Charles Speroni, Ph.D., *Emeritus*

Assistant Professor

Lucia Re, Ph.D., Dottore in Lettere

Lecturers

Mirella Cheeseman, Dottore in Legge
Althea Reynolds, B.A.

Scope and Objectives

Italian art and letters provide an invaluable key to understanding many facets of European civilization. Examined in its own right or studied comparatively, Italian culture offers unmatched rewards. The UCLA faculty views transmitting the Italian language as inseparable from transmission of the culture, so students consider in depth virtually all aspects of Italian civilization. After their linguistic initiation, ideally including a year abroad, students may pursue advanced studies in the department exclusively and through a wide range of interdisciplinary programs.

Bachelor of Arts degrees are offered in Italian and in Italian and Special Fields. Graduate study leads to the Master of Arts degree in Italian (with specializations in literature and language) and to the Ph.D. (literature specialization). In addition, the department participates extensively in the 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 a 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 are 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. Seven are required: Italian 101, 102A-102B-102C, 113A-113B, 190; an additional seven are to be chosen 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. Recommended: Art 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, 1257 Murphy Hall.)

Honors Program

Majors with an overall grade-point average of 3.25 and a 3.5 grade-point average or better in Italian are eligible to participate in the honors program. Prerequisites: Italian 102A-102B-102C.

Candidates will select three upper division literature courses in which additional readings are required. In the last quarter of the senior year, students are required to write a thesis on a subject related to one of the three abovementioned courses. The average for the three courses should not fall below A−. Applications should be made during the last quarter of the 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, Classics (Latin), English, French, History, Linguistics, Music, Political Science, and Theater Arts. 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 chosen 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 chosen from courses 113A through 122 as determined by your area of specialization. The other seven courses are to be chosen 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 will be assigned in accordance with your needs as determined by the area of specialization pursued. In certain cases, as many as two courses (eight units) on the graduate level may be applied toward the 14-course minimum requirement.

Master of Arts Degree

Admission

Three letters of recommendation should be sent to the Graduate Adviser, Department of Italian, 340 Royce Hall, UCLA, Los Angeles, CA 90024.

Files of prospective graduate students meeting the University minimum requirements are screened by the departmental committee on admissions. 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

A 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, nine courses are required, including Italian 200A, 200B, 200C, and 205B. At least six 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 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 six 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 the Italian 200A-200B-200C series, 205B, and at least two other graduate courses in Italian. On acceptance, the guidance committee will help you choose three 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.

Prerequisite for entering the department's doctoral program is an M.A. from UCLA or from another university in the United States or the equivalent. Students with a master's degree from another institution, or the equivalent, will be required to pass part 1 of the Ph.D. qualifying examination by the end of their third quarter in residence. They should expect to take part 2 of the examination after approximately eight quarters.

Students admitted to the Ph.D. program without the M.A. degree must take the qualifying examination (part 2) at the end of the twelfth quarter in residence, carrying a normal course load.

Students holding the M.A. from UCLA will normally take part 2 of the qualifying examination 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 choose a major in a literary genre or a minor outside the department, provided that it relates to your major fields 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 or departmental examination or by petition for course credit to the Graduate Division.

Course Requirements

In addition to those required for the master's degree, at least 10 other quarter courses, of which no more than two 596 courses may apply, are required. You also will take such courses as your guidance committee will prescribe for the qualifying examinations (such as course 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 upon unanimous approval of the guidance committee, after at least one academic quarter of additional residence.

Final Oral Examination

After acceptance of the dissertation in its final form, you may be required to take an oral examination which will cover principally the field within which the dissertation falls.

Candidate in Philosophy Degree

The Department of Italian grants the C.Phil. degree after advancement to candidacy for the Ph.D.

Lower Division Courses

Enrollment in the Italian open language laboratory is required of all students in Italian 1, 1A, 2, 2A, and 3.

1. Elementary Italian — Beginning. Lecture, five hours; laboratory, one hour.
Mrs. Cheeseman in charge

1A. Elementary Italian — Accelerated (2 courses). Lecture, ten 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. The course prepares students 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) (2 courses). Lecture, ten hours; laboratory, two hours. Prerequisite: course 1A or 2 or two years of high school Italian. Designed for those students having the capacity and desire to learn the language at a much faster pace than normal. Encompasses the material ordinarily intended for courses 3 and 4.
Mrs. Cheeseman in charge

2G. Special Reading Course. Readings, three hours. Open to graduate students in other fields. The course prepares students 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

4. Intermediate Italian. Lecture, five hours; laboratory, one hour. Prerequisite: course 3 or three years of high school Italian. Mrs. Cheeseman in charge

5. Intermediate Italian. Lecture, five hours; laboratory, one hour. Prerequisite: course 4 or four years of high school Italian. Mrs. Cheeseman in charge

8A-8B-8C. Italian Conversation (½ course each). Prerequisite: consent of instructor. Intended for students who have taken three to six quarters of language instruction and have developed considerable skills in Italian, the courses help students to improve further their spoken proficiency through constant exposure and practice of the language. Each course may be repeated once for credit.
Mrs. Reynolds in charge

25. Advanced Italian. Lecture, five hours. Prerequisite: course 5. An advanced grammar and composition course with readings from select literary works.
Mrs. Cheeseman in charge

42A-42B. Italian Civilization or Italy through the Ages. (Formerly numbered 42A-42B-42C.) Lecture, three hours. A general survey of the history, literature, art, music, and architecture audiovisually illustrated, with emphasis on Italy's cultural contributions to Western civilization. A service course designed to meet the breadth requirements:

42A. From the Origins through the Renaissance.
Mrs. Cottino-Jones, Mr. Tuttle

42B. From the Enlightenment to Modern Italy.

46A-46B-46C. Italian Cinema and Culture (in English). Italy as seen through the eyes of its great filmmakers and writers. Major Italian films and literary works will be presented and discussed in their social and historical context:

46A. The Period of Neorealism (1942-51). Italian cinema gained international fame through the early films of Luchino Visconti, Roberto Rossellini, and Vittorio De Sica. Readings include works by Giovanni Verga, Ignazio Silone, Vasio Tratolini, and Carlo Levi.

46B. The Films of the 1950s and early 1960s. Included are works by Federico Fellini, Luchino Visconti, Michelangelo Antonioni, and Pier Paolo Pasolini. Special emphasis is given to Fellini, from his earliest works through the famous *La Dolce Vita*. Readings from Luigi Pirandello, Alberto Moravia, and Pasolini.

46C. Italian Cinema from the Early 1960s to the Present. Classics by Fellini, Antonioni, Pasolini, Bertolucci, and others. Selections include *8½, Amarcord, Blow-Up, The Passenger, Decameron, The Conformist.* Readings from Boccaccio, Moravia, Tomasi de Lampadusa, etc.
Mrs. Cottino-Jones in charge

50A-50B. Main Trends in Italian Literature:

50A. Italian Literature to the Baroque Period. A study of selected works of the major writers of the period, including Dante, Petrarch, Boccaccio, Ariosto, Machiavelli, Castiglione, Tasso, Bruno, Galileo, Marino.

50B. Italian Literature from 1700 to the Present. A study of selected works by the major writers of the period, including Vico, Parini, 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 will be conducted in Italian, will all be four-unit courses, and will meet three hours weekly.

101. Preparation for Advanced Italian Studies. A course designed to acquaint juniors with the research tools fundamental to the study of Italian culture. Will focus on how to find texts and collateral material, how to utilize bibliographies, dictionaries, encyclopedias, manuals, and periodicals, and how to proceed in literary analysis. Mr. Chiappelli

102A-102B-102C. The Italian Cultural Experience. 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. Italy's basic social structures and cultural institutions are 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 'Divina Commedia'. The course focuses on the *Divine Comedy.* Selected readings from the text will be integrated with relevant information on scholasticism, classical tradition, medieval literature and poetics, and the sociopolitical structure of Dante's world:

113A. A General Introduction and Readings from *Inferno.*

113B. Readings from *Purgatorio* and *Paradiso.*
Mr. Cecchetti

114A-114B. Italian Literature of the Middle Ages. Lecture, three hours. Emphasis is on Stil Novo, Dante's minor works, Petrarch, and Boccaccio. Mrs. Cottino-Jones, Mr. Tuttle

116A-116B. Italian Literature of the Renaissance. Emphasis is on Lorenzo de' Medici, Poliziano, Castiglione, Machiavelli, Ariosto, Tasso. Mr. Betti

118. Italian Literature of the 18th Century. Emphasis is on Goldoni, Parini, Alfieri. Mr. Betti

119. Italian Literature of the 19th Century. The course surveys the Romantic age as it expresses values and national aspirations of 19th-century Italy. Emphasis is placed on the innovative approach to poetry as seen in the works of Foscolo and Leopardi and to the sociohistorical novel of Foscolo, Manzoni, and Verga. Mr. Betti

120. Italian Literature of the 20th Century. Following a brief introduction to Italian literature after unification of the country, the course will concentrate on selected writers seen in their political, social, and artistic contexts. Mr. Cecchetti

121. Italian Cinema. 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. The course concentrates 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). A study in depth of the idiomatic phenomena of the language from both the grammatical and syntactical points of view. Mrs. Cheeseman

131. Reading and Reciting. Prerequisite: consent of instructor based on sufficient knowledge of Italian. Emphasis on diction, interpretation, and performance of one-act plays as vehicles for perfection of pronunciation, comprehension, and fluency. May be repeated twice for credit. Mrs. Reynolds

M140. From Boccaccio to Basile (in English). (Same as Folklore M140.) Lecture, three hours. A study of the origins and the development of the Italian novella in its themes, in its structure, in its historical context, and in its European ramifications. The course is designed for students in other departments who wish to become acquainted with either the premises or the growth of similar literary genres. It is also intended for students majoring in folklore and mythology, who will be 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 tradition of the Western world. Mrs. Cottino-Jones

150. Modern Italian Fiction in Translation. Lecture, three hours.

M158. Women in Italy. (Same as Women's Studies M158.) The course is designed with the intent of examining the role that women have played in Italian society. It will concentrate 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 will be presented and discussed, together with other data derived from literature and art. Mrs. Cottino-Jones

190. History of the Italian Language. Examines the main forces which have shaped literary or standard Italian and specific ways in which the language has evolved. Traces its changing relations with other European languages and surveys the effects wrought by historical events, changes in taste, and altered social functions. Mr. Tuttle

199. Special Studies (½ to 1 course). 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 course will cover the literature of the generation dominated by the Franciscan movement and proceed through the culture of Frederick II's court to the three classics of the 14th century — Dante, Petrarch, and Boccaccio. Finally, it will encompass the early humanists, the post-classics 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 course will cover the literature of the High Renaissance of Central Italy in its three most popular genres (lyric poetry, chivalric poem, and theater) and proceed through the counter-reformistic culture, especially of Northern and Southern Italy. Finally, it will encompass the main Enlightenment figures and the cultural evolution stemming from them. Mr. Betti, Mr. Chiappelli

200C. Readings in Italian Literature. Lecture, three hours. Prerequisites: course 200B, graduate standing. The course will cover the literature of the Romantic era and proceed through a study of the literary figures of the Italian "Risorgimento." Finally, it will encompass the various "novecentisti" 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-210C. Early Italian Literature. Lecture, three hours:

210A. The Origins of Italian Language and Early Texts. Mr. Tuttle

210B. The *Scuola Siciliana* and Early Poetry in Central and Northern Italy. Mr. Tuttle

210C. The *Dolce Stil Novo.*

212A. Theory of Textual Criticism. Prerequisite: graduate standing. A presentation and discussion of the methods to be employed in the preparation of a critical edition of a medieval and/or 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.*

214C. The *Commedia* and the *Monarchia.* Mr. Chiappelli

214D. Petrarca. Mr. Chiappelli

214E. The *Decameron.* Mrs. Cottino-Jones

214F. Boccaccio's Other Works. Mrs. Cottino-Jones

214G. Sacchetti and Other Prose Writers. Mrs. Cottino-Jones

215A-215B-215C. Italian Literature of the 15th Century. Lecture, three hours:

215A. Fiction and Other Prose Texts. Mr. Chiappelli

215B. Writings of the Humanists.

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. Ariosto.

216C. Bembo, Folengo, Aretino, and the Theatre. 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 Theatre. 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 Cesarotti. 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. Alfieri. Mr. Betti

219A-219F. Italian Literature of the 19th Century. Lecture, three hours:

219A. Foscolo. Mr. Chiappelli

219B. Leopardi. Mr. Cecchetti

219C. Manzoni. Mr. Pasinetti

219D. Trends in Fiction before Verga. Mr. Betti

219E. Verga. Mr. Cecchetti

219F. Italian Literature at the Turn of the Century. Mr. Pasinetti

220A-220B-220C. Italian Literature of the 20th Century. Lecture, three hours:

220A. From D'Annunzio to Futurism and the Early Twenties. Mr. Cecchetti

220B. Contemporary Italian Poetry. Mr. Cecchetti

220C. Contemporary Italian Fiction. Mr. Pasinetti

M230A-M230B. Folk Tradition in Italian Literature. (Same as Folklore M230A-M230B.) Lecture, two hours.

250A-250D. Seminar on Dante. Seminar, three hours. Mr. Chiappelli

251. Seminar on Petrarch. Seminar, three hours. Mr. Chiappelli

252. Seminar on Boccaccio. Seminar, three hours. Mrs. Cottino-Jones

253A-253B-253C. Seminar on Chivalric Poetry in Italy. Seminar, three hours. The relationship between the genre and its French medieval sources, with a study of its evolution in Italy through Pulci, Boiardo, Ariosto, and Tasso. Mrs. Cottino-Jones

254. Seminar on Machiavelli. Seminar, three hours. Mr. Chiappelli

255A-255B. Seminar on the Baroque. Seminar, three hours. Mrs. Cottino-Jones

256A-256B. Seminar on the 18th Century. Seminar, three hours. Mr. Pasinetti

257A-257B. Seminar on Romanticism. Seminar, three hours. Mr. Pasinetti

258A-258B. Seminar on Contemporary Italian Literature. Seminar, three hours. Mr. Cecchetti

259A-259B-259C. Studies in the History of Italian Language:

259A. History of the Italian Language. Prerequisite: graduate standing. A historical survey of the development of the language from medieval times to the unification of the country (1861). *Questione della lingua,* general acceptance of Florentine speech, and its evolution into the national language. Mr. Tuttle

259B. The Structure of Modern Italian. Prerequisite: graduate standing. Various tendencies in modern and contemporary Italian. Foreign influences in today's Italian language. Relationship between the national language and the various dialects. Mr. Tuttle

259C. Italian Dialectology. The historical differentiation of the Italian dialects will be considered in its areal dimension. Specific geolinguistic problems and solutions will illustrate the growth of the discipline up to its present merging with sociolinguistics as Italian dialects become more vertically defined. Mr. Tuttle

298. Variable Topics in Italian Studies. Lecture, three hours; discussion, one hour. Prerequisite: graduate standing or consent of instructor. Seminar course focusing on themes and issues outside of the uniquely Italian literature topics covered in regular departmental graduate courses.

370. Problems and Methods in the Teaching of Italian. Lecture, two hours. Mrs. Cheeseman

375. Teaching Apprentice Practicum (¼ to 1 course). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading.

495A-495D. The Teaching of Italian at the College Level (½ to 1 course each). Prerequisite: consent of instructor:

495A. Techniques in Teaching Italian Literature.

495B. Techniques in Teaching Italian Culture.

495C. Techniques in Teaching Italian Conversation.

495D. Techniques in Teaching Italian Film.

501. Cooperative Program (½ to 2 courses). Prerequisite: consent of UCLA graduate adviser and Graduate Dean and host campus instructor, department Chair, and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596. Directed Individual Studies (1 to 2 courses). May be repeated twice. S/U grading.

597. Preparation for Comprehensive Examinations (1 to 2 courses). S/U grading.

599. Ph.D. Research and Writing (1 to 2 courses). May be repeated. S/U grading.

Journalism

232 Royce Hall, 825-3303

Professors

Walter Wilcox, Ph.D., *Chair*
Joseph A. Brandt, M.A., B.Litt., LL.D., *Emeritus*
William W. Johnson, M.A., *Emeritus*

Lecturer

James H. Howard, M.A., *Emeritus*

Undergraduate Courses

There is no major in journalism; however, the following undergraduate courses are offered for interested students:

2. Fundamentals of Journalism. Lectures, field trips, and workshops. Survey of journalism principles and techniques.

101A. Reporting. Fundamentals of the news communication process.

101B. Photojournalism. Basic graphic arts illustration and photojournalism for the mass media.

182A. Article Writing. Analysis of magazine and newspaper depth reportage. Writing nonfiction articles; research, style, and structure.

192. The Media of Mass Communications. Institutional analysis of the mass media, with emphasis upon the press and broadcasting in the mass communications process; interaction with other institutions; critical evaluation.

199. Individual Studies (¼ to 1 course). Prerequisites: upper division standing and consent of instructor. Individual study for upper division students wishing to do research on the performance of the news media and their relation to society. The course will permit upper division students to do research on the operation and/or influence of the mass media in areas of special interest. These areas may be coordinated with a student's major field or with various special community projects of the University. Students will be expected to develop their own study plan, execute either primary data collection or perform secondary analysis of existing data, and produce a study report.

Kinesiology

212 Men's Gym, 825-3891

Professors

R. James Barnard, Ph.D.
Camille Brown, Ed.D.
Bryant J. Cratty, Ed.D.
V. Reggie Edgerton, Ph.D.
Glen H. Egstrom, Ph.D.
Gerald W. Gardner, Ph.D., *Vice Chair*
Louis J. Goldberg, D.D.S., Ph.D.
Jack F. Keogh, Ed.D.
Laurence E. Morehouse, Ph.D.
Richard A. Schmidt, Ph.D.
Judith L. Smith, Ph.D., *Chair*
Serena E. Arnold, Ed.D., *Emeritus*
Donald T. Handy, Ed.D., *Emeritus*
Valerie V. Hunt, Ed.D., *Emeritus*
Wayne W. Massey, Ph.D., *Emeritus*
Ben W. Miller, Ph.D., *Emeritus*
Norman P. Miller, Ed.D., *Emeritus*
Raymond A. Snyder, Ed.D., *Emeritus*

Associate Professors

Robert J. Gregor, Ph.D.
Tara K. Scanlan, Ph.D.
Ronald F. Zernicke, Ph.D.
Marjorie E. Latchaw, Ph.D., *Emeritus*

Assistant Professors

Scott H. Chandler, Ph.D. *(Neuroscience)*
Diane Shapiro, Ph.D.
Arthur C. Vailas, Ph.D.

Lecturer

Jeff H. Rahlmann, M.S.

Assistant Professors

Joan L. Duda, Ph.D., *Visiting*
Glenn G. Gaesser, Ph.D., *Visiting*
Alan J. Garfinkel, Ph.D., *Adjunct*
Roland Roy, Ph.D., *Adjunct*

Scope and Objectives

Kinesiology is the study of the biochemical, morphological, and general physiological responses of the human to exercise and environmental conditions; the description of movement and the neuromuscular and biomechanical determinants of motor performance; and the development, acquisition, and modification of motor performance. The purpose of this study is intended to develop and integrate principles and concepts of human movement.

Bachelor of Science Degree

Pre-Kinesiology Major

All students intending to major in kinesiology are identified as pre-kinesiology majors until the premajor requirements have been satisfied. Students must complete all premajor courses and petition for major standing by the time they attain 120 units and prior to enrollment in upper division kinesiology courses.

The pre-kinesiology major requirements are Kinesiology 12, 14; Chemistry 11A, and 15/15L or 23; 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 introductory 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 12 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 2.5 or better. Repetition of more than one premajor course in which a grade of D, F, or NP was received or repetition of any course more than once may result in dismissal from the premajor.

In addition to the preparation courses required in the premajor, additional courses are strongly recommended or required as prerequisites for some upper division courses.

Upon completion of premajor courses, you must petition for admission into the kinesiology major. Petitions are initiated through the Student Affairs Office in 212 Men's Gym.

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 the expected enrollment date at UCLA. Call the Student Affairs Office for an appointment.

The Major

Required Core Courses: Kinesiology 120, 120L, 122, 122L, 124, 124L, 126, 126L.

A total of eight upper division electives (32 units) is required. Although all eight courses may be taken in kinesiology, six upper division courses (24 units) must be taken in the department. Courses 196A-196B and 400-level courses may not be applied toward this requirement. One or two of the eight 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. Repetition of more than one required core course in which a grade of D or F was received or repetition of any core course more than once may result in dismissal from the major. 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 four upper division kinesiology courses, and identification of a sponsoring faculty adviser. Upon completion of all requirements and with the recommendation of the faculty adviser, the undergraduate affairs committee will confer departmental honors at graduation.

Preparation for Graduate Study

Undergraduate students who plan to do doctoral studies in kinesiology are advised to complete Mathematics 3A and 3B. Students who wish to pursue doctoral studies in biomechanics must complete two full years of calculus. Students interested in graduate study (master's degree or Ph.D.) in areas of physiological kinesiology must complete two full years of chemistry (11A, 11B, 11C, 21, 23, 25). Consult the Student Affairs Office for additional information.

Graduate Study

The department offers Master of Science and Doctor of Philosophy degrees in the following fields:

(1) Exercise physiology — cardiovascular adaptations of exercise, environmental factors influencing work capacity, neuromuscular and metabolic adaptations to exercise, and neuromotor control.

(2) Biomechanical determinants of motor performance.

(3) Motor control, perceptual motor development, and social/psychological determinants of human motor performance.

When applying for graduate work, you should specify an interest in one of these general fields.

Admission

Applicants for graduate study are expected to have completed an undergraduate degree in kinesiology or the equivalent as outlined below under the master's and doctoral programs. A grade-point average of at least 3.0 (B) on all upper division undergraduate coursework is required. A departmental faculty committee considers applicants on the following bases: (1) prior scholastic performance, (2) three letters of recommendation, and (3) applicant's statement of purpose, which should include (a) relevant background or preparation; (b) field of emphasis, specific study interests, and type of research sought; (c) expectations, goals, degree objective; (d) specific courses in the department to be taken and one or two departmental faculty members whose research area parallels the study interest.

A list of faculty names and research interests is available from the department. Applicants are encouraged to communicate directly with the faculty, and personal interviews are encouraged.

Aptitude tests, including the Graduate Record Examination 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) premajor coursework required for the B.S. degree in Kinesiology, (2) the four kinesiology core courses required for the B.S. degree and their laboratories, and (3) one elective from the proposed area of graduate study. Additionally, applicants in the field of exercise physiology should have completed one year of inorganic chemistry, one year of organic chemistry/biochemistry, and two quarters of calculus.

Course Requirements

The Master of Science in Kinesiology requires nine courses: five graduate-level kinesiology courses; two courses from a related field; one second-level statistics or research design course; 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 course 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

In addition to the preparation coursework required for master's students, all doctoral students are expected to have two quarters of calculus. You must show a solid educational background in one of three general fields of kinesiology, and undergraduate and prior graduate work will be evaluated in terms of your declared field of interest.

Major Fields or Subdisciplines

From the three general content fields of the department's instructional and research programs, eight *areas of concentration* have been identified: (1) cardiorespiratory adaptations to exercise; (2) environmental factors influencing work capacity; (3) metabolic aspects of exercise; (4) neuromuscular adaptations to exercise; (5) biomechanics; (6) movement development; (7) movement performance and acquisition; (8) neutral control of movement.

You will select one of the eight areas of concentration as a major and two areas as minors. 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 will be determined in part by the selection of major and minor areas of concentration.

A total of eight departmental courses is required, to be chosen from 207, 208, 209, 211, 212, 221, 230A, 230B, 240, 241, M243, 250, C253, 255, C256, 258, 260, 262, 291A, 291B, 291C, 292A, 292B, 292C, M292D, 294A, 294B, 294C, 295A, 295B, 295C. Two of the eight courses must be seminars. One 596 course may be applied as a nonseminar elective.

A minimum of four courses or 16 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. Two department-approved advanced statistics courses are also required.

Each student must complete one foreign language competency test (scoring 500 or better on an Educational Testing Service Graduate Foreign Language Test) or demonstrate alternate competencies by completing courses in electronics, computer programming, or advanced statistics and research design.

First-Year Doctoral Review

After completion of three quarters of coursework, the graduate affairs committee will conduct a doctoral review to determine whether you (1) continue in the doctoral program, (2) enter the master's program, or (3) discontinue graduate study in the department. The review must be completed by the end of the fourth quarter of graduate work as a doctoral student.

Teaching Experience

Each candidate will serve in an instructional capacity for a minimum of two quarters. All teaching evaluations will become a permanent part of your departmental record.

Qualifying Examinations

Each doctoral student must take three written qualifying examinations: one in a major area and one in each of two minor areas. Written qualifying examinations may be taken when the student and guidance committee consider appropriate. These examinations, administered once per academic quarter, will be scored (1) passed at the Ph.D. level of achievement, (2) passed at the master's level of achievement, or (3) failed. To continue in the doctoral program, you must pass each examination at the Ph.D. level of achievement. If you fail to do so, you may (1) complete the master's degree, (2) discontinue graduate work in the department, or (3) reschedule the area examinations once at the discretion of the guidance committee.

After successfully passing the departmental written qualifying examinations, a University Oral Qualifying Examination will be conducted by the doctoral committee. Normally, the examination will be held the quarter following the completion of written examinations, all coursework, and two quarters of research work with your major professor. If you do not pass, the examination may be rescheduled at the discretion of the doctoral committee.

After advancement to candidacy, you must complete and submit a dissertation which meets the approval of the doctoral committee.

Final Oral Examination

A final oral examination is generally required, although the members of the doctoral committee who are to approve the dissertation have the option to waive it in exceptional cases. The major emphasis in this examination will be a defense of the dissertation.

Lower Division Courses

12. Introduction to Human Physiology (1½ courses). Lecture, five hours; laboratory, three hours. Prerequisites: Biology 5 or 7, Chemistry 15 and 15L or 23, Physics 3B. An introduction to human physiology. Mr. Chandler, Mr. Vailas (W,Sp)

13. Introduction to Human Anatomy (1½ courses). 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 skeletomuscular, nervous, circulatory, respiratory, digestive, and genitourinary systems. Laboratory includes examination of human cadaver specimens. Mr. Rahlmann (W)

14. Human Neuromuscular Anatomy (1½ courses). Lecture, four hours; laboratory, four hours. A thorough study of the skeletal, articular, muscular, and nervous systems. Special emphasis is placed on relating these body structures to human movement capabilities. Laboratory includes examination of prosected human cadaver specimens. Mr. Rahlmann (F, Sp)

Upper Division Courses

105. Movement Taxonomy and Composition. Lecture, three hours; laboratory, two hours. Prerequisites: course 14, upper division standing. Clarification and organization of movement concepts through the study of definition, classification, division, and composition of human movement. Ms. Brown

106. Theories of Kinesiology. Prerequisite: upper division standing. A study of ethical, logical, and aesthetic valuing in human movement and human development, with special consideration given to traditional and modern approaches. Ms. Brown

115. Aquatic Kinesiology. Lecture, three hours; laboratory, two hours. Prerequisites: courses 124, 124L. A study of man's adaptation to the aquatic environment. Mr. Egstrom

116. Exercise and Cardiovascular Function. Prerequisites: courses 120, 122, 124, 126. A consideration of the acute and chronic effects of exercise in the diagnosis, prevention, and treatment of cardiovascular disorders and physical fitness. Mr. Barnard, Mr. Gardner

117. Conditioning for Maximum Performance. Prerequisites: courses 124, 124L. Study of factors and conditions accelerating and retarding levels of performance and work under various physiological and environmental conditions. Mr. Egstrom, Mr. Gaesser

118. Cellular Dynamics of Exercise. Prerequisites: courses 124, 124L, 126, 126L. Cellular responses to acute and chronic exercise. Mr. Gaesser, Mr. Vailas

119. Laboratory Experimentation in Exercise Biology. Lecture, two hours; laboratory, six hours. Prerequisites: course 118 and consent of instructor. Assessment of biochemical properties of muscle and blood, histochemistry of muscle, physiological properties of muscular and cardiorespiratory systems during exercise. Mr. Gaesser, Mr. Vailas

120. Behavioral Bases of Movement. Prerequisites: Psychology 10 and an introductory course in statistics. An examination of motor performance and motor learning and the influence of selected physiological variables upon human movement. Ms. Duda, Ms. Scanlan, Mr. Schmidt, Ms. Shapiro (F,Sp)

120L. Laboratory in Behavioral Bases of Movement (¼ course). Corequisite: course 120. Ms. Duda, Ms. Scanlan, Mr. Schmidt, Ms. Shapiro (F,Sp)

122. Biomechanical Bases of Movement. Prerequisites: courses 12, 14, Physics 3A. Kinematic and kinetic principles underlying human movement, focusing on the human neuromuscular and skeletal systems. Mr. Gregor, Mr. Zernicke (F,W)

122L. Laboratory in Biomechanical Bases of Movement (¼ course). Corequisite: course 122. Mr. Gregor, Mr. Zernicke (F,W)

124. Cardiorespiratory Bases and Environmental Factors Affecting Movement. Prerequisites: courses 12, 14. Response of the cardiovascular and respiratory systems to acute and chronic exercise, environmental stress, and adaptation. Mr. Barnard, Mr. Egstrom, Mr. Gardner (F,Sp)

124L. Laboratory in Cardiorespiratory Bases and Environmental Factors Affecting Movement (¼ course). Corequisite: course 124. Mr. Barnard, Mr. Egstrom, Mr. Gardner (F,Sp)

126. Neuromuscular and Metabolic Bases of Movement. Prerequisites: courses 12, 14. Metabolic, muscular, and neural processes underlying movement and adaptation to exercise. Mr. Chandler, Mr. Edgerton, Ms. Smith (W,Sp)

126L. Laboratory in Neuromuscular and Metabolic Bases of Movement (¼ course). Corequisite: course 126. Mr. Chandler, Mr. Edgerton, Ms. Smith (W,Sp)

132. Biomechanics of Musculoskeletal Injury. Prerequisites: courses 122, 122L, and consent of instructor. Anatomical, physiological, and mechanical characteristics of cartilaginous, fibrous, and bony tissues are examined in normal and abnormal stress situations. Connective tissue growth processes, normal physiology, and repair mechanisms are analyzed in conjunction with musculoskeletal injuries and effects of exercise and physical activity. Mr. Zernicke

134. Electromyographic Assessment. (Formerly numbered 134A.) Lecture, three hours; laboratory, two hours. Prerequisites: courses 122, 122L. Techniques of electromyographic analysis combining theoretical aspects with laboratory experiences. Mr. Gregor

139. Dissection Anatomy. Lecture, two hours; laboratory, six hours. Prerequisites: courses 122, 122L, and consent of instructor. Study and dissection of upper and lower extremities of human cadavers; dissection of thorax and abdomen limited to musculature and neurovascular supply.

140. Mechanisms of Neuromuscular Control. Prerequisites: courses 126, 126L. Recommended: Psychology 15 or 115. Advanced topics in the neurophysiology of the sensorimotor systems. Mr. Chandler, Ms. Smith

C153. Acquisition of Motor Skills. Prerequisites: courses 120, 120L. An investigation into the principles of the acquisition of motor skills, such as those applicable to industry, musical performance, or sport. Major topic areas include methodological considerations, the structure of practice sessions, feedback and knowledge of results, theories of motor learning, and retention of skills. May be concurrently scheduled with course C253. Mr. Schmidt, Ms. Shapiro

C156. Motor Behavior and Motor Control. Prerequisites: courses 120, 120L. 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 C256.
Mr. Schmidt, Ms. Shapiro

160. Human Movement Development. Prerequisites: courses 120, 120L. Movement development throughout life, with emphasis upon individual and societal determinants. Mr. Cratty, Mr. Keogh

165. Perceptual Motor Education. Prerequisites: courses 120, 120L. Recommended: course 160. Movement problems of the minimally-neurologically handicapped, with emphasis on the clumsy child syndrome. Mr. Cratty, Mr. Keogh

178. Group Dynamics in Sport. Lecture, three hours; laboratory, two hours. Prerequisites: courses 120, 120L, or consent of instructor. Examination of group dynamics in sport. Topics include group productivity, group structure, leadership, motivational factors, cohesion, conflict. Ms. Scanlan

191A-191Z. Proseminars in Kinesiology. Prerequisites: upper division standing and 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 (½ course). Lecture, one hour; fieldwork, six hours. Prerequisites: courses 120, 122, 124, 126, or equivalent, and consent of instructor via course application. Supervised field studies in specific careers related to kinesiology. May be repeated once, but may not be applied toward the major. P/NP grading.
Mr. Gardner and the Staff (F,W,Sp)

196A-196B. Laboratory Practicum in Kinesiology (½ course each). Laboratory, four hours. Prerequisites or corequisites: courses 139 (for 196A) and 119 (for 196B) and consent of instructor. Supervised practicum and training for advanced students who will serve as undergraduate assistants in the basic anatomy or physiology courses in the preparation of laboratory materials and innovative projects. May not be applied toward the B.S. degree requirements.

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.

199A-199ZZ. Special Studies in Kinesiology (½ or 1 course). (Formerly numbered 199.) 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 (identified in course title by two initials). A course application (available in 212 Men's Gym) must be submitted to the Chair on or before the first day of class. A total of eight units of 199 and 199H may be applied toward the B.S. degree requirements.

199HA-199HZZ. Honors Thesis (1 or 2 courses). (Formerly numbered 199H.) Prerequisite: honors program standing. Directed independent research for departmental honors with a faculty member (identified in course title by two initials). A course application (available in 212 Men's Gym) must be submitted to the department Chair on or before the first day of class. A total of eight units of 199 and 199H may be applied toward the B.S. degree requirements.

Graduate Courses

205. Human Movement Theory. Significant theoretical formulations of the body of knowledge of human movement. Ms. Brown

207. Respiratory Function during Exercise. (Formerly numbered 210A.) Prerequisites: courses 124, 124L. Topics include the acute and chronic effects of exercise upon pulmonary gas exchange, gas transport and ventilatory control, and limiting factors to aerobic function. Mr. Gardner

208. Neuromuscular and Metabolic Factors in Exercise. (Formerly numbered 210B.) Prerequisite: course 118 or consent of instructor. Fundamental aspects of skeletal muscle contraction and metabolic demands under various exercise and training conditions, including neural and endocrine mechanisms potentially involved in inducing specific training effects on skeletal muscle, liver, kidney, gastrointestinal tract, and brain. Mr. Edgerton

209. Environmental Factors in Exercise. (Formerly numbered 210C.) Prerequisites: courses 122, 122L, 124, 124L, 126, and 126L, 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. Mr. Egstrom

211. Exercise Cardiovascular Physiology. Prerequisite: Physiology 101. Attention is focused on cardiovascular adaptations to acute exercise as well as adaptations associated with regular exercise training.
Mr. Barnard

212. Cardiovascular Research Techniques. Lecture, one hour; laboratory, four hours. Prerequisites: course 211 and consent of instructor. Course provides 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, 122L, 124, and 124L, or consent of instructor. Biomechanical, physiological, methodological, and behavioral limitations to underwater activities. Mr. Egstrom

230A. Muscle Dynamics. Prerequisites: courses 122, 122L. Recommended: course 134. Integrated study of electrical and dynamic parameters of muscle-action, including topics in length-tension and force-velocity interrelationships; critical analysis of electromyographic and digital computer techniques.
Mr. Gregor

230B. Musculoskeletal Mechanics. Prerequisites: courses 122, 122L, Mathematics 3A, 3B. Mechanical parameters of the moving human musculoskeletal system, including the use of cinematographic, force platform, and digital computer techniques. Topics include biostatistics, biodynamics, and empirical data modeling. Mr. Zernicke

240. Neural Systems for Motor Control. Prerequisites: course 140 and Psychology 115 (or equivalent). Proprioception, the skeletomotor and fusimotor systems and their control by spinal reflexes and supraspinal centers, including the cerebellum, basal ganglia, and cerebral cortices. Ms. Smith

241. Theories of Voluntary Motor Control. Prerequisites: courses 240 and 250. Exploration and discussion of neural control system for voluntary movement, including alpha-gamma linkage and closed versus open loops. Some attention will be given to neural models for motor learning and memory.
Ms. Shapiro, Ms. Smith

M243. Brainstem Control of Rhythmical Movements. (Same as Anatomy M226; lecture is the same as Oral Biology 207, which is ½ course 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 suckling, chewing, swallowing, speech, respiration, and locomotion. Emphasis is on the interaction among brainstem reflexes, pattern generators, and "voluntary" control centers. Mr. Chandler, Mr. Goldberg (F)

250. Behavioral Approach to Motor Control. Prerequisites: course 120, 120L, and consent of instructor. An information processing approach to skill acquisition and performance. Particular emphasis is on current theories of motor control from the behavioral literature. Ms. Shapiro

C253. Acquisition of Motor Skills. Prerequisites: courses 120, 120L. An investigation into the principles of the acquisition of motor skills, such as those applicable to industry, musical performance, or sport. Major topic areas include methodological considerations, the structure of practice sessions, feedback and knowledge of results, theories of motor learning, and retention of skills. May be concurrently scheduled with course C153. Mr. Schmidt, Ms. Shapiro

255. Social Processes and Motor Behavior. Prerequisite: course 178 or consent of instructor. Influence of social psychological processes on motor behavior, with particular attention to the influences of situational variables in the social environment, intrapersonal intervening variables, and the interaction between these external and internal factors on motor behavior. Ms. Scanlan

C256. Motor Behavior and Motor Control. Prerequisites: courses 120, 120L. 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, Ms. Shapiro

258. Dimensions of Movement Behavior. Prerequisites: courses 120, 120L, 160, Education 210A, 210B, or consent of instructor. An exploration of movement behaviors, factors influencing these behaviors, and formulation of hypotheses. Sub-behaviors to be considered are expressive movement, movement preferences, and communicative movement. Mr. Cratty

260. Motor Development. Prerequisite: course 160. Critical analysis of behavioral approaches in the formulation of motor development theory. Mr. Keogh

262. Movement Disorders. Prerequisite: course 160 or 165 or consent of instructor. Current research in developmental and behavioral aspects of movement disorders. Topics include early identification and intervention, perceptual and cognitive relationships, and evaluation of movement training programs.
Mr. Cratty, Mr. Keogh

290. Research Issues in Kinesiology (½ course). Seminar. Prerequisite: consent of instructor. Discussion of current research issues. Topics will be selected by participants in the class. May not be applied toward the M.S. or Ph.D. course requirements. May be repeated as necessary. S/U grading.

291A-291B-291C.Seminars in Biology of Exercise (½ to 1 course each). Prerequisites: courses 207, 208. Selected topics on current issues of the biological aspects of exercise. Students are required to present a two-hour seminar.

292A-292B-292C. Seminars in Biomechanics (½ to 1 course each). Prerequisites: courses 230A, 230B, and consent of instructors. Selected topics in biomechanics of movement. Students are required to present a two-hour seminar.

M292D. Seminar in Vertebrate Morphology (½ course). (Same as Biology M261.) Prerequisite: Biology 110 or consent of instructor. Discussion of current problems in vertebrate morphology and evolution. S/U grading. Ms. Peterson, Mr. Zernicke

294A-294B-294C. Seminars in Neuromuscular Control (½ to 1 course each). Prerequisites: courses 118, 140, and either 208 or 240. Selected topics on the muscular and neural determinants of movement behavior. Students are required to present a two-hour seminar.

295A-295B-295C. Seminars in Movement Development, Learning, and Performance (½ to 1 course each). Prerequisites: courses 240, 250, 260. Selected topics on current issues in development, acquisition, and control of human movement. Students are required to present a two-hour seminar.

375. Teaching Apprentice Practicum (¼ to 1 course). 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.

440. Industrial Kinesiology. Prerequisites: courses 122, 126. Application of the laws and principles of work physiology, biomechanics, and ergonomics in making material things fit for human use.

Mr. Morehouse

495. In-Service Practicum for Teaching Assistants in Kinesiology (½ course). Prerequisite: consent of instructor. Required of all teaching assistants. Supervised practicum in teaching laboratory courses in kinesiology; material preparation and use of teaching aids. May not be applied toward degree objectives. S/U grading.

501. Cooperative Program (½ to 2 courses). Prerequisite: consent of UCLA graduate adviser and Graduate Dean and host campus instructor, department Chair, and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596. Individual Studies for Graduate Students (½ to 2 courses). A petition signed by the faculty sponsor, graduate adviser, and graduate affairs committee chair must be submitted prior to the second week of class. Eight units may be taken for credit; however, only four units may be applied toward the minimum of five graduate courses required for the M.S. degree or toward a kinesiology elective required for the Ph.D. degree.

597. Preparation for M.S. Comprehensive Examination or Ph.D. Qualifying Examination (½ course to 4 courses). To be arranged with faculty member serving as the student's comprehensive examination chair or doctoral committee chair. Course section will be 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 (½ to 4 courses). To be arranged with faculty member serving as the student's thesis committee chair. Course section will be 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 (½ to 4 courses). Course section will be 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, 206-6571

Professors

Rodolfo Alvarez, Ph.D. *(Sociology)*
Shirley L. Arora, Ph.D. *(Spanish)*
Ruben Benitez, Ph.D. *(Spanish)*
Charles F. Bennett, Ph.D. *(Geography)*
C. Rainer Berger, Ph.D. *(Anthropology, Geography, and Geophysics)*
Lester Breslow, M.D., M.P.H. *(Public Health)*
William O. Bright, Ph.D. *(Linguistics and Anthropology)*
E. Bradford Burns, Ph.D. *(History)*
Leland S. Burns, Ph.D. *(Architecture and Urban Planning)*
Robert N. Burr, Ph.D. *(History)*
Bertram Bussell, Ph.D. *(Engineering and Applied Science)*
Martin L. Cody, Ph.D. *(Biology)*
Roger Detels, M.D., M.S. *(Public Health)*
Christopher Donnan, Ph.D. *(Anthropology)*
Elsie Dunin, M.A. *(Dance)*
David K. Eiteman, Ph.D. *(Finance)*
Walter A. Fogel, Ph.D. *(Management)*
Howard Freeman, Ph.D. *(Sociology)*
John Friedmann, Ph.D. *(Architecture and Urban Planning)*
Juan Gómez-Quiñones, Ph.D. *(History)*
Edward Gonzalez, Ph.D. *(Political Science)*
Patricia M. Greenfield, Ph.D. *(Psychology)*
Thomas R. Howell, Ph.D. *(Biology)*
Claude L. Hulet, Ph.D. *(Portuguese)*
Derrick B. Jelliffe, M.D., D.T.M., D.C.H., F.R.C.P. *(Public Health and Pediatrics)*
Allan Johnson, Ph.D. *(Anthropology)*
John G. Kennedy, Ph.D., *in Residence (Anthropology and Biobehavioral Sciences)*
Frederick C. Kintzer, Ed.D. *(Education)*
William P. Knapp, Ph.D. *(Engineering and Applied Science)*
Thomas J. La Belle, Ph.D. *(Education)*
James Lockhart, Ph.D. *(History), Chair, M.A. Committee*
Owen R. Lunt, Ph.D. *(Biology)*
Gerardo Luzuriaga, Ph.D. *(Spanish), Chair, B.A. Committee*
Robert H. Mason, Ph.D. *(International Business)*
Clement W. Meighan, Ph.D. *(Anthropology)*
Frank G. Mittelbach, M.A. *(Management)*
Alfred K. Neumann, M.D., *in Residence (Public Health)*
Henry B. Nicholson, Ph.D. *(Anthropology)*
Park S. Nobel, Ph.D. *(Biology)*
Russell R. O'Neill, Ph.D. *(Engineering and Applied Science)*
Antony R. Orme, Ph.D. *(Geography)*
C. P. Otero, Ph.D. *(Spanish and Romance Linguistics)*
José Oviedo, Ph.D. *(Spanish)*
Amado M. Padilla, Ph.D. *(Psychology)*
Richard L. Perrine, Ph.D. *(Engineering and Applied Science)*
Stanley L. Robe, Ph.D. *(Spanish)*
Milton I. Roemer, M.D., M.P.H. *(Public Health)*
Jonathan D. Sauer, Ph.D. *(Geography)*
C.A. Schroeder, Ph.D. *(Botany)*
Carol Scothorn, M.A. *(Dance)*
Allegra Snyder, M.A. *(Dance)*
Edward W. Soja, Ph.D. *(Architecture and Urban Planning)*
Robert M. Stevenson, Ph.D. *(Music)*
Norman J. W. Thrower, Ph.D. *(Geography)*
Hartmut Walter, Ph.D. *(Geography)*
Louis Jolyon West, Ph.D. *(Psychiatry)*
Johannes Wilbert, Ph.D. *(Anthropology)*
James W. Wilkie, Ph.D. *(History)*
Robert M. Williams, Ph.D. *(Business Economics)*
Telford H. Work, M.D., M.P.H., D.T.M.H. *(Public Health)*
Joe Yamamoto, M.D., *in Residence (Psychiatry)*
Maurice Zeitlin, Ph.D. *(Sociology)*
Henry J. Bruman, Ph.D., *Emeritus (Geography)*
Mildred E. Mathias, Ph.D., *Emeritus (Botany)*

Associate Professors

Paul Abramson, Ph.D. *(Psychology)*
Ichak Adizes, Ph.D. *(Management)*
Theodore Anderson, Ph.D. *(Business Economics and Finance)*
George Bedell, Ph.D. *(Linguistics)*
Daniel M. Berry, Ph.D. *(Engineering and Applied Science)*
Alfonso F. Cardenas, Ph.D. *(Engineering and Applied Science)*
Albert Chang, M.D., M.P.H. *(Public Health)*
E. Mayone Dias, Ph.D. *(Spanish and Portuguese)*
Timothy Earle, Ph.D. *(Anthropology)*
Leo Estrada, Ph.D. *(Architecture and Urban Planning)*
Pierre-Michel Fontaine, Ph.D., *Acting (Political Science)*
Ralph R. Frerichs, Dr.P.H., M.P.H. *(Public Health)*
Mario Gerla, Ph.D. *(Engineering and Applied Science)*
Simon Gonzalez, Ed.D. *(Education)*
John N. Hawkins, Ph.D. *(Education)*
Henry A. Hespenheide, Ph.D. *(Biology)*
Marvin Karno, M.D., *in Residence (Psychiatry)*
Cecelia F. Klein, Ph.D. *(Art)*
David M. Kunzle, Ph.D. *(Art)*
David E. Lopez, Ph.D. *(Sociology)*
Pamela Munro, Ph.D. *(Linguistics)*
Alfred E. Osborne, Ph.D. *(Management)*
David O'Shea, Ph.D. *(Education and Sociology)*
A. Carlos Quícoli, Ph.D. *(Portuguese and Romance Linguistics)*
Dwight W. Read, Ph.D. *(Anthropology)*
Richard M. Reeve, Ph.D. *(Spanish)*
Hans Schollhammer, M.B.A., D.B.A. *(Management)*
Susan Scrimshaw, Ph.D. *(Public Health and Anthropology)*
John Skirius, Ph.D. *(Spanish)*

Assistant Professors

Sebastian Edwards, Ph.D. *(Economics)*
Margaret FitzSimmons, Ph.D. *(Architecture and Urban Planning)*
Teshome H. Gabriel, Ph.D. *(Theater Arts)*
Robert A. Hill, M.Sc. *(History)*
Fred Loya, Ph.D., *in Residence (Psychiatry)*
Rebecca Morales, Ph.D. *(Architecture and Urban Planning)*
Susan Plann, Ph.D. *(Spanish)*
Jorge Preloran, B.A. *(Theater Arts)*
Kathleen Rockhill, Ph.D. *(Education)*
Michael Storper, Ph.D. *(Architecture and Urban Planning)*
Concepción Valadez, Ph.D. *(Education)*
Carlos G. Velez-I., Ph.D. *(Anthropology)*

Lecturers

José M. Cruz-Salavadores, M.A. *(Spanish)*
Ludwig Lauerhass, Ph.D. *(History)*
Emilio Pulido-Huizar, B.A.C. *(Dance)*
George L. Voyt, J.D. *(Spanish)*

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 fifty years. More than 100 faculty members from 22 departments and professional schools regularly offer a broad range of courses with an emphasis on Latin America. These course offerings in the humanities, social sciences, fine arts, and professional fields provide students a unique opportunity to focus on Latin America, a region of growing importance.

The Latin American Studies Program, coordinated through UCLA's Latin American Center, offers the Bachelor of Arts and Master of Arts degrees. In the undergraduate major students develop a program combining language and methodological training with interdisciplinary studies in one of three areas: arts and humanities, social sciences, or ecology and environment. At the graduate level, students pursue more specialized coursework and interests,

culminating in an interdisciplinary research study. Cooperative degree programs with the UCLA Schools of Architecture and Urban Planning, Education, Engineering and Applied Science, Library and Information Science, Management, and Public Health provide the opportunity to combine the M.A. in Latin American Studies with a master's degree in a professional field.

Bachelor of Arts Degree

Undergraduate studies of the Latin American region are designed to serve the needs of (1) students desiring a general education focused on the Latin American cultural region; (2) students planning to enter business, government, or international agency service; (3) students preparing to teach social science or language; and (4) students preparing for advanced academic study of Latin America.

For the undergraduate major in Latin American studies, you must meet the requirements given in the University catalog for the academic year prior to the year of graduation.

Preparation for the Major

You must complete all preparation courses with a C (2.0) in each course. Courses may be taken on a Passed/Not Passed basis and are applicable on the college's lower division breadth requirements.

Core Areas

You will choose 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.

Foreign Language Requirement

Language requirements are uniform for all students in the major regardless of core area. Proficiency in two languages equivalent to (1) Spanish 25 and Portuguese 3 or (2) Portuguese 25 and Spanish 5 is required. In lieu of Portuguese 1, 2, and 3, you may take Portuguese 102A-102B which is designed for students with a background in Spanish. An indigenous language of Latin America may be substituted for the minor language.

Core I: Arts and Humanities

Preparation: Two courses from History 8A, 8B, 8C; Latin American Studies 99 (or 197 by department consent); Spanish and Portuguese M44; Art 55 or Music 81K and Dance 71J.

Core Area: Ten upper division courses from the approved list distributed as follows:

(1) *Core Concentration:* Five courses from literature and folklore or fine arts (art, music, dance, theater arts) or linguistics. Only one course from the electives list may be applied toward the core concentration.

(2) *Theory and Methods:* One course from theory and methods.

(3) *Internal Breadth:* Four additional courses from the arts and humanities core area but outside the core concentration. No more than two of these may be electives.

External Breadth: From the approved list, six upper division courses outside the arts and humanities core area distributed as follows: two courses in each of two core concentrations such that at least one core concentration is chosen from the social science core (e.g., history) and at least one is developed within the ecology and environment core (e.g., public health). No more than three external breadth courses may be chosen from electives.

Approved Undergraduate Course List

(1) Literature and Folklore

Folklore and Mythology M149. Folk Literature of the Hispanic World

History 169. Latin American Elitelore

Portuguese (Spanish and Portuguese) 121A, 121B. Survey of Brazilian Literature

C127. Colonial Brazilian Literature

C129. Romanticism in Brazil

C135. Naturalism, Realism, and Parnassianism in Brazil

C137. Contemporary Brazilian Literature

Spanish (Spanish and Portuguese) 121A-121B. Survey of Spanish American Literature

137. The Literature of Colonial Spanish America

139. 19th-Century Spanish American Literature

141. Mexican Literature

142A. Spanish American Literature in the 20th Century: Poetry and Drama

142B. Spanish American Literature in the 20th Century: Fiction and the Essay

M149. Folk Literature of the Hispanic World

170B. Senior Seminar: Topics in Spanish American Literature

Theory and Methods

Folklore and Mythology 101. Introduction to Folklore

190. Selected Topics in Folklore and Mythology Studies

199. Special Studies in Folklore

Portuguese (Spanish and Portuguese) 199. Special Studies

Spanish (Spanish and Portuguese) 119. Literary Analysis

199. Special Studies

(2) Fine Arts

Art C117A. Advanced Studies in Pre-Columbian Art: Mexico

C117B. Advanced Studies in Pre-Columbian Art: Central America

C117C. Advanced Studies in Pre-Columbian Art: The Andes

118B. The Arts of Pre-Columbian America

Dance 146. Dance in Latin America

171J. Dance of Mexico

Music 131A-131B. Music of Hispanic America

157. Music of Brazil

Theater Arts 106C. History of African, Asian, and Latin American Film

Theory and Methods

Anthropology *118A, 118B. Museum Studies

*133R. Aesthetic Anthropology

*137. Ethnography on Film

Art *199. Special Studies in Art

Dance *199. Special Studies in Dance

Music *M180. Analytical Approaches to Folk Music

*C190A-C190B. Proseminar in Ethnomusicology

*199. Special Studies in Music

Theater Arts 199. Special Studies in Theater Arts

(3) Linguistics

Portuguese (Spanish and Portuguese) 100. Phonology and Pronunciation

*103. Syntax

*M118. History of the Portuguese and Spanish Languages

Spanish (Spanish and Portuguese) *100. Phonology and Pronunciation

*103. Syntax

*115. Applied Linguistics

*M118. History of the Portuguese and Spanish Languages

*119. Literary Analysis

*170C. Senior Seminar: Topics in Hispanic Linguistics

Theory and Methods

Anthropology *143A, 143B. Field Methods in Linguistic Anthropology

Linguistics *100. Introduction to Linguistics

*103. Introduction to General Phonetics

*110. Introduction to Historical Linguistics

*120A. Linguistic Analysis: Phonology

*120B. Linguistic Analysis: Grammar

*164. Modern Theories of Language

*C165A. Linguistic Theory: Phonology

*C165B. Linguistic Theory: Grammar

*170. Language and Society: Introduction to Sociolinguistics

*199. Special Studies in Linguistics

Portuguese (Spanish and Portuguese) *199. Special Studies

Spanish (Spanish and Portuguese) *199. Special Studies

(4) Electives

Anthropology *M140. Language in Culture

Folklore *118. Folk Art and Technology

Latin American Studies 197. Interdisciplinary Topics in Latin American Studies

199. Special Studies in Latin American Studies

Music *M154A-M154B. The Afro-American Musical Heritage

Philosophy *190. Third World Political Thought

Portuguese (Spanish and Portuguese) 140A-140B. Luso-Brazilian Literature in Translation

Spanish (Spanish and Portuguese) 160B. Hispanic Literatures in Translation: Spanish America and Brazil

Theater Arts 112. Film and Social Change

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*Special courses which may be applied toward the M.A. degree requirements by advanced departmental approval. These courses do not have any exclusive focus on Latin America but provide an opportunity for the student to relate a particular perspective or phenomenon to Latin America.

Core II: Social Sciences

Preparation: Two courses from History 8A, 8B, 8C; Latin American Studies 99 (or 197 by department consent); Economics 1 and 2, or 100; Economics 40 or Sociology 18.

Core Area: Ten upper division courses from the approved list distributed as follows:

(1) *Core Concentration:* Five courses from anthropology and sociology or economics or ge-

ography or history or political science. Only one course from the electives list may be applied toward the core concentration.

(2) *Theory and Methods:* One course from theory and methods.

(3) *Internal Breadth:* Four additional courses from the social sciences core area but outside the core concentration. No more than two of these may be electives.

External Breadth: From the approved list, six upper division courses outside the social sciences core area distributed as follows: two courses in each of two core concentrations such that at least one core concentration is chosen from the arts and humanities core (e.g., fine arts) and at least one is developed within the ecology and environment core (e.g., public health). No more than three external breadth courses may be electives.

Approved Undergraduate Course List

(1) Anthropology and Sociology

Anthropology 114P. Ancient Civilizations of Western Middle America (Nahuatl Sphere)
114Q. Ancient Civilizations of Eastern Middle America (Maya Sphere)
114R. Ancient Civilizations of Andean South America
173P. Cultures of Middle America
173Q. Latin American Communities
174P. Ethnography of South American Indians
*174Q. Ethnology of South American Indians
Sociology 131. Latin American Societies

Theory and Methods

Anthropology *115P. Archaeological Field Training
*115Q. Archaeological Research Techniques
*115R. Strategy of Archaeology
116P. Laboratory Analysis in Archaeology
*M116Q. Dating Techniques in Environmental Sciences and Archaeology
*118A, 118B. Museum Studies
*136P. Ethnology: Field Training
*M136Q. A Laboratory for Naturalistic Observations: Developing Skills and Techniques
*137. Ethnography on Film
*138. Methods and Techniques of Ethnohistory
*186A-186B. Quantitative Methods and Models in Anthropology
*199. Special Studies in Anthropology
Sociology *109. Introduction to Sociological Research Methods
*115. Experimentation and Laboratory Methodology in Sociology
*116. Introduction to Mathematical Sociology
*199. Special Studies

(2) Economics

Economics *110. Economic Problems of Underdeveloped Countries
*111. Theories of Economic Growth and Development
*112. Policies for Economic Development
*190. International Economics
*191. International Trade Theory
*192. International Finance

Theory and Methods

Economics *103A-103Z. Upper Division Research Seminar: Applications of Economic Theory
*M135. Economic Models of the Political Process
*199. Special Studies in Economics
Management *197. Special Topics in Management

(3) History

History 165A-165B. Colonial Latin America
166. Latin America in the 19th Century
167A-167B-167C. Latin America in the 20th Century
168. History of Latin American International Relations
169. Latin American Elitelore
170. Latin American Cultural History
171. The Mexican Revolution since 1910
173. Modern Brazil
174. Brazilian Intellectual History
197. Undergraduate Seminar: Latin America

Theory and Methods

History *101. Introduction to Historical Practice
*199. Special Studies in History
Library and Information Science 111C. Ethnic Groups and Their Bibliographies: Latino History and Culture

(4) Political Science

Political Science 131. Latin American International Relations
139A-139Z. Special Studies in International Relations: Latin America
149A-149Z. Special Studies in Politics: Latin America
163A, 163B. Government and Politics in Latin America
M169A-M169Z. Special Studies in Comparative Government: Latin America
C197B. Seminars for Majors: Latin America
199. Readings in Political Science: Latin America

Theory and Methods

Political Science *C102. The Statistical Analysis of Political Data
*M103. Economic Models of the Political Process
*104A-104B. Introduction to Survey Research
*119A-119Z. Special Studies in Political Theory
*137. International Relations Theory
*146. Political Behavior Analysis
*168S. Comparative Political Analysis

(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
182B. Brazil
*199. Special Study

Theory and Methods

Geography *170. Presentation and Analysis of Geographic Data
*171. Quantitative Analysis

(6) Electives

Anthropology *132. Technology and Environment
*150. Comparative Society
*153A-153B. Production and Exchange in Traditional Societies
*161. Development Anthropology
*M163. Women in Culture and Society
*167. Urban Anthropology
*M168. 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 159A-159B. History of the Chicano Peoples
Latin American Studies 197. Interdisciplinary Topics in Latin American Studies
199. Special Studies in Latin American Studies
Political Science *123. International Organization and Administration
*124. International Political Economy
*167. Ideology and Development in World Politics
*183. Administration of International Agencies and Programs
*188A. Comparative Public Administration
*188B. Comparative Urban Government
*191. Urban and Regional Planning and Development
Sociology *120. Social Change
*123. Social Stratification
*126. Social Demography
*140. Political Sociology

*Special courses which may be applied toward the M.A. degree requirements by advanced departmental approval. These courses do not have any exclusive focus on Latin America but provide an opportunity for the student to relate a particular perspective or phenomenon to Latin America.

Core III: Ecology and Environment

Preparation: Two courses from History 8A, 8B, 8C; Latin American Studies 99 or Geography 5; Mathematics 50A; Computer Science 10S.

Core Area: Ten upper division courses from the approved list distributed as follows:

(1) *Core Concentration:* Five courses from the core area. Only one course from the electives list may be applied toward the core concentration.

(2) *Theory and Methods:* One course from theory and methods.

(3) *Internal Breadth:* Four additional courses from the ecology and environment core area to be chosen 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 chosen from the arts and humanities core (e.g., fine arts) and at least one is chosen from 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 174E. Health, Disease, and Health Services in Latin America

*186. The World's Population and Food

Theory and Methods

Anthropology *186A-186B. Quantitative Methods and Models in Anthropology

Geography *170. Presentation and Analysis of Geographic Data

*171. Quantitative Analysis

Public Health 100A, 100B, 100C. Introduction to Biostatistics

181. Introduction to Social Research Methods in Health

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 *120. Introduction to Urban and Regional Economics

Geography 129. 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

Sociology *126. Social Demography

*Special courses which may be applied toward the M.A. degree requirement by advanced departmental approval. These courses do not have any exclusive focus on Latin America but provide an opportunity for the student to relate a particular perspective or phenomenon to Latin America.

Course Limitations

You may not take more than eight units of course 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.S. 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 will be granted according to the individual programs arranged in consultation with the undergraduate adviser. Proposals must be presented in writing to the interdepartmental committee.

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 field can be admitted, but must complete certain undergraduate prerequisites subsequent to admission. Applicants with Latin American field experience or special methodological studies will be 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 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 1000 on the Combined Verbal and Quantitative Aptitude sections of the Graduate Record Examination.

(5) A resume or curriculum vitae describing academic and Latin American experience.

Students are admitted each quarter. Application deadlines are November 1 for Winter Quarter, February 1 for Spring Quarter, and July 1 for Fall Quarter.

Fellowship applications for the academic year are due on January 31 prior to the Fall Quarter for which application is made. Prospective students may write for departmental brochures to the Academic Programs Office, Latin American Center, 10347 Bunche Hall, UCLA, Los Angeles, CA 90024.

Major Fields or Subdisciplines

You are expected to develop and integrate three fields in Latin American studies, to be selected from the following: anthropology, art, economics, engineering, education, folklore, geography, history, law, library science, linguistics, management, music, political science, Portuguese, public health, sociology, Spanish, theater arts, and urban planning. At least one of the chosen fields must be a social science.

Foreign Language Requirement

Proficiency equivalent to 24 quarter units of university-level Spanish and 12 quarter units of university-level Portuguese *or* 16 quarter units of university-level Portuguese and 20 units of university-level Spanish is required. Since these courses may not be applied toward the M.A. degree, you are encouraged to pass these proficiency levels by examination. A major Indian language of Latin America may be substituted for either Spanish or Portuguese. You must fulfill the foreign language requirements by examination or petition for a waiver of the examination if you have gained competency in another manner (i.e., native speaker, upper division coursework, Peace Corps service).

Course Requirements

Two plans are available. For the comprehensive examination plan, a minimum of nine courses is required, 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 falling 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 of the lecture type.

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 will make recommendations for revision, evaluate the final draft and, if your work meets the University standards of scholarship, will 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 choose 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.

Cooperative Degree Programs

Several options are available to combine the M.A. in Latin American Studies with a professional degree. Upon acceptance by both the Latin American Studies Program and the respective professional school, you may pursue both degrees simultaneously. Articulated degree programs are currently available with the Schools of Architecture and Urban Planning (M.A. in Architecture/Urban Planning), Education (M.Ed. in Curriculum), Engineering and Applied Science (M.S. in Engineering), Library and Information Science (M.L.S.), and Public Health (M.P.H.). A concurrent degree program is available with the Graduate School of Management (M.B.A.).

Individual Ph.D. Programs

You may design an individual doctoral program in Latin American studies. An explicit proposal must be submitted to your M.A. committee for analysis and endorsement, and then be submitted to the Graduate Council for approval.

Lower Division Course

99. Introduction to Latin American Problems. Limited to 15 students. An interdisciplinary seminar for lower division students. May be repeated for credit with topic change.

Upper Division Courses

M155. Disease Problems of Socioeconomic and Political Impact in Latin America. (Same as Public Health M115.) Lecture, six hours; discussion, six hours. Prerequisite: 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 (1 or 2 courses). 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 are required.

Graduate Courses

M200. Latin American Research Resources. (Same as History M265 and Library and Information Science M225.) The course will acquaint students with general and specialized materials in fields concerned with Latin American studies. Library research techniques will 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 course will acquaint students with the contemporary statistical materials important for research in Latin American studies. Discussion will focus 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.

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. A seminar devoted to selected topics of an interdisciplinary nature. Normally, a reading knowledge of Spanish or Portuguese is essential.

501. Cooperative Program (½ to 2 courses). Prerequisite: consent of UCLA graduate adviser and Graduate Dean and host campus instructor, department Chair, and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596. Directed Individual Study or Research (½ to 2 courses). May be repeated, but only four units may be applied toward the minimum graduate course requirement. S/U grading.

597. Preparation for M.A. Comprehensive Examination (½ to 2 courses). Course is ordinarily taken only during the quarter in which the student is being examined. S/U grading.

598. Research for and Preparation of M.A. Thesis. Only four units may be applied toward the minimum graduate course requirement. S/U grading.

Approved Graduate Course List

Refer to the Latin American Studies undergraduate section for the lists of approved undergraduate courses.

Fine Arts

Art *201. Historiography of Art History

220. The Arts of Africa, Oceania, and Pre-Columbian America

Dance *226A-226E. Dance Expression in Selected Cultures

Music *280. Seminar in Ethnomusicology

Theater Arts *M209C. Ethnographic Film

*298A-298B. Special Studies in Theater Arts

Languages

Indigenous Languages of the Americas *18A-18B-18C. Elementary Quechua.

Portuguese *1. Elementary Portuguese

2. Elementary Portuguese

3. Intermediate Portuguese

25. Advanced Portuguese

*101A. Advanced Reading and Conversation

*101B. Advanced Composition and Style

102A-102B. Intensive Portuguese

Spanish *1. Elementary Spanish

*1G. Reading Course for Graduate Students

2. Elementary Spanish

2G. Reading Course for Graduate Students

3. Elementary Spanish

4. Intermediate Spanish

5. Intermediate Spanish

25. Advanced Spanish

*105. Intermediate Composition

*109. 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 *M203A-M203B. The Development of the Portuguese and Spanish Languages

*204A-204B. Transformational Grammar

*206. Portuguese Linguistics

Spanish *M203A-M203B. The Development of the Portuguese and Spanish Languages

*204A-204B. Transformational Grammar

*206. Linguistics

*209. Dialectology

*256A-256B. Studies in Linguistics and Dialectology

Literature

Portuguese *M200. Bibliography

C243A. Special Topics in Brazilian Literature: Colonial Literature

C243B. Special Topics in Brazilian Literature: Romanticism in Brazil

C243C. Special Topics in Brazilian Literature: Naturalism, Realism, and Parnassianism

C243D. Special Topics in Brazilian Literature: Contemporary Brazilian Literature

M249. Hispanic Folk Literature

253A. Special Studies in Brazilian Literature: Prose Fiction.

253B. Special Studies in Brazilian Literature: Poetry.

253C. Special Studies in Brazilian Literature: Theater.

Spanish *M200. Bibliography

237. Chroniclers of the Americas

239. Neoclassic and Romantic Prose and Poetry in Spanish America

*240. The Modernist Movement

243. Contemporary Spanish American Poetry

244. Contemporary Spanish American Novel and Short Story

245. Contemporary Spanish American Essay

246. Contemporary Spanish American Theater

M249. Hispanic Folk Literature

277. Studies in Colonial Spanish American Literature

278. Studies in 19th-Century Spanish American Literature

280A. Studies in Contemporary Spanish American Literature: Modernist Poetry

280B. Studies in Contemporary Spanish American Literature: Post-Modernist Poetry

280C. Studies in Contemporary Spanish American Literature: Novel and Short Story

280D. Studies in Contemporary Spanish American Literature: The Essay

*M286B. Studies in Hispanic Folk Literature: Narrative and Drama

*M286C. Studies in Hispanic Folk Literature: Ballad, Poetry, and Speech

Professional

Architecture and Urban Planning. *232. Spatial Planning: Regional and International Development
*234. Seminar in Spatial Development Policy
*235A-235B. Regional Approaches to National Development
*236A. Urban and Regional Economic Development I
*236B. Urban and Regional Economic Development II
*237. Introduction to Regional Planning: The Evolution of Regional Planning Doctrines
239. Special Topics in Urban and Regional Development Policy
246. Housing in Social and Economic Development Policy
253. Social Theory for Planners
Education *203. Educational Anthropology
*204A. Topics and Issues in International and Comparative Education
*204B. Introduction to Comparative Education
*204C. Education and National Development
*204D. Minority Education in Cross-Cultural Perspective
*204E. International Efforts in Education
204F. Nonformal Education in Comparative Perspective
*207. Politics and Education
*238. Cross-National Analysis of Higher Education
*252B. Seminar: Education and Social Change
*253A. Seminar: Current Problems in Comparative Education
253D. Seminar: Latin American Education
*253F. Seminar: Education in Revolutionary Societies
*253H. Seminar: The Chicano/Hispanic and Education
*596. Directed Independent Study
*597. Preparation for Master's Comprehensive Examination or Doctoral Qualifying Examination
*598. Thesis Research
Engineering *596. Directed Individual or Tutorial Studies
*597A. Preparation for M.S. Comprehensive Examination
Law *270. International Law
*271. International Business Transactions
Library and Information Science *207. Seminar on International and Comparative Librarianship
*223. Literature of the Social Sciences
*224. Literature of the Humanities and Fine Arts
M225. Latin American Research Resources
*596. Directed Individual Study or Research
Management *205A. International Business Economics
*205B. Comparative Market Structure and Competition
*205C. Business Forecasting for Foreign Economies
*208. Selected Topics in Business Economics
*234A. Multinational Business Finance
*234B. Advanced Studies in International Finance
*261B. International Marketing Management
*296A. International Business Management
*297A. Comparative and International Management
*297B. International Business Policy
*297C. International Business Law
*297D. International Business Negotiations
*298B. Special Topics in International and Comparative Management
Public Health *214. Infectious and Tropical Disease Epidemiology
*216A. Ecology of Exotic Diseases
*221. Seminar in Epidemiology: Methodology
*222. Seminar in Epidemiology: Infectious and Tropical Disease
*240. Health Care Issues in International Perspective
*260E-260G. Advanced Nutrition
260H. Advanced Nutrition
*262. Seminar in Nutrition
*270. Maternal and Child Nutrition
*M271. Medical Anthropology
*272. Seminar on Current Issues in Maternal and Child Health
*M274A-M274B. Population Policy and Fertility
*M274C. Seminar in Population Policy and Fertility
*M276. Culture and Human Reproduction
*596. Directed Individual Study or Research

Social Science

Anthropology *212P. Selected Topics in Hunter-Gatherer Archaeology
*214. Selected Topics in Prehistoric Civilizations of the New World
*M216. Dating Techniques in Environmental Sciences and Archaeology
*218. Historical Reconstruction and Archaeology
*230P. Ethnology
*232Q. Myth and Ritual
*M232R. South American Folklore and Mythology Studies
233P. Symbolic Anthropology
*239P. Selected Topics in Field Training in Ethnography
*239Q. Analysis of Field Data
*240. Seminar in Language and Culture
*M241. Topics in Linguistic Anthropology
*M247A. Ethnographic Film
251Q. Cultural Ecology of Lowland South America
*253. Economic Anthropology
*260. Urban Anthropology
*261. Comparative Minority Relations
262. The Cultural Context of Health Care
M263. Medical Anthropology
*264. Ethnography of the Mexican/Chicano People in North America
*M267B. Ethnographic Film Direction
M272. Indians of South America
*282. Research Design in Cultural Anthropology
Archaeology *200. Archaeology Colloquium
*259. Fieldwork in Archaeology
Economics *211. Economic Development
*212. Applied Topics in Economic Development
*213A-213B. Selected Problems of Underdeveloped Areas
*221. Urban and Regional Economic Analysis I
*222. Urban and Regional Economic Analysis II
*291. International Trade Theory
*292. International Finance
*293A-293B. International Economics: Selected Topics
Folklore and Mythology *201A, 201B. Folklore Collecting and Field Research
248. Theory and Method in Latin American Folklore Studies
*M249. Hispanic Folk Literature
*M286B. Studies in Hispanic Folk Literature: Narrative and Drama
*M286C. Studies in Hispanic Folk Literature: Ballad, Poetry, and Speech
Geography *251. Seminar: Urban Geography
*M278. Dating Techniques in Environmental Sciences and Archaeology
281. Middle America
282. South America
*292. Advanced Regional Geography: Selected Regions
History 200I. Advanced Historiography: Latin America
201I. Topics in History: Latin America
266A-266B. Seminar in Colonial Latin American History
267A-267B. Seminar in Latin American History: 19th and 20th Centuries
268A-268B. Seminar in Recent Latin American History
Latin American Studies M200. Latin American Research Resources
M250A. Indians of South America
250B. Interdisciplinary Seminar in Latin American Studies
250C. Interdisciplinary Topics in Latin American Studies
Political Science C204. Quantitative Applications
*C218A. Public Administration and Democratic Government
*224A. Studies in Politics: Politics and Economy
*CM229. Urban Government
*C230. Comparative Development Administration
*C231D. International Relations Theory
*235. Selected Topics in Comparative Politics
C250A. Seminar in Regional and Area Political Studies: Latin American Studies
*C253. Seminar in International Relations
*256A-256B. Seminar in Comparative Government
Sociology *235. Social Structure and Social Movements
*259. Social Structure and Economic Change: Historical and Comparative Perspectives
*263. Social Stratification
M287A-M287B. Population Policy and Fertility
*292A-292B-292C. Research Development

*Special courses which may be applied toward the M.A. degree requirements by advanced departmental approval. These courses do not have any exclusive focus on Latin America but provide an opportunity for the student to relate a particular perspective or phenomenon to Latin America.

Linguistics

2113 Campbell Hall, 825-0634

Professors

Stephen R. Anderson, Ph.D.
Raimo A. Anttila, Ph.D. *(Indo-European and General Linguistics)*
William Bright, Ph.D.
Victoria A. Fromkin, Ph.D.
Edward L. Keenan, Ph.D.
Peter Ladefoged, Ph.D. *(Phonetics)*
Paul M. Schachter, Ph.D.
Robert P. Stockwell, Ph.D., *Chair*
Sandra A. Thompson, Ph.D.

Associate Professors

George D. Bedell, Ph.D.
Thomas J. Hinnebusch, Ph.D. *(Linguistics and African Languages)*
Mazisi R. Kunene, M.A. *(African Languages and Literature)*
Pamela L. Munro, Ph.D.
Russell G. Schuh, Ph.D. *(Linguistics and African Languages)*

Assistant Professors
John W. Du Bois, Ph.D.
Bruce P. Hayes, Ph.D.
Patricia A. Keating, Ph.D.

Assistant Professors
Susan R. Curtiss, Ph.D., *Adjunct*
Ian Maddieson, Ph.D., *Adjunct*
Rosa M. Needleman, Ph.D., *Adjunct*
Timothy A. Stowell, Ph.D., *Visiting*

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 linguistics does not mean learning to speak many languages. Linguistics courses draw examples from the grammars of a wide variety of languages, and the more languages a linguist knows about in depth (as distinct from possessing fluency in the use of them), the more likely he or she is 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 have a uniform paradigm, a single optimal approach to the subject. Hence, the courses provide a variety of approaches which reflect the diversity of the field.

In a 1982 survey conducted by the Conference Board of the Associated Research Councils, UCLA's Linguistics Department was judged second 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.

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.

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: In the lower division, you must complete the equivalent of the sixth quarter in two foreign languages or the sixth quarter in one language and the third quarter in each of two others. In addition you must take Linguistics 1 and two of the following courses: Philosophy 31, Psychology 10, one course in cultural anthropology.

The Major

Required: A minimum of eleven upper division or graduate courses, including Linguistics 100, 103, 110, 120A, 120B or 127, and either 164, C165A, or C165B (both C165A and C165B are strongly recommended for students planning to go into linguistics graduate work; course 164 is recommended for students *not* planning to go into linguistics graduate work). The remaining courses are electives, three of which must be upper division linguistics courses, to be selected subject to your adviser's approval. These electives have typically been selected from the following list, though it is not exhaustive: Linguistics C104, 120B, 125, 127, 130, CM135, 140, M146, M150, 160, 164, C165A, C165B, 170, 175, C180, 195, 199 (if four units), African Languages 190, Anthropology 143A, 143B, Philosophy 127A, 127B, 172, Psychology 122, 123, English 121, 122, or advanced courses in a foreign language or literature (beyond the sixth quarter of language instruction). In addition to the eleven 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 101, you have automatically satisfied the requirement of the sixth quarter of work in one language).

Course 195 is recommended for students planning to pursue graduate work in linguistics, since it provides a unique opportunity to engage in independent research and to write a paper which can be used as evidence by graduate admissions committees. To enroll in course 195, you must consult with the department's senior essay counselor.

Honors in Linguistics

Honors in linguistics will be 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.

Bachelor of Arts in Linguistics and Computer Science

Admission to the major is contingent on passing the following courses with a grade-point average of 3.3 or better and no grade lower than a C: Linguistics 1, 100, Philosophy 31, Engineering 10C, and Computer Science 20.

Preparation for the Major

Required: Linguistics 1, Engineering 10C, Computer Science 20, 30, Mathematics 31A, 31B, Philosophy 31, completion of the sixth quarter in a foreign language and the third quarter in a second foreign language. Mathematics 31A and 31B must be passed with grades of C or better.

The Major

Required: Fourteen upper division courses as follows: Linguistics 100, 103, C104, 120A, 120B or 127, either 164, C165A, or C165B (the last of these being most strongly recommended for this major), C180, two upper division electives in linguistics, Computer Science 111, 131, 132, 141, 181. When available, Linguistics 145 is strongly recommended.

Bachelor of Arts in Linguistics and English

Preparation for the Major

Required: Linguistics 1, English 3, 10A, 10B, 10C, Philosophy 31, completion of the sixth quarter in 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 or 127, either 164, C165A, or C165B, two upper division electives from other linguistics courses; English 121, 122, 140A, and four electives chosen 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: Linguistics 1, 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 or 127, either 164, C165A, or C165B, two upper division electives in linguistics, French 100A, 100B, 100C, 103, 105, 106, and two elective upper division literature courses.

Bachelor of Arts in Linguistics and Italian

Preparation for the Major

Required: Linguistics 1, Italian 1, 2, 3, 4, 5, 25, Latin 1, 2, 3, completion of the third quarter in another 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 or 127, either 164, C165A, or C165B, two upper division electives in linguistics, Italian 102A, 190, and three additional upper division electives in Italian.

Bachelor of Arts in Linguistics and Oriental Languages

Preparation for the Major

Required: Completion of the sixth quarter in either Chinese or Japanese; Linguistics 1; Philosophy 31; one course in cultural anthropology; either Oriental Languages 40A or 40B, as appropriate; completion of the sixth quarter in another foreign language or the third in each of two others.

The Major

Required: Linguistics 100, 103, 110, 120A, 120B or 127, either 164, C165A, or C165B, one upper division elective in linguistics; for the classical Japanese track: Oriental Languages 119A-119B, 129, 137, 175, 179A, 179B; for the modern Japanese track: Oriental Languages 119A-119B, 175, three courses chosen from 134A, 134B, 142A, 142B, 145, 153A, 153B; for the classical Chinese track: Oriental Languages 13A-13B-13C, 113A-113B, two courses chosen from 152A, 152B, 163A, 163B, 163C; for the modern Chinese track: Oriental Languages 121A-121B-121C, four courses chosen from 122A, 122B, 124A, 124B, 124C, 126, 151A, 151B.

Bachelor of Arts in Linguistics and Philosophy

Preparation for the Major

Required: Linguistics 1; Philosophy 31 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 language and the third quarter in each of two others.

The Major

Required: Fourteen upper division courses as follows: Linguistics 100, 103, 120A, 120B or 127, C165B, three upper division electives in linguistics; six upper division courses in philosophy, including at least five from Philosophy 126A-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: Linguistics 1, Psychology 10, 41, 42, completion of the sixth quarter in a foreign language and the third quarter in a second foreign language. Computer Science 10S is strongly recommended.

The Major

Required: Fourteen upper division courses as follows: Linguistics 100, 103, 120A, 120B or 127, 130, 195, two upper division electives in linguistics, Psychology 110, 120, 121, 122 or 123, 130, and the remaining elective to be chosen 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: Linguistics 1, 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 or 127, 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: Linguistics 1, Spanish 1, 2, 3, 4, 5, 25, M42, M44, completion of a 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 or 127, either 164, C165A, or C165B, two additional upper division courses in linguistics (preferably 130 and 170), Spanish 100, 103, 115 or M118, 119, and three additional upper division courses in Spanish.

Bachelor of Arts in African Languages

Preparation for the Major

Required: Linguistics 1 and nine courses in African languages chosen from courses 1A through 42C, 199 (six in one language and three in another).

The Major

Required: A minimum of fifteen upper division courses, including three courses in an African language; African Languages 150A-150B, 190, 192; Linguistics 100, 103; three courses selected from English 114, Geography 189, History 125A, 125B, 125C, 126A, 126B, 127A, 127B, 128A, 128B, Linguistics 110, 120A, 120B or 127, 140, M146, 170, Music 143A, 143B, Political Science 166A, 166B, 166C. Linguistics 164 and completion of the sixth quarter in one of the following non-African languages are strongly recommended: French, Dutch-Flemish-Afrikaans, German, Portuguese, Arabic.

Graduate Study

The programs leading to the M.A. and Ph.D. degrees in Linguistics are open to qualified graduate students who are interested in descriptive, theoretical, and historical linguistics. Preparation for graduate study in linguistics should be equivalent in as many respects as possible to the undergraduate curriculum in linguistics.

There is also a graduate program leading to a Ph.D. in Applied Linguistics. It is administered by an interdepartmental committee, not by the Department of Linguistics. The requirements of this 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. Late applications for admission without possibility of consideration for support will be received through March 31.

Applicants are asked to submit a statement of purpose, which should include their background for graduate study in linguistics and their immediate and long-range goals in the field. They should also have at least two scholars under whom they have studied submit letters to the department about their qualifications. Scores on the Graduate Record Examination (verbal, quantitative, and analytical) 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/C200A, C165B/C200B are to be taken prior to graduate courses in their respective areas. At the time of admission, students will be notified which, if any, of the above courses are required as 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 assistant in the department. 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, six core courses in phonetics, phonology, syntax, semantics, and historical linguistics are required. The remaining three (of the nine graduate courses required) may be taken in any area of linguistics, generally aiming toward a doctoral specialization. Except for these electives, no specialization is possible at the M.A. level.

Foreign Language Requirement

You must demonstrate knowledge of one research language before receiving an M.A. and a second research language before advancement to candidacy. Knowledge can be demonstrated by one of four methods: (1) a reading examination administered by the department; (2) a research paper based on extensive sources in the language; (3) a conversation examination showing knowledge in depth; (4) an ETS graduate language examination. One of the languages must have substantial literature on linguistics, the other may serve as a contact language for field research. The latter option must be approved by the departmental language committee. Native speakers of languages other than English may use English to meet one of the foreign language requirements unless English was the language of instruction in their elementary and secondary education. The departmental brochure provides details about the departmentally administered language examinations.

Course Requirements

The M.A. degree requires the completion, with a B average or better, of nine graduate courses in linguistics. The following eight courses are required: C165A/C200A, C165B/C200B, 201A, 202, 203, 206A, 206B, 207. One elective is required and must be a graduate linguistics course. Students who enter without deficiencies will already have taken courses C165A and C165B, so they must take three electives in all. The core courses in the relevant areas are normally considered prerequisite to the proseminars (250-259), which may be repeated for credit with topic change. No more than four units of course 596A or 596B and no more than eight units of course 501 may be applied toward the required nine courses. Courses in the 260 series may be applied as electives for the M.A. if taken for four units.

The following undergraduate courses or equivalents are prerequisite to graduate courses in the corresponding areas: 100, 103, 110, 120A, 120B, C165A, C165B. Linguistics 103 must have been passed with a grade of B or better as prerequisite to courses 210A and 210B. If course 103 is waived on the basis of training elsewhere, you must pass a department examination in practical phonetics. This requirement must be completed before admission into the doctoral program.

No more than two courses (with grades of B or better) may be transferred toward the M.A. from institutions outside the University of California.

Thesis Plan

After completing the required courses and the foreign language examination, students selecting this plan will submit a thesis based on original research to a thesis committee for approval. All students intending to proceed to the Ph.D. must adopt this plan.

If you wish to be considered for advancement into the doctoral program, a copy of the thesis, complete and clearly legible, but not necessarily in final typed form, must be in the hands of the committee at least two weeks before the last day of classes in the quarter. Limits on the length of the thesis are stipulated in the departmental brochure.

Requirements for receiving an M.A. include the filing of a Petition for Advancement to Candidacy form early in the quarter during which you expect to take the degree. The thesis must be typed according to regulations set by the University. Information on these regulations and procedures is available from the Graduate Division.

Comprehensive Examination Plan

After completing the required courses and the foreign language examination, you must pass a comprehensive examination administered by a committee of the faculty. The committee, consisting of four members, is appointed by the Chair. This is normally an oral examination, general in scope, and will result 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 will be considered for admission into the Ph.D. program on the basis of the following: (1) completion of all requirements for the M.A. and (2) the faculty's evaluation of the quality of the M.A. thesis and of the student's overall work and promise.

If you have already received an M.A. in Linguistics from another department or institution, you must fulfill all the requirements expected of an M.A. candidate, including the coursework, unless work elsewhere is equivalent and satisfies the course requirements. Then, there are two possible procedures: (1) you may submit a master's thesis written at another institution or department or (2) if you have not written a thesis elsewhere, you must submit to the evaluation committee a paper equal in depth and scope to a thesis. A committee is appointed and, in either case, once the committee has approved the thesis or paper, it is submitted to the entire faculty who evaluate its quality and your accomplishments and promise.

Major Fields or Subdisciplines

You may specialize in syntax, semantics, phonology, phonetics, language change, typology, sociolinguistics, neurolinguistics, and many language areas, notably African languages and American Indian languages. Other specializations may be possible, depending on the availability of faculty expertise.

Foreign Language Requirement

A doctoral committee cannot be officially appointed until the foreign language requirement has been met. Details are given above under the "Foreign Language Requirement" for the M.A. degree.

Course Requirements

Candidates for the Ph.D. are required to take 36 units of graduate coursework beyond the M.A. requirements. These units must include Linguistics 210A and 210B, unless they have been used to fulfill the M.A. requirement, and eight units in an area distinct from that of the student's major area of concentration. The 36 units may not include courses 275, 597, or 599. Of the 36 units, no more than 12 units may be in course 596A. A maximum of four two-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 the 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 will include all the background necessary for you to pursue research on the specific topic. Reexamination is possible upon recommendation by 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.

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.

Candidate in Philosophy Degree

Students are eligible to receive the C.Phil. degree upon advancement to candidacy for the Ph.D.

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 unique nature of human language, its structure, its universality, and its diversity; language in its social and cultural setting; language in relation to other aspects of human inquiry and knowledge.

2. Language and Social Issues. Prerequisite: course 1 or consent of instructor. A survey of linguistic problems that have social or political importance. Topics include minority languages and dialects (particularly "Black English" and Chicano-American), bilingualism, literacy, second-language education, and language standardization in developing and developed nations.

5. Language in Africa. A survey of the languages spoken in Africa and their social and cultural context; languages found on the African continent; history of African language study; literature in African languages; African languages in the mass media; language policy and planning in modern Africa.

10. 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 abstract rules of English word formation.
Mr. Stockwell

Upper Division Courses

100. Introduction to Linguistics. An introduction to the theory and methods of linguistics: universal properties of human language; phonetic, phonological, morphological, syntactic, and semantic structures and analysis; the nature and form of grammar.

103. Introduction to General Phonetics. Lecture, three hours; laboratory, two hours. Prerequisite or corequisite: course 100 or equivalent. 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. Ms. Keating, Mr. Ladefoged

C104. Experimental Phonetics. Lecture, four hours; laboratory, two hours. Prerequisite: course 103. Survey of the principal techniques of experimental phonetics. Use of laboratory equipment for recording and measuring phonetic phenomena. Concurrently scheduled with course C204.
Mr. Anderson, Ms. Fromkin, Ms. Keating, Mr. Ladefoged

110. Introduction to Historical Linguistics. Prerequisites: courses 100, 103. 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.
Mr. Anttila, Mr. Schuh, Mr. Stockwell

114A. American Indian Linguistics. Strongly recommended prerequisite: course 100. Survey of genetic, areal, and typological classifications of American Indian languages, stressing representative features of phonology, morphology, and syntax; writing systems for American Indian languages; American Indian languages in social and historical context.
Ms. Munro

114B. American Indian Language Structures. Strongly recommended prerequisite: course 100. Course 114A is not prerequisite to 114B. Detailed introduction to the linguistic structure of three different American Indian languages representing at least two separate genetic groupings. Ms. Munro

120A. Linguistic Analysis: Phonology. Prerequisites: courses 100, 103. Descriptive analysis of phonological structures in natural languages; emphasis on insight into the nature of such structures rather than linguistic formalization.
Mr. Bedell, Mr. Bright, Mr. Hayes

120B. Linguistic Analysis: Grammar. Prerequisite: course 100. Course 120A is not prerequisite to 120B. Descriptive analysis of morphological and syntactic structures in natural languages; emphasis on insight into the nature of such structures rather than linguistic formalization.
Mr. Bedell, Mr. Bright, Mr. Stowell

125. Semantics. Prerequisite: course 120B. A survey of the most important theoretical and descriptive claims about the nature of meaning.
Ms. Thompson

127. Syntactic Typology and Universals. Prerequisite: course 100. A study of the essential similarities and differences among languages in the grammatical devices they use to signal the following kinds of concepts: relations between nouns and verbs (case and word order), negation, comparison, existence/location/possession, causation, interrogation, reflexivization, relativization, attribution (adjectives), time (tense and aspect), and backgrounding (subordination). Data from a range of languages will be presented and analyzed. Mr. Keenan, Ms. Thompson

130. Child Language Acquisition: Introduction. Prerequisites: courses 100, 120A, 120B, or consent of instructor. A survey of contemporary research and theoretical perspectives in the acquisition of language. Emphasis on linguistic interpretation of existing data, with some attention to relationship with second-language learning, cognitive development, and other topics. Includes discussion of acquisition of English and other languages and universals of linguistic development. Ms. Keating

CM135. Theoretical Issues in Disorders of Language Development. (Same as Psychiatry CM135.) Lecture, two hours; discussion, two hours. Prerequisites: courses 1 or 100 and 130 or 131, or consent of instructor. Introduction to the field of language disorders of children. The course deals primarily with some clinical syndromes which are associated with delayed or deviant language acquisition: aphasia, autism, mental retardation. Theories regarding etiology and the relationship of these disorders to each other are examined. Such questions as the relationship of cognition to linguistic ability are considered. Concurrently scheduled with Psychiatry CM237/Linguistics CM235. Graduate students are expected to apply more sophisticated knowledge and produce a research paper of greater depth. Ms. Needleman

140. Linguistics in Relation to Language Teaching. Prerequisites: courses 120A, 120B. Aspects of linguistics in relation to the teaching of language, with particular focus on the special problems entailed in the teaching of non-European languages.
Mr. Stockwell

M146. Language in Culture. (Same as Anthropology M140.) Prerequisite: upper division standing or consent of instructor. The study of language as an aspect of culture; the relation of habitual thought and behavior to language; and language and the classification of experience. The course offers a holistic approach to the study of language and emphasizes the relationship of linguistic anthropology to the fields of biological, cultural, and social anthropology, as well as archaeology. Mr. Kroskrity

M150. Introduction to Indo-European Linguistics. (Same as Indo-European Studies M150.) Prerequisites: one year of college-level study (course 3 or better, eight units minimum) of either Greek or Latin and either German or Russian. A survey of the Indo-European languages from ancient to modern times; their relationships and chief characteristics.
Mr. Anttila

160. History of Linguistics through the 19th Century. Prerequisites: courses 120A, 120B. Historical survey of the development of linguistics from Panini through the 19th century, including approaches to grammar, phonology, and language universals.
Mr. Anttila, Mr. Bedell

164. Modern Theories of Language. Prerequisites: courses 120A, and 120B or 127. A critical and historical survey of some of the central claims and types of supporting evidence put forward by transformational theory and by at least one other influential school of contemporary linguistics. About one-third of the course deals with phonology, the remainder with syntax and semantics. Students who plan to take courses C165A, C165B should not take 164.
Mr. Bedell, Mr. Schachter, Mr. Stowell

C165A. Linguistic Theory: Phonology. Prerequisite: course 120A. Concurrently scheduled with course C200A. The theory of generative phonology; the form of phonological rules; formal and substantive phonological universals. Recommended for students who plan to do graduate work in linguistics. While the topics of coverage are the same for undergraduate and graduate students, the depth of reading required of graduate students is greater, with more primary sources included. Also, graduate students are expected to produce a substantially deeper and more thorough research paper.
Mr. Anderson, Mr. Hayes

C165B. Linguistic Theory: Grammar. Prerequisite: course 120B or 127. Concurrently scheduled with course C200B. The form of grammars; word formation and sentence formation; formal and substantive universals in syntax; relation between syntax and semantics. Recommended for students who plan to do graduate work in linguistics. While the topics of coverage are the same for undergraduate and graduate students, the depth of reading required of graduate students is greater, with more primary sources included. Also, graduate students are expected to produce a substantially deeper and more thorough research paper. Mr. Schachter, Mr. Stowell

170. Language and Society: Introduction to Sociolinguistics. Prerequisite: course 100 or consent of instructor. Study of the patterned covariation of language and society; social dialects and social styles in language; problems of multilingual societies. Mr. Du Bois

175. Linguistic Change in English. Prerequisites: courses 110, 120A, 120B. Principles of linguistic change as exemplified through a detailed study of the history of English pronunciation, lexicon, and syntax. Mr. Stockwell

C180. Mathematical Backgrounds for Linguistics. Prerequisites: courses 120A, 120B. Prior mathematics knowledge is not assumed. Introduction to selected topics in set theory, logic and formal systems, modern algebra, and automata theory, with elementary applications to linguistics. Topics vary each quarter. Concurrently scheduled with course C208. Mr. Keenan

195. Senior Essay. Prerequisite: consent of instructor. Limited to senior linguistics majors. An extended piece of writing will be 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.

199. Special Studies in Linguistics (½ to 1 course). Prerequisites: courses 120A, 120B, and consent of instructor. May be repeated for credit.

Graduate Courses

C200A. Linguistic Theory: Phonology. Prerequisite: course 120A. Concurrently scheduled with course C165A. The theory of generative phonology; the form of phonological rules; formal and substantive phonological universals. Recommended for students who plan to do graduate work in linguistics. While the topics of coverage are the same for undergraduate and graduate students, the depth of reading required of graduate students is greater, with more primary sources included. Also, graduate students are expected to produce a substantially deeper and more thorough research paper. Mr. Anderson, Mr. Hayes

C200B. Linguistic Theory: Grammar. Prerequisite: course 120B or 127. Concurrently scheduled with course C165B. The form of grammars; word formation and sentence formation; formal and substantive universals in syntax; relation between syntax and semantics. Recommended for students who plan to do graduate work in linguistics. While the topics of coverage are the same for undergraduate and graduate students, the depth of reading required of graduate students is greater, with more primary sources included. Also, graduate students are expected to produce a substantially deeper and more thorough research paper. Mr. Schachter, Mr. Stowell

201A. Phonological Theory: Current Issues. Prerequisite: course C165A/C200A. Survey of current issues in phonological theory. Mr. Anderson, Mr. Hayes

201B. Phonological Theory in the 20th Century. Prerequisite: course C165A/C200A. Survey of the development of phonological theory in the 20th century. Mr. Anderson, Mr. Bedell

202. Theory of Language Change. Prerequisite: course 110. Survey of current issues in language change. Mr. Anttila, Mr. Schuh, Mr. Stockwell

203. Theory of Phonetics. Prerequisite: course 120A. The preliminaries to speech analysis. Functional anatomy of the vocal organs; fundamental principles of acoustics and of the acoustic theory of speech production; issues in the perception of speech; the nature and design of feature systems for phonetic and phonological analysis. Mr. Anderson, Ms. Keating, Mr. Ladefoged

C204. Experimental Phonetics. Lecture, four hours; laboratory, two hours. Prerequisite: course 103. Survey of the principal techniques of experimental phonetics. Use of laboratory equipment for recording and measuring phonetic phenomena. Graduate students are expected to produce a substantial research paper. Concurrently scheduled with course C104. Mr. Anderson, Ms. Fromkin, Ms. Keating, Mr. Ladefoged

206A. Syntactic Theory: Current Issues in Formal Syntax. Prerequisite: course C165B/C200B. Survey of current issues in formal syntactic theory. Mr. Schacter, Mr. Stowell

206B. Syntactic Theory: Current Issues in Functional and Typological Approaches to Syntax. Prerequisite: course C165B/C200B. Survey of current issues in functional and typological approaches to syntax. Mr. Du Bois, Ms. Thompson

207. Semantic Theory. Recommended prerequisite: course 180 or equivalent. Approaches to the study of meaning. Different offerings of the course will approach semantics from different theoretical perspectives (e.g., formal semantics, functional semantics, interpretive semantics). May be repeated for credit with topic change. Mr. Du Bois, Mr. Keenan

C208. Mathematical Backgrounds for Linguistics. Prerequisites: courses 120A, 120B. Corequisite: course C200B. Prior mathematics knowledge is not assumed. Introduction to selected topics in set theory, logic and formal systems, modern algebra, and automata theory, with elementary applications to linguistics. Topics vary each quarter. Graduate students are expected to complete additional problem sets. Concurrently scheduled with course C180. Mr. Keenan

210A. Field Methods I (1½ courses). Prerequisites: courses C165A/C200A, C165B/C200B. A language unknown to members of the class is analyzed from data elicited from a native speaker of the language. Term papers will be relatively full descriptive sketches of the language. May be repeated for credit with topic change.

210B. Field Methods II (1½ courses). Prerequisite: course 210A in preceding quarter. Because different languages will be 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. Mr. Bright, Ms. Munro, Mr. Schachter

220. Linguistic Areas. Prerequisites: courses 120A, and 120B or 127. Recommended: courses C165A/C200A and 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, Aboriginal Latin America, Far East, etc.). May be repeated for credit with topic change.

225. Linguistic Structures. Prerequisites: courses 120A, and 120B or 127. Recommended: C165A/C200A and C165B/C200B. Phonological and grammatical structure of a selected language and its genetic relationships to others of its family. May be repeated for credit with topic change.

CM235. Theoretical Issues in Disorders of Language Development. (Same as Psychiatry CM237.) Lecture, two hours; discussion, two hours. Prerequisites: courses 1 or 100 and 130 or 131, or consent of instructor. Introduction to the field of language disorders of children. The course deals primarily with some clinical syndromes which are associated with delayed or deviant language acquisition: aphasia, autism, mental retardation. Theories regarding etiology and the relationship of these disorders to each other are examined. Such questions as the relationship of cognition to linguistic ability are considered. Concurrently scheduled with Psychiatry CM135/Linguistics CM135. Graduate students are expected to apply more sophisticated knowledge and produce a research paper of greater depth. Ms. Needleman

M246C. Topics in Linguistic Anthropology. (Same as Anthropology M241.) Prerequisite: consent of instructor. Problems in relations of language, culture, and society. May be repeated for credit.

Proseminars and seminars numbered 250 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 (½ or 1 course). Prerequisite: course C165A/C200A. Courses 201A and/or 203 may be required. Specialized topics in phonetics and phonology. May not be applied toward the M.A. or Ph.D. degree requirements when taken for two units. Meets with course 256A or 256B. May be repeated for credit. S/U (two-unit course) or letter (four-unit course) grading.

252. Topics in Syntax and Semantics I: Proseminar (½ or 1 course). Prerequisite: course C165B/C200B. Course 206A, 206B, or 207 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 or 257B. May be repeated for credit. S/U (two-unit course) or letter (four-unit course) grading.

253. Topics in Language Variation I: Proseminar (½ or 1 course). 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 requiremets when taken for two units. Meets with course 258A or 258B. May be repeated for credit. S/U (two-unit course) or letter (four-unit course) grading.

254. Topics in Linguistics I: Proseminar (½ or 1 course). Prerequisites: courses C165A/C200A, C165B/C200B, consent of instructor. Course 201A, 201B, 202, 203, 206A, 206B, or 207 may be required. Individual proseminars deal with such topics as child language, sociolinguistics, history of linguistic theory, neurolinguistics, languages of the world, psycholinguistics, etc. May not be applied toward the M.A. or Ph.D. degree requirements when taken for two units. Meets with course 259A or 259B. May be repeated for credit. S/U (two-unit course) or letter (four-unit course) grading.

256A. Topics in Phonetics and Phonology II: Proseminar. Prerequisite: course C165A/C200A. Courses 201A and/or 203 may be required. Specialized topics in phonetics and phonology. May be repeated for credit. Meets with course 251. In Progress grading (credit to be given only upon completion of course 256B).

256B. Topics in Phonetics and Phonology II: Proseminar (½ or 1 course). Prerequisite: course 256A. Specialized topics in phonetics and phonology. May be repeated for credit. Meets with course 251. In Progress grading (credit to be given only upon completion of course 256B).

257A. Topics in Syntax and Semantics II: Proseminar. Prerequisite: course C165B/C200B. Courses 206A, 206B, and/or 207 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 upon completion of course 257B).

257B. Topics in Syntax and Semantics II: Proseminar (½ or 1 course). Prerequisite: course 257A. Specialized topics in syntax and semantics. May be repeated for credit. Meets with course 252. In Progress grading (credit to be given only upon completion of course 257B).

258A. 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 upon completion of course 258B).

258B. Topics in Language Variation II: Proseminar (½ or 1 course). Prerequisite: course 258A. Specialized topics in language variation. May be repeated for credit. Meets with course 253. In Progress grading (credit to be given only upon completion of course 258B).

259A. Topics in Linguistics II: Proseminar. Prerequisites: courses C165A/C200A, C165B/C200B, consent of instructor. Course 201A, 201B, 202, 206A, 206B, or 207 may be required. Individual proseminars deal with such topics as child language, sociolinguistics, history of linguistic theory, neurolinguistics, languages of the world, psycholinguistics, etc. May be repeated for credit. Meets with course 254. In Progress grading (credit to be given only upon completion of course 259B).

259B. Topics in Linguistics II: Proseminar (½ or 1 course). Prerequisite: course 259A. Individual proseminars deal with such topics as child language, sociolinguistics, history of linguistic theory, neurolinguistics, languages of the world, psycholinguistics, etc. May be repeated for credit. Meets with course 254. In Progress grading (credit to be given only upon completion of course 259B).

Seminars numbered 260A through 264C may be taken for two units of credit by students who have been formally admitted to the doctoral program only. All others must enroll for four units.

260A-260B-260C. Seminar in Phonetics (½ or 1 course). 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 (½ or 1 course). 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 (½ or 1 course). Discussion, three hours. Prerequisite: consent of instructor. Each course may be taken independently for credit. May not be applied toward the M.A. or Ph.D. degree requirements when taken for two units. May be repeated for credit. S/U grading.

263A-263B-263C. Seminar in Language Variation (½ or 1 course). Discussion, three hours. Prerequisite: consent of instructor. Each course may be taken independently for credit. May not be applied toward the M.A. or Ph.D. degree requirements when taken for two units. May be repeated for credit. S/U grading.

264A-264B-264C. Seminar in Special Topics in Linguistic Theory (½ or 1 course). Discussion, three hours. Prerequisite: consent of instructor. Each course may be taken independently for credit. Special topics may include child language, neurolinguistics, psycholinguistics, sociolinguistics, etc. May not be applied toward the M.A. or Ph.D. degree requirements when taken for two units. May be repeated for credit. S/U grading.

275. Linguistics Colloquium. Prerequisite: completion of the M.A. requirements. Varied linguistic topics, generally presentations of new research by students, faculty, and visiting scholars. S/U grading.

276. Linguistics Colloquium (No credit). Prerequisite: graduate standing. Same as course 275, but taken without credit by students not presenting a colloquium. S/U grading.

375. Teaching Apprentice Practicum (¼ to 1 course). 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.

411A-411B-411C. Research Orientation (¼ course each). (Formerly numbered 411A-411B.) Prerequisite: graduate standing. Sequence of lectures by all faculty of the department, plus faculty from closely related departments and programs, to acquaint new graduate students with the research directions and resources of the department and elsewhere on campus. May not be applied toward the M.A. or Ph.D. requirements. S/U grading.

422. Practicum in Phonetic Data Analysis (½ course). Prerequisite: graduate standing. Workshop in the examination of phonetic data, such as sound spectrograms, oscillographic records, and computer output. May not be applied toward the M.A. or Ph.D. degree requirements. S/U grading.
Ms. Keating, Mr. Ladefoged

433. The Use of Computers in Linguistics (½ course). Prerequisite: graduate standing in linguistics. Guided use of the departmental computer facilities. May not be applied toward the M.A. or Ph.D. degree requirements. S/U grading.
Mr. Hayes, Mr. Ladefoged

495. College Teaching of Linguistics (½ course). Prerequisite: graduate standing. Required of all new teaching assistants. Seminars, workshops, and apprentice teaching. Selected topics including curriculum development, various teaching strategies and their effects, teaching evaluation, and other topics on college teaching. Students receive unit credit toward full-time equivalence, but not toward any degree requirements. S/U grading.

501. Cooperative Program (½ to 2 courses). Prerequisite: consent of UCLA graduate adviser and Graduate Dean and host campus instructor, department Chair, and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596A. Directed Studies (¼ to 2 courses). 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 (¼ to 2 courses). Prerequisite: completion of the M.A. degree requirements. Intensive work with native speakers by students individually. May be repeated for credit. S/U grading.

597. Preparation for M.A. Comprehensive and Ph.D. Qualifying Examinations (¼ to 2 courses). Prerequisite: at least six graduate courses in linguistics. May be taken *only* in the quarters in which students expect to take the comprehensive or qualifying examination. May not be applied toward the M.A. course requirements. May be repeated for credit. S/U grading.

598. Research for M.A. Thesis (¼ to 2 courses). Prerequisite: consent of guidance committee chair. Research and preparation of the 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. Reaearch for Ph.D. Dissertation (¼ to 4 courses). Prerequisite: advancement to doctoral 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. (Formerly numbered 101A-101B-101C.) Lecture, five hours. The major language of East Africa, particularly Tanzania.
Mr. Hinnebusch

2A-2B-2C. Intermediate Swahili. (Formerly numbered 102A-102B-102C.) Prerequisites: courses 1A-1B-1C or consent of instructor. Mr. Hinnebusch

7A-7B-7C. Elementary Zulu. (Formerly numbered 107A-107B-107C.) Lecture, five hours. The most widely spoken of the Nguni languages of South Africa, mutually intelligible with other members of this group. Mr. Kunene

8A-8B-8C. Intermediate Zulu. (Formerly numbered 108A-108B-108C.) Prerequisites: courses 7A-7B-7C or consent of instructor. Mr. Kunene

9A-9B-9C. Elementary Xhosa. (Formerly numbered 109A-109B-109C.) Lecture, five hours. A major Nguni language of South Africa, mutually intelligible with other members of this group. Mr. Kunene

10A-10B-10C. Intermediate Xhosa. (Formerly numbered 110A-110B-110C.) Prerequisites: courses 9A-9B-9C or consent of instructor. Mr. Kunene

11A-11B-11C. Elementary Yoruba. (Formerly numbered 111A-111B-111C.) Lecture, five hours. Prerequisite: consent of instructor. The major language of Western Nigeria.

12A-12B-12C. Intermediate Yoruba. (Formerly numbered 112A-112B-112C.) Prerequisites: courses 11A-11B-11C or consent of instructor.

13A-13B-13C. Elementary Igbo. (Formerly numbered 113A-113B-113C.) Lecture, five hours. The major language of Eastern Nigeria.

14A-14B-14C. Intermediate Igbo. (Formerly numbered 114A-114B-114C.) Prerequisites: courses 13A-13B-13C or consent of instructor.

15A-15B-15C. Elementary Akan. (Formerly numbered 115A-115B-115C.) Lecture, five hours. The major language of Ghana.

21A-21B-21C. Elementary Fula. (Formerly numbered 121A-121B-121C.) Lecture, five hours. The language of the Fulani, spoken in widely scattered areas of West Africa, including major concentrations in Guinea and the Nigeria-Cameroon area.

31A-31B-31C. Elementary Bambara. (Formerly numbered 131A-131B-131C.) 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. (Formerly numbered 132A-132B-132C.) Prerequisites: courses 31A-31B-31C or consent of instructor.

41A-41B-41C. Elementary Hausa. (Formerly numbered 141A-141B-141C.) Lecture, five hours. The major language of Northern Nigeria and adjacent areas. Mr. Schuh

42A-42B-42C. Intermediate Hausa. (Formerly numbered 142A-142B-142C.) Prerequisites: courses 41A-41B-41C or consent of instructor. Mr. Schuh

Upper Division Courses

103A-103B-103C. Advanced Swahili. Prerequisites: courses 2A-2B-2C or consent of instructor. Readings in Swahili literature and the contemporary press. Discussions mainly in Swahili. Mr. Hinnebusch

133A-133B-133C. Advanced Bambara. Prerequisites: courses 32A-32B-32C or consent of instructor. Readings in Bambara literature and the contemporary press. Discussions mainly in Bambara.

143A-143B-143C. Advanced Hausa. Prerequisites: courses 42A-42B-42C or consent of instructor. Readings in Hausa literature and the contemporary press. Discussions mainly in Hausa. Mr. Schuh

150A-150B-150C. African Literature in English Translation. Narrative and didactic oral prose and poetry of Sub-Saharan Africa and written prose and poetry of South Africa. Each course may be taken independently for credit. Mr. Kunene

190. Survey of African Languages. An introduction to the languages of Africa, their distribution and classification, and their phonological and grammatical structures; illustrations from several representative languages, with appropriate language laboratory demonstrations and drills.

192. Comparative Studies in African Languages. Prerequisites: two quarter courses in an African language or course 190. Recommended prerequisite or corequisite: course 110. Comparison of structural and lexical features of a group of closely related languages, such as Southern Bantu, Southwestern Mande, Akan, or Senufo.

199. Special Studies in African Languages (¼ to 1½ courses). Prerequisite: consent of instructor. Instruction or supervised research based on the needs of the individual student in any language or group of languages for which appropriate facilities are available.

Graduate Courses

201A-201B. Comparative Niger-Congo. Prerequisites: Linguistics C165A, C165B, 220. Recommended: three quarter courses in one Niger-Congo language selected from courses 1A-132C, 199. Investigation of relationships within the Niger-Congo family as a whole or within selected branches of the family.

202A-202B-202C. Comparative Bantu. Prerequisites: Linguistics C165A, C165B, 220. Recommended: three quarter courses in one Bantu language selected from courses 1A-10C, 199. Investigation of relationships among the Bantu languages; the extent and external relationships of Bantu. Mr. Hinnebusch

270. Seminar in African Literature. Mr. Kunene

596. Directed Studies (¼ to 2 courses). Directed individual study or research. Four units may be applied toward the M.A. course requirements. May be repeated for credit. S/U grading.

Indigenous Languages of the Americas

Lower Division Courses

18A-18B-18C. Elementary Quechua. (Formerly numbered 118A-118B-118C.) Lecture, five hours. The language of the Incas and its present-day dialects, as spoken in Andean South America.

Related Courses in Other Departments (Other than Language Courses)

Anthropology 143A. Field Methods in Linguistic Anthropology: Practical Phonetics

143B. Field Methods in Linguistic Anthropology: Syntax, Semantics, Textual Cohesion

Arabic (Near Eastern Languages) 280. Structure of Classical Arabic

Armenian (Near Eastern Languages) 210. History of the Armenian Language

Dutch-Flemish and Afrikaans (Germanic Languages) 234. The Structure of Modern Standard Dutch

English 121. The History of the English Language

122. Introduction to the Structure of Present-Day English

210. History of the English Language

M215. Advanced Seminar in the Structure of Present-Day English

218. Celtic Linguistics

240. Studies in the History of the English Language

241. Studies in the Structure of the English Language

English as a Second Language 241K. Contrastive and Error Analysis in the ESL Context

260K. Psycholinguistics and Language Teaching

280K. Language Policy in Developing Countries

Folklore and Mythology 217. Folk Speech

French 204A. Phonology and Morphology from Vulgar Latin to French Classicism

204B. Syntax and Semantics from Vulgar Latin to French Classicism

206. French Linguistics

German (Germanic Languages) 137. Language and Linguistics

217. History of the German Language

230. Survey of Germanic Philology

251. Seminar in Syntax and Phonology of German

252. Seminar in Historical and Comparative German Linguistics

Hebrew (Near Eastern Languages) 190A-190B. Survey of Hebrew Grammar

210. History of the Hebrew Language

Indo-European Studies 210. Indo-European Linguistics: Advanced Course

280A-280B. Seminar in Indo-European Linguistics

Iranian (Near Eastern Languages) 211A-211B. Modern Iranian Dialects

Italian 259A. History of the Italian Language

259B. The Structure of Modern Italian

259C. Italian Dialectology

Latin (Classics) 240. History of the Latin Language

Oriental Languages 175. The Structure of the Japanese Language

223. History of the Japanese Language

Philosophy 127A, 127B. Philosophy of Language

172. Philosophy of Language and Communication

287. Seminar: Philosophy of Language

Portuguese (Spanish and Portuguese) 100. Phonology and Pronunciation

103. Syntax

M118. History of the Portuguese and Spanish Languages

M203A-M203B. The Development of the Portuguese and Spanish Languages

M251. Studies in Galegan-Portuguese and Old Spanish

Psychiatry 249A-249B. Language Disorders of Childhood

257A-257B-257C. Diagnostics and Therapeutics of Language Disabilities

Psychology 122. Language and Communication

123. Psycholinguistics

260A-260B. Proseminar in Cognitive Psychology

Russian (Slavic Languages) 121. Russian Phonology

122. Russian Morphology

123. Historical Commentary on Modern Russian

204. Introduction to the History of the Russian Literary Language

241. Topics in Russian Phonology

242. Topics in Russian Morphology

243. Topics in Historical Russian Grammar

263. Russian Dialectology

264. The History of the Russian Literary Language

265. Advanced Russian Syntax

266. Russian Lexicology

Semitics (Near Eastern Languages) 209A-209B-209C. Comparative Study of the Ethiopian Languages

280A-280B-280C. Seminar in Comparative Semitics

290A-290B-290C. Comparative Morphology of the Semitic Languages

Slavic (Slavic Languages) 202. Introduction to Comparative Slavic Linguistics

242. Comparative Slavic Linguistics

251. Introduction to Baltic Linguistics

262A-262B. West Slavic Linguistics

263A-263B. South Slavic Linguistics

281. Seminar in Slavic Linguistics

282. Seminar in Structural Analysis

Slovak (Slavic Languages) 222. The Structure of Slovak

Sociology 144A. Conversational Structures I

266. Selected Problems in the Analysis of Conversation

267. Selected Problems in Communication

Spanish (Spanish and Portuguese) 100. Phonology and Pronunciation

103. Syntax

115. Applied Linguistics

M118. History of the Portuguese and Spanish Languages

M203A-M203B. The Development of the Portuguese and Spanish Languages

204A-204B. Transformational Grammar

206. Linguistics

209. Dialectology

M251. Studies in Galegan-Portuguese and Old Spanish

256A-256B. Studies in Linguistics and Dialectology

Turkic Languages (Near Eastern Languages) 230A-230B-230C. A Historical and Comparative Survey of the Turkic Languages

Mathematics

6356 Math Sciences, 825-4701

Professors

Richard F. Arens, Ph.D.
Donald G. Babbitt, Ph.D.
Kirby A. Baker, Ph.D.
Robert J. Blattner, Ph.D., *Chair*
Robert F. Brown, Ph.D.
David G. Cantor, Ph.D
C. C. Chang, Ph.D.
S. Y. Alice Chang, Ph.D.
S. Y. Cheng, Ph.D.
Earl A. Coddington, Ph.D.
Julian D. Cole, Ph.D.
Philip C. Curtis, Jr., Ph.D.
Henry A. Dye, Ph.D.
Robert Edwards, Ph.D.
Edward Effros, Ph.D.
Richard S. Elman, Ph.D.

Bjorn Engquist, Ph.D.
Gregory I. Eskin, Ph.D.
Hector Fattorini, Ph.D.
Thomas S. Ferguson, Ph.D.
Theodore Gamelin, Ph.D.
John Garnett, Ph.D.
David Gieseker, Ph.D.
Basil Gordon, Ph.D.
John W. Green, Ph.D.
Mark Green, Ph.D.
Robert E. Greene, Ph.D.
Nathaniel Grossman, Ph.D.
Alfred W. Hales, Ph.D.
Allen E. Hatcher, Ph.D.
Alfred Horn, Ph.D.
Robert I. Jennrich, Ph.D.
Paul B. Johnson, Ph.D.
Paul J. Koosis, Ph.D.
Thomas M. Liggett, Ph.D.
D. Anthony Martin
Ronald Miech, Ph.D., *Vice Chair, Undergraduate*
John J. Millson, Ph.D.
Yiannis N. Moschovakis, Ph.D., *Vice Chair, Graduate*
Barrett O'Neill, Ph.D.
Stanley J. Osher, Ph.D.
Sidney Port, Ph.D.
James V. Ralston, Jr., Ph.D.
Raymond M. Redheffer, Ph.D.
Bruce L. Rothschild, Ph.D.
Leo Sario, Ph.D.
Murray Schacher, Ph.D.
Lloyd S. Shapley, Ph.D.
Robert Steinberg, Ph.D.
Ernst G. Straus, Ph.D.
Masamichi Takesaki, Ph.D.
V. S. Varadarajan, Ph.D., *Vice Chair, Administrative*
James White, Ph.D.
N. Donald Ylvisaker, Ph.D.
M. R. Hestenes, Ph.D., *Emeritus*
Paul G. Hoel, Ph.D., *Emeritus*
S. T. Hu, Ph.D., D.Sc., *Emeritus*
Lowell J. Paige, Ph.D., *Emeritus*
William T. Puckett, Ph.D., *Emeritus*
Robert H. Sorgenfrey, Ph.D., *Emeritus*
Angus E. Taylor, Ph.D., *Emeritus*
Frederick A. Valentine, Ph.D., *Emeritus*

Associate Professors

Pamela Cook-Ioannidis, Ph.D.
Rodolfo De Sapio, Ph.D.
Richard T. Durrett, Ph.D.
David Gillman, Ph.D.
Charles G. Lange, Ph.D.
John R. Steel, Ph.D.

Assistant Professors

Kenneth P. Bube, Ph.D.
Daniel Michelson, Ph.D.
H. David Yingst, Ph.D.

Lecturers

David Cohen, M.A.
Herbert Enderton, Ph.D.
John McGhee, M.A.

Assistant Professors

Daniel Berend, Ph.D., *Hedrick*
Mark Feighn, Ph.D., *Hedrick*
Edmond Griffin, Ph.D., *Hedrick*
Tony Horowitz, Ph.D., *Adjunct*
John Mitchell, Ph.D., *Hedrick*
Ross Pinsky, Ph.D., *Adjunct*
Robert Proctor, Ph.D., *Hedrick*

Scope and Objectives

Gauss has called mathematics the "Queen of the Sciences." It has provided powerful intellectual tools that have made possible tremendous advances in modern science and technology. The Department of Mathematics aims to provide courses of study that will introduce students to the fundamentals of mathematics and allow them to master the most important parts of the subject, both pure and applied. It leads doctoral students to the frontiers of mathematical research, where they can begin to push back those frontiers.

Undergraduate Study

Preliminary Examination in Mathematics

If you wish to enroll in Chemistry 11A and/or Mathematics 1B, 3A, or 31A, you are required to pass the mathematics section of the Chemistry/Mathematics Preliminary Examination. Students with three years or less of high school mathematics must take Level I of this examination; students with three and one-half years or more must take Level II.

This examination may be taken at any one of several times. Students participating in the summer Orientation Program may take the examination on the first morning of their three-day orientation to UCLA. It will also be given during registration week each quarter. In the 1983-84 academic year, it will be given on Tuesday, September 27, 1983; Wednesday, January 4, 1984; and Wednesday, March 28, 1984. For further information, contact the First-Year Chemistry Office, 1037 Young Hall (825-4660) or the Undergraduate Mathematics Office, 6375 Math Sciences (206-6857).

Advanced Placement in Calculus

Students who have taken the Advanced Placement (AP) Calculus AB test and obtained a score of 3 or higher receive five units of credit and Mathematics 31A equivalency. Those who take the BC test and obtain a score of 3 or higher receive 10 units of credit and Mathematics 31A, 31B equivalency.

If you have had calculus in high school but do not have Advanced Placement Test credit, you may take beginning calculus (Mathematics 3A or 31A), or you may seek advanced placement by passing examinations in the subject. Consult the Undergraduate Mathematics Office for further details.

Transfer Students

Transfer students, and UCLA students with 60 or more quarter units of credit, who wish to change their major to one of those offered by the department must have completed 12 quarter units of calculus and have a minimum grade of C in all college-level courses completed. Students who wish to enter the mathematics/computer science major must satisfy further requirements (see "Mathematics/Computer Science" following this departmental section).

Undergraduate Majors

The Mathematics Department offers three majors: mathematics, applied mathematics, and mathematics/applied science. In addition two programs are offered in cooperation with the School of Engineering and Applied Science: the mathematics/computer science and mathematics/system science majors, described following this departmental listing.

The mathematics major is designed for students whose basic interest is mathematics; the applied mathematics major for those interested in the classical relationship between mathematics, engineering, and the physical sciences; and the mathematics/applied science major for individuals who wish to combine the study of mathematics with another particular field of interest. The department also offers an actuarial program, as well as training for those interested in teaching mathematics.

Courses taken to fulfill any of the requirements for any of the mathematics majors must be taken for a letter grade.

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 course 31B, you must do so before completing course 32A).

Bachelor of Arts in Mathematics

Preparation for the Major

Required: Mathematics 31A, 31AL, 31B, 31BL, 32A, 32B, 33A, 33B, and three courses in physical sciences chosen from Chemistry 11, Physics 6 or 8 sequences, Astronomy 101, Atmospheric Sciences 3H, or approved upper division courses in the physical sciences outside of mathematics. All courses required as preparation for the major must be passed with a minimum overall GPA of 2.0, and each of the mathematics courses must be passed with a grade of C– or better.

The Major

Required: Mathematics 110A, 115, 120A, 131A-131B, and at least five additional courses chosen from 106 through 199. These ten 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, 31AL, 31B, 31BL, 32A, 32B, 33A, 33B, Physics 8A, 8C, and two additional courses chosen from Physics 8B, 8D, 8E, Chemistry 11A, 11B. All

courses must be passed with a minimum grade of C –, and you must have a minimum overall GPA of 2.0 for these courses.

The Major

Required: Twelve mathematics courses, including Mathematics 115, 131A, either 131B or 132, 142; two two-quarter sequences chosen 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 chosen 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 twelve courses must be passed with a minimum overall GPA of 2.0.

Bachelor of Arts 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 member, design their own program. In the past, mathematics/applied science majors have combined the study of mathematics with fields such as physics, chemistry, biochemistry, economics, geography, sociology, and anthropology. Two popular variants, the actuarial plan and the mathematics/economics plan, are described later.

Preparation for the Major

Required: Mathematics 31A, 31AL, 31B, 31BL, 32A, 32B, 33A, 33B. Each of these courses 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 chosen from 110A through 199 and seven upper division courses in a related field chosen from one or two departments. Each course must be passed with a minimum overall GPA of 2.0.

If you are interested in this major, you should apply during your sophomore year. A proposed program is drawn up in consultation with a faculty member and is then forwarded for approval by the mathematics/applied science curriculum committee.

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

The actuarial plan, designed especially for students interested in actuarial science, is a variant of the mathematics/applied science major.

Preparation for the Major: Mathematics 31A, 31AL, 31B, 31BL, 32A, 32B, 33A, 33B, 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 in the six calculus courses.

The Major: Seven mathematics courses, including Mathematics 115, either 140A or 141A, 144, 152A, 152B, and two courses from 113, either 140B or 141B, 151, M153; seven outside courses, including Economics 101A, 101B, 102, 147A, 160, and two courses from Management 130, 190, English 131, Economics 145 through 199.

Mathematics/Economics Plan

Preparation for the Major: Mathematics 31A, 31AL, 31B, 31BL, 32A, 32B, 33A, 33B, Economics 1 and 2, and one other social science course.

The Major: Seven mathematics courses, including Mathematics 115, either 110A or 117, 131A, 144, either 150A or 152A, and two courses from 110A through 199; seven economics courses, including Economics 101A, 101B, 102, 144, 145, 147A, and one course from 147A through 199.

The Teaching of Mathematics

The department offers a major in the teaching of mathematics. However, because of insufficient demands, several of the courses required for the major have not been offered during the past two years.

If you are interested in teaching mathematics in the public schools, you must show competence in the field of mathematics (individuals who have earned any one of the degrees offered by the Mathematics Department are deemed to be competent in the field). You must also complete a group of professional courses in education. For more information, contact the Office of Student Services, Graduate School of Education, 201 Moore Hall.

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

Majors who wish to graduate with honors should apply for admission to the honors program. You may enter the program 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 Mathematics 110B-110C or 110BH-110CH and 190 and earning an overall 3.6 GPA in approved upper division and graduate mathematics courses.

If you complete the program, you will be awarded honors upon graduation; if you demonstrate exceptional achievement, you will be awarded highest honors.

Duplications

Credit will be given for at most one course in each of the following groups: (1) 3A, 4A, 31A, 31AH; (2) 3B, 4B, 31B, 31BH; (3) 3B, 3E, 4B; (4) 3C, 3E; (5) Mathematics 140A, 141A, Engineering 124A; (6) Mathematics 144, Engineering 129A; (7) Mathematics 150A, 152A, Engineering 120A; (8) mathematics honors courses and their regular course counterparts.

Graduate Study

Admission

Prospective graduate students in mathematics need not have an undergraduate mathematics major, but they must 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 these 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 Aptitude and Advanced Tests and must submit at least two letters of recommendation from mathematicians who know your recent work.

A booklet, *Graduate Studies in Mathematics at UCLA*, is available from the Graduate Adviser, Department of Mathematics, UCLA, Los Angeles, CA 90024.

Master of Arts Degree

You may earn the M.A. degree under the comprehensive examination plan, either in the basic *(pure mathematics)* program or under 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 chosen from numerical analysis, methods of applied mathematics, or probability/statistics. These tests, prepared by a comprehensive examination committee, are offered early in the Fall Quarter or toward the end of the 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 will also take one quarter of Mathematics 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 courses: Education 100A, 100B, 112, 312, 330A, and 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 will be 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 370 or for any mathematics course numbered 100 through 109, except course 106. In addition, you may not receive degree credit for more than two quarters of Mathematics 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 will 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 courses 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). Foreign 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. At least one of the language examinations must be passed before taking the first oral qualifying examination, and the complete language requirement must be satisfied before taking the final oral examination.

Course Requirements

In the pure mathematics program, you must pass (with a grade of A or B) at least 12 mathematics courses numbered from 205 through 285, 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* within one year after passing the written qualifying examinations.

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 mathematics courses numbered from 205 through 285. 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 for 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 chosen from three areas (applied differential equations, numerical analysis, and probabililty-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.

Final Oral Examination

The final oral examination may be waived by the doctoral committee, with the approval of the Graduate Vice Chair.

Candidate in Philosophy Degree

A student is eligible to receive the C.Phil. degree upon advancement to candidacy for the Ph.D. degree.

Lower Division Courses

1A. Intermediate Algebra (½ course). Mathematics 1A displaces four units on the student's Study List but yields only two units toward a degree. May not be applied toward college breadth requirements. Not open for credit 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.

1B. Precalculus. Lecture, three hours; discussion two hours. Prerequisites: course 1A 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, zeroes of polynomials. Inverse, exponential, and logarithmic functions. Trigonometric functions.

2. Finite Mathematics for Social Science Students. Prerequisite: course 1B or three years of high school mathematics. 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 1B with a grade of C – or better. Not open for credit to students with credit in another calculus sequence. Techniques and applications of the differential calculus.

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. Functions of several variables, vectors, partial differentiation, and multiple integration.

3E. Calculus for Economics Students. Prerequisite: course 3A or 31A with a grade of C – or better. Not open for credit to students with credit for courses 3B, 3C, 4B, 31B. Functions of several variables; techniques of graphing, partial derivatives, maxima and minima, Lagrange multipliers. Exponential functions.

4A-4B. Calculus for Social Science Students. Prerequisite: course 1B or three years of high school mathematics (including trigonometry). **4A.** Functions, graphs, differentiation and integration with applications. **4B.** Further applications of the calculus, differential equations, functions of several variables.

31A. Calculus and Analytic Geometry. Lecture, three hours; discussion, one hour. Prerequisites: at least three and one-half years of high school mathematics (including some coordinate geometry and trigonometry) and successful completion of the Level II Chemistry/Mathematics Preliminary Examination, or completion of course 1B with a grade of C – or better. Differential calculus and applications; introduction to integration.

31AH-31BH. Calculus and Analytic Geometry (Honors Sequence). Lecture, three hours; discussion, one hour. Prerequisites: successful completion of the Level II Chemistry/Mathematics Preliminary Examination or an additional honors placement examination, and consent of instructor. An honors sequence parallel to courses 31A, 31B.

31AL. Laboratory in Scientific Computing (½ course). Prerequisite or corequisite: course 31A. Students with credit for Engineering 10C or 10F or Computer Science 10S may receive only one unit of credit for this course. Introduction to scientific computing and elementary numerical analysis. Evaluation of functions: finding zeros and extrema of functions. Interpolation. Linear equations. Introduction to the Basic and Pascal computer languages.

31B. Calculus and Analytic Geometry. Lecture, three hours; discussion, one hour. Prerequisite: course 31A with a grade of C – or better. Transcendental functions; methods and applications of integration.

31BL. Laboratory in Scientific Computing (½ course). Prerequisites: courses 31AL and 31B (31B may be taken concurrently). Students with credit for Engineering 10C or 10F or Computer Science 10S may receive only one unit of credit for this course. Introduction to scientific computing and elementary numerical analysis. Numerical quadrature. Solution of differential equations. Least squares and orthogonal polynomials. Further study of the Pascal computer language and introduction to the Fortran computer language.

32A. Calculus of Several Variables. Lecture, three hours; discussion, one hour. Prerequisite: course 31B with a grade of C – or better. Introduction to the integral calculus of several variables.

32AH-32BH. Calculus of Several Variables (Honors Sequence). Prerequisites: course 31BH or 31B with a grade of A and consent of instructor. An honors sequence parallel to courses 32A, 32B.

32B. Calculus of Several Variables. Lecture, three hours; discussion, one hour. Prerequisite: course 32A with a grade of C – or better. Introduction to the integral calculus of several variables.

33A. Matrices and Differential Equations. Prerequisite: course 32A or 32AH. Introduction to matrix theory; introduction to differential equations.

33AH-33BH. Matrices, Differential Equations, and Infinite Series (Honors Sequence). Prerequisites: course 32BH or 32B with a grade of A and consent of instructor. An honors sequence parallel to courses 33A, 33B.

33B. Infinite Series. Prerequisite: course 33A or 33AH or consent of instructor. Infinite sequences and series; complex numbers.

38A-38B. Fundamentals of Arithmetic. Lecture, three hours; laboratory, two hours. Prerequisites: sophomore standing, two years of high school mathematics. Designed for prospective elementary teachers (also see Mathematics 104). The real number system, its origins, development, structure, and use. Emphasis is on understanding of arithmetic procedures. Laboratory includes experience with aids and models. **38A.** May not be applied toward Letters and Science breadth requirements. Counting numbers and other subsystems of the rational numbers; sets; operations; relations; algorithms; measurement and approximation; applications. **38B.** Prerequisite: course 38A. May not be applied toward Letters and Science breadth requirements. The real numbers, functions; relations; elementary ideas of number theory; probability and statistics; the microcomputer and simple instructional programs. Other topics appropriate for the elementary classroom.

50A-50B. Elementary Statistics. Lecture, three hours; discussion, one hour. **50A.** Prerequisite: three years of high school mathematics or course 1B or consent of instructor. Not open to students with credit for Economics 40. Descriptive statistics, elementary probability, random variables, binomial and normal distributions. Large and small sample inference concerning means. **50B.** Prerequisite: course 50A. Linear regression and correlation, chi-square tests, design of experiments, analysis of variance, nonparametric statistics, computerized statistical analysis via prepackaged routines.

Upper Division Courses

Mathematics 110A, 115, 117, 120A, 131A-131B, 144, 152A, and 152B are offered each quarter. The remaining upper division courses are usually offered once or twice each year. The tentative class schedule for the forthcoming academic year is posted in the Undergraduate Mathematics Office in February.

General and Teacher Training

100. The Nature of Mathematics. Prerequisite: junior standing. Not open to mathematics, engineering, or physical science majors. Designed to acquaint students in the arts, humanities, and social sciences with the nature of modern mathematics and the mathematical method.

101A-101B-101C. Topics in Algebra. Prerequisite: course 32A (or former course 31C). Course 101A is not open for credit to students with credit for course 110A or 117. A sequence intended primarily for prospective secondary teachers. Group theory, numbers and number systems, relations and equivalence, topics from elementary number theory, the rational numbers, integral domains, rings and fields, the real numbers, cardinals, complex numbers, polynomials, vector spaces, nonconstructibility, nonsolvability. (Course sequence may not be offered every year.)

102A-102B. Topics in Geometry. Prerequisite: course 32A (or former course 31C.) A sequence intended primarily for prospective secondary teachers. Axiomatic methods, advanced topics in Euclidean geometry, hyperbolic and other geometries, constructions, symmetries, isometry and related topics, projective geometry, map coloring, Jordan curve theorem. (Course sequence may not be offered every year.)

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 the primary emphasis is on the subject itself, rather than its social setting, in recent years the course has illustrated a number of class-tested teaching strategies that have been successful with school-age children.

106. History of Mathematics. Prerequisite: course 32A (or former course 31C). Topics in the history of mathematics, with emphasis on the development of modern mathematics.

Algebra, Number Theory, and Logic

110A-110B-110C. Algebra. Prerequisite: course 115 or consent of instructor. **110A.** Not open for credit to students with credit for course 101A or 101B or 117. 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. Prerequisite: course 115 or consent of instructor. Divisibility, congruences, Diophantine analysis, selected topics in the theory of primes, algebraic number theory, Diophantine equations.

112A-112B-112C. Set Theory and Logic. Lecture, three hours; discussion, one hour. Prerequisites: courses 32B, 33B. **112A** deals with informal axiomatic set theory presented as a foundation for modern mathematics. **112B** and **112C** cover predicate logic, formalized theories. Gödel's completeness and incompleteness theorems.

113. Combinatorics. Lecture, 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 games of complete information. Combinatorial existence theorems, Ramsey's theorem.

114A-114B. Computability and Logic. (Formerly numbered 114.) Lecture, three hours; discussion, one hour. Prerequisite: any course in mathematics numbered 110A through 198. Turing machines and recursive functions; Church's thesis; Gödel numbering; unsolvable problems; relative recursiveness and the arithmetical hierarchy. Predicate logic and formal number theory; Gödel's incompleteness theorem; undecidability results. Selected topics from the theory of automata and computational complexity.

115. Linear Algebra. Lecture, three hours; discussion, one hour. Prerequisite: course 33A. Abstract vector spaces; linear transformations and matrices; determinants; similarity; eigenvalues and eigenvectors; inner product spaces; quadratic forms.

117. Algebra for Applications. Prerequisite: course 115. Not open for credit to students with credit for course 101A or 110A. Integers, congruences; fields, applications of finite fields; polynomials; permutations, introduction to groups.

118. Combinatorial Algorithms. Lecture, three hours; discussion, one hour. Prerequisites: courses 32B, 33B. Applied aspects of combinatorial mathematics, including counting and enumeration; searching and sorting techniques; recurrence relations; graph algorithms; computational complexity.

Geometry and Topology

120A-120B. Differential Geometry. Lecture, three hours; discussion, one hour. Prerequisites: courses 32B, 33B. Curves in 3-space, Frenet formulas, surfaces in 3-space, normal curvature. Gaussian curvature. Congruence of curves and surfaces. Intrinsic geometry of surfaces, isometrics, geodesics, Gauss-Bonnet theorem.

121. Introduction to Topology. Prerequisite: course 131A. Metric and topological spaces, topological properties, completeness, mappings and homeomorphisms, the metrization problem.

122. Projective Geometry. Prerequisite: course 115. 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.

Analysis

131A-131B. Analysis. Lecture, three hours; discussion, one hour. **131A.** Prerequisites: courses 32B, 33B. Real numbers, point set topology in $\mathbb{R}^n$ and in metric spaces, limits, continuity, derivatives, infinite sequences and series. **131B.** Prerequisites: courses 115, 131A. Functions of bounded variation, Riemann-Stieltjes integral, sequences and series of functions, multivariable differential calculus, implicit and inverse function theorems, extremum problems.

131AH-131BH. Analysis (Honors Sequence). Prerequisite: consent of instructor. An honors sequence parallel to courses 131A-131B. Courses 131AH-131BH and 132H form a full honors sequence in analysis.

132. Introduction to Complex Analysis. Lecture, three hours; discussion, one hour. Prerequisites: courses 32B, 33B. Complex numbers, functions, differentiability, series, extensions of elementary functions, integrals, calculus of residues, conformal maps and mapping functions with applications.

132H. Introduction to Complex Analysis (Honors). Prerequisites: course 131BH and consent of instructor. An honors course parallel to course 132. Courses 131AH-131BH and 132H form a full honors sequence in analysis.

133. Integration on Manifolds. Prerequisite: course 131B. Integration theory for functions of several variables, multilinear algebra, differential forms, Stokes' theorem on manifolds.

134. Measure and Integration. Prerequisite: course 131B or consent of instructor. An introduction to Lebesgue measure and integration.

135A-135B. Ordinary Differential Equations. Lecture, three hours; discussion, one hour. Prerequisites: courses 33A, 33B, 115. Systems of differential equations; linear systems with constant coefficients, analytic coefficients, periodic coefficients, and linear systems with regular singular points; existence and uniqueness results; linear boundary and eigenvalue problems; two-dimensional autonomous systems, phase-plane analysis; stability and asymptotic behavior of solutions.

136. Partial Differential Equations. (Formerly numbered 135C.) Lecture, three hours; discussion, one hour. Prerequisites: courses 33A, 33B. Linear partial differential equations, particularly of the second order: the wave equation, the heat equation, and Laplace's equation; appropriate boundary, initial value problems, and eigenvalue problems.

Applied Mathematics

140A-140B-140C. Numerical Analysis. Lecture, three hours; discussion, one hour. Prerequisites: courses 32B, 33B, 115, and Engineering 10C or 10F. Not normally open for credit to students with credit for courses 141A, 141B, Engineering 124A. The courses emphasize 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, differentiation, and integration. **140C.** Differential equations, systems of nonlinear equations, and optimization.

141A-141B. Applied Numerical Methods. Prerequisites: courses 32A, 32B, 33A, 33B, 115, and Engineering 10C or 10F. Not open for credit to students with credit for courses 140A, 140B, Engineering 124A. Introduction to scientific computing. The courses emphasize 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, least-squares approximation, Monte Carlo methods, and linear programming.

142. Mathematical Modeling. Lecture, three hours; discussion, one hour. Prerequisites: courses 32B, 33B, or consent of instructor. An introduction to the fundamental principles and the spirit of applied mathematics. Emphasis is on the manner in which mathematical models are constructed for physical problems. Illustrations are drawn 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, 33B. Foundations of Newtonian mechanics, kinematics and dynamics of a rigid body, variational principles and Lagrange's equations; calculus of variations, variable mass; related topics in applied mathematics.

144. Theory of Games and Linear Programming. Lecture, three hours; discussion, one hour. Prerequisite: course 115 or consent of instructor. Not open for credit to students with credit for Engineering 129A. The basic theorems of two person zero-sum matrix games, including the minimax theorem; applications to games of chance and strategy; principles of linear programming, the duality theorem, and simplex methods; applications to industrial and business problems.

145. Fourier Methods for Differential Equations. (Formerly numbered 145A.) Lecture, three hours; discussion, one hour. Prerequisite: course 33B. Fourier series and integral transforms, separation of variables, eigenfunction expansions. Applications from such areas as mechanical vibrations, fluid dynamics, heat conduction, and electromagnetics.

146. Methods of Applied Mathematics. (Formerly numbered 145B.) Lecture, three hours; discussion, one hour. Prerequisite: course 33B. Integral equations, Green's function, and calculus of variations. Selected applications from control theory, optics, dynamical systems, and other engineering problems.

Probability and Statistics

The 150 and 152 sequences are parallel courses and transferring between them is not permitted.

150A-150B-150C. Probability and Statistics. Lecture, three hours; discussion, one hour. Prerequisites: courses 32B, 33B. **150A** and the first half of **150B** constitute an introduction to probability theory. The second half of **150B** and **150C** constitute an introduction to statistics. The courses emphasize both theory and applications.

151. Stochastic Processes. Prerequisites: courses 150A-150B or 152A, and consent of instructor. An introduction to the theory and application of stochastic models, emphasizing Markov chains and pure jump processes; illustrations from queueing systems, point processes, birth and death processes, renewal theory; Poisson processes, Brownian motion.

152A-152B. Applied Mathematical Statistics. Prerequisite: course 32B or consent of instructor. A basic introductory course in the theory and application of statistical methods. The sequence condenses courses 150A-150B-150C into two quarters mainly by devoting less time to the underlying theory.

M153. Introduction to Computational Statistics. (Same as Biomathematics M153.) Prerequisite: course 150C or 152B or equivalent. Statistical analysis of data by means of package programs. Regression, analysis of variance, discriminant analysis, and analysis of categorical data. Emphasis will be on understanding the connection between statistical theory, numerical results, and analysis of real data.

Mr. Jennrich (Sp)

169. Mathematics of Computer Graphics. Lecture, three hours; discussion, one hour. Prerequisite: course 115. Study of homogeneous coordinates, projective transformations, interpolating and approximating curves, representation of surfaces, and other mathematical topics useful for computer graphics.

169HS. Honors Seminar in Mathematics of Computer Graphics (½ course). Prerequisites: course 169 and consent of instructor. Limited enrollment (admission to be based on performance in course 169 and on written project proposals, which may be discussed with the instructor in advance of submission). Each student will do an extensive project involving mathematics and computer graphics and will present lectures on it to the class. Projects are expected to be at an honors level, although participants need not be in an honors program.

Special Studies

190. Honors Mathematics Seminar. Prerequisites: honors program standing and consent of instructor. A participating seminar on advanced topics in mathematics.

191. Upper Division Seminars (½ to 1 course). Prerequisites: courses 32A, 32B, 33A, 33B (or former courses 32A-32B, 32C), and consent of instructor. Limited to 15 students. Each quarter the department will offer a limited number of seminars in various branches of mathematics. The method of teaching will involve substantial student participation. May be repeated for credit.

199. Special Studies in Mathematics (¼ to 1 course). Prerequisite: consent of department Chair and instructor. At the discretion of the Chair and subject to the availability of staff, individuals or groups may study topics suitable for undergraduate course credit but not specifically offered as separate courses. May be repeated for credit, but no more than one 199 course may be applied toward the ten upper division courses required for the degree.

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 are discussed, and a logical structure of theorems is developed. Modern topics such as operations research, linear programming, game theory, learning models, models in social and life sciences. May not be applied toward the M.A. degree requirements.

Number Theory

205A-205B-205C. Number Theory. Prerequisites: courses 210A and 246A, or consent of instructor. Topics from analytic algebraic and geometric number theory, including distribution of primes and factorization in algebraic number fields. Selected topics from additive number theory, Diophantine approximation, partitions, class-field theory, lattice point problems, valuation theory, etc.

206A-206B. Combinatorial Theory. Prerequisite: consent of instructor. Generating functions. Probabilistic methods. Polya's theorem. Enumerative graph theory. Partition theory. Number theoretical applications. Structure of graphs, matching theory, duality theorems. Packings, pavings, coverings, statistical designs, difference sets, triple systems, finite planes. Configurations, polyhedra. Ramsey theory, finite and transfinite, and applications.

Algebra

210A-210B-210C. Algebra. Prerequisites: courses 110A-110B-110C or consent of instructor. Group theory, including the theorems of Sylow and Jordan-Holder-Schreier; rings and ideals, factorization theory in integral domains, modules over principle ideal rings, Galois theory of fields, multilinear algebra, structure of algebras. Students with credit for courses 110B and/or 110C will not receive M.A. degree credit for courses 210B and/or 210C.

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, 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. Preliminaries from the theory of commutative rings and algebras. Theory of algebraic varieties. Topics include plane curves, resolution of singularities, invariant theory, intersection theory, divisors and linear systems.

215A-215B. Commutative Algebra. Prerequisite: course 210A or consent of instructor. Topics from commutative ring theory, including techniques of localization, prime ideal structure in commutative Noetherian rings, 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 proofs: completeness and incompleteness theorems; decidable and undecidable theories; quantifier elimination. Set theory: Zermelo-Fraenkel and von Neumann-Gödel 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.

223D. Descriptive Set Theory. Prerequisites: courses 220A-220B-220C. Classical descriptive set theory: Borel and projective sets. Effective descriptive set theory. Consequences of strong set-theoretic hypotheses.

Geometry

226A-226B-226C. Differential Geometry. Prerequisite: course 231A or consent of instructor. Manifold theory; connections, curvature, torsion, and parallelism. Riemannian manifolds; completeness, submanifolds, constant curvature. Geodesics; conjugate points, variational methods, Myers theorem, nonpositive curvature. Further topics such as pinched manifolds, integral geometry, Kahler manifolds, symmetric spaces.

228. Convex Sets. Prerequisite: course 121 or 245A or consent of instructor. Basic concepts for convex sets in topological linear spaces; separation theorems and support functions; local convexity; convex functions; Helly type theorems; duality.

229A-229B-229C. Lie Groups and Lie Algebras. Prerequisite: knowledge of basic theory of topological groups and differentiable manifolds. Lie groups, Lie algebras, subgroups, subalgebras. Exponential map. Universal enveloping algebra. Campbell-Hausdorff formula. Nilpotent and solvable Lie algebras. Cohomology of Lie algebras. Theorems of Weyl, Levi-Mal'cev. Semi-simple Lie algebras. Classification of simple Lie algebras. Representations. Compact groups. Weyl's character formula.

Topology

230. General Topology. Prerequisites: courses 131A-131B or consent of instructor. Topological spaces and maps, products, quotient spaces, connectedness and compactness, separation properties, local properties, completeness. Homotopy and the fundamental group. Students with credit for course 121 will not receive M.A. degree credit for this course.

231A. Manifold Theory. Prerequisites: courses 131A-131B and 121, or consent of instructor. Manifolds, tangent and cotangent spaces, vector fields and integral curves, Lie brackets, differential forms and exterior derivative, Stokes' theorem on manifolds.

231B. Introduction to Homology Theory. Prerequisite: course 231A or consent of instructor. Elementary concepts of homotopy theory. Singular chains and the boundary operator, definition of homology, Mayer-Vietoris sequence, calculation of homology of standard spaces.

231C. Further Topics in Geometry and Algebraic Topology. Prerequisites: courses 231A and 231B, or consent of instructor. Topics may include cohomology and duality theorems, de Rahm's theorem, cup products, and transversality intersection theory of submanifolds. Additional topics as time permits.

232A-232B-232C. Algebraic Topology. Prerequisite: course 121 or 230 or consent of instructor. Fundamental group; homology theory, singular theory, cellular theory, computation of homology groups; cohomology theory, cup and cap products, duality; homotopy theory, fiberspaces, Hurewicz theorem, obstruction theory.

236. Advanced Topics in Geometric Topology. Prerequisites: courses 231A and 231B, or consent of instructor. Handlebody theory, transversality; PL topology; surgery. Topics vary from year to year.

237. Advanced Topics in Algebraic Topology. Prerequisites: courses 232A-232B-232C or consent of instructor. K-theory; fixed point theory; extraordinary cohomology theories. Topics vary from year to year.

Analysis and Differential Equations

240. Methods of Set Theory. Prerequisites: courses 110A-110B, 121 or equivalent, and 131A-131B. Naive, axiomatic set theory, the axiom of choice and its equivalents, well-orderings, transfinite induction, ordinal and cardinal arithmetic. Applications to algebra; Hamel bases, the Stone representation theorem. Applications to analysis and topology; the Cantor-Bendixson theorem, counterexamples in measure theory, Borel and analytic sets, Choquet's theorem.

245A-245B-245C. Real Analysis. Prerequisites: courses 131A-131B and 121 or equivalent (course 230 may be taken concurrently). Basic measure theory. Measure theory on locally compact spaces. Fubini theorem. Elementary aspects of Banach and Hilbert spaces and linear operators. Function spaces. Radon-Nikodym theorem. Fourier transform and Plancherel on R^n and T^n. Students with credit for course 134 will not receive M.A. degree credit for course 245A.

246A-246B-246C. Complex Analysis. Prerequisites: courses 131A-131B. Cauchy-Riemann equations. Cauchy's theorem. Cauchy's integral formula and the residue calculus. Power series. Normal families. Harmonic functions. Linear fractional transformations. Conformal mappings. Analytic continuation. Examples of Riemann surfaces. Infinite products. Partial fractions. The classical transcendental functions. Elliptic functions. Students with credit for course 132 will not receive M.A. degree credit for course 246A.

247A-247B. Classical Fourier Analysis. Prerequisites: courses 245A-245B and 246A. Distribution on R^n and T^n. Principal values; other examples. Distributions with submanifolds as supports. Kernel theorem. Convolution; examples of singular integrals. Tempered distributions and Fourier transform theory on R^n. Distributions with compact or one-sided supports and their complex Fourier transforms.

250A. Ordinary Differential Equations. Prerequisite: course 246A or consent of instructor. Basic theory of ordinary differential equations. Existence and uniqueness of solutions. Continuity with respect to initial conditions and parameters. Linear systems and nth order equations. Analytic systems with isolated singularities. Self-adjoint boundary value problems on finite intervals.

250B. Nonlinear Ordinary Differential Equations. Prerequisite: course 250A. Asymptotic behavior of nonlinear systems. Stability. Existence of periodic solutions. Perturbation theory of two-dimensional real autonomous systems. The Poincaré-Bendixson theory.

250C. Advanced Topics in Ordinary Differential Equations. Prerequisites: courses 250A, 250B. Selected topics, such as spectral theory or ordinary differential operators, nonlinear boundary value problems, celestial mechanics, approximation of solutions, and Volterra equations.

251A. Introductory Partial Differential Equations. Prerequisite: consent of instructor. Classical theory of heat, wave, and potential equations; fundamental solutions, characteristics and Huygens principle, properties of harmonic functions. Classification of second order differential operators. Maximum principles, energy methods, uniqueness theorems. Additional topics as time permits.

251B-251C. Topics in Partial Differential Equations. Prerequisite: consent of instructor. An in-depth introduction to topics of current interest in partial differential equations or their applications.

252A-252B-252C. Advanced Topics in Complex Analysis. Prerequisites: courses 245A-245B-245C and 246A-246B-246C, or consent of instructor. Potential theory, subharmonic functions, harmonic 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 $\bar{\partial}$ problem, Cousin problems, domains of holomorphy, complex manifolds.

254A-254B. Trigonometrical Series. Prerequisite or corequisite: course 246A or 245A or consent of instructor. Selected topics in Fourier series, power series, orthogonal polynomials, almost periodic functions, and completeness of sets of functions.

Functional Analysis

255A. Functional Analysis. Prerequisites: courses 245A-245B or 265A-265B, and 246A, or consent of instructor. Banach spaces, basic principles. Weak topologies. Compact operators. Fredholm operators. Special spaces including Hilbert spaces and C(X).

255B-255C. Topics in Functional Analysis. Prerequisite: course 255A. Topics include Banach algebras, operators on Banach spaces and Hilbert space, semigroups of operators, linear topological vector spaces, and other related areas.

256A-256B-256C. Topological Groups and Their Representations. 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.

256A-258B. Commutative Banach Algebras. Prerequisites: courses 246A, 255A, 255B. The Gel'fand theory of commutative Banach algebras. Applications to harmonic analysis on locally compact abelian groups. Algebras of holomorphic functions. Special topics.

259A-259B. Operator Algebras in Hilbert Space. Prerequisites: courses 255A, 255B-255C. Selected topics from the theories of C* and von Neumann algebras. Applications.

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.

M263. Hydrodynamic Instabilities and Turbulence. (Same as Earth and Space Sciences M211.) An introduction to the theories of hydrodynamic instability and the nonstatistical description of turbulence; stability bounds by the energy method; linear theory of instability; finite amplitude theories of post-instability flows; bounds on properties of turbulent flows by variational techniques.

Mr. Busse (alternate years)

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.

265A-265B. Real Analysis for Applications. Prerequisites: courses 131A-131B or consent of instructor. Not open for credit to students with credit for courses 245A-245B-245C. Lebesgue measure and integration on the real line, absolutely continuous functions, functions of bounded variation, L^2 and L^p spaces. Fourier series. General measure and integrations, Fubini and Radon-Nikodym theorems, representation of functionals, Fourier integrals.

266A. Applied Ordinary Differential Equations. Prerequisites: courses 131A-131B, 132, and 135A-135B or 145A-145B. Spectral theory of regular boundary value problems and examples of singular Sturm-Liouville problems, related integral equations, phase-plane analysis of nonlinear equations.

266B-266C. Applied Partial Differential Equations. Prerequisite: course 266A or consent of instructor. Classification of equations, classical potential theory, Dirichlet and Neumann problems. Green's functions, spectral theory of Laplace's equation in bounded domains, first-order equations, wave equations, Cauchy problem, energy conservation, heat equation, fundamental solution, equations of fluid mechanics and magnetohydrodynamics.

267A-267B. Applied Algebra. Prerequisite: course 110A or equivalent. Linear algebra, eigenvalues, and quadratic forms; linear inequalities, finite fields, and combinatorial analysis. Group theory, with emphasis on representations. Application to physical problems. Students with credit for course 210A will not receive M.A. degree credit for course 267A.

268B-268C. Topics in Applied Functional Analysis. Prerequisite: course 255A. Topics include spectral theory with applications to ordinary differential operators, eigenvalue problems for differential equations, generalized functions, and partial differential equations.

269A-269B-269C. Advanced Numerical Analysis. Prerequisites: courses 115, 135A, 140A-140B-140C, or consent of instructor. Numerical solution for systems of ordinary differential equations; initial and boundary value problems. Numerical solution for elliptic, parabolic, and hyperbolic partial differential equations. Topics in computational linear algebra.

270A-270B. Mathematical Aspects of Scientific Computing. Prerequisites: courses 115, 140A, or consent of instructor. Varies from year to year between computational linear algebra and computational fluid dynamics. Computational linear algebra: direct, fast, and iterative algorithms, overdetermined systems; singular value decomposition, regularization, sparse systems, the algebraic eigenvalue problem. Computational fluid dynamics: basic equations, finite difference, finite element, pseudo-spectral, and vortex methods; stability, accuracy, shock capturing, and boundary approximations. May be repeated for credit by petition.

271A. Tensor Analysis. Prerequisite: course 131A or consent of instructor. Algebra and calculus of tensors on n-dimensional manifolds. Curvilinear coordinates and coordinate-free methods. Covariant differentiation. Green-Stokes theorem for differential forms. Applications to topics such as continuum and particle mechanics.

271B. Analytical Mechanics. Prerequisites: course 271A and prior knowledge of mechanics. Newtonian and Lagrangian equations. Hamilton's principle. Principle of least action. Holonomic and nonholonomic systems. Hamilton's canonical equations, contact transformations, applications.

271C. Introduction to Relativity. Prerequisites: course 271A and prior knowledge of mechanics. Restricted theory of relativity. Extensions to general theory. The relativistic theory of gravitation.

272. Advanced Topics in Continuum Mechanics. Prerequisites: courses 142 and 251A, or equivalent. Mathematical aspects of solid and/or fluid mechanics. Instability, wave propagation, nonlinear and stochastic phenomena.

273. Wave Mechanics. Prerequisite: consent of instructor. General concepts of mechanical systems (states, space-time, "logics," etc.). Classical and quantum examples. Correspondence principle. Spinors.

M274A. Asymptotic and Perturbation Methods I. (Same as Mechanics and Structures M292A.) Prerequisites: course 132 and Engineering 192A, 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.

Mr. Muki (F)

M274B. Asymptotic and Perturbation Methods II. (Same as Mechanics and Structures M292B.) Prerequisites: course 132 and Engineering 192A, or equivalent. The fundamental mathematics of asymptotic analysis, limit process expansions, regular and singular perturbation problems, matching of asymptotic expansions, multiple-scale methods, application to partial differential equations, near and far fields.

Mr. Muki (W)

Probability and Statistics

275A-275B. Probability Theory. Prerequisite: course 245A or 265A. Connection between probability theory and real analysis. Weak and strong laws of large numbers, central limit theorem, conditioning, ergodic theory, martingale theory.

275C. Stochastic Processes. Prerequisites: courses 275A-275B. Selected topics such as Brownian motion and potential theory. Markov processes, infinite particle systems, Gaussian processes. Content varies from year to year. May be repeated for credit.

276A-276B. Mathematical Statistics. Prerequisites: courses 150A-150B-150C or 152A-152B and 131A-131B. **276A.** Bayes, admissible, and minimax decision rules; sufficiency and completeness; uniformly most powerful tests. **276B.** Fisher information; Cramer-Rao inequality; asymptotic properties of tests and estimators; maximum likelihood estimators; likelihood ratio and chi-square tests of hypotheses.

276C. Statistical Decision Theory. Prerequisite: course 276A. Invariant estimates and tests; best unbiased and locally best tests; multiple decision problems; application to the general linear model; other topics.

277. Sequential Analysis. Prerequisite: course 276A. Bayes sequential decision rules, stopping rule problems, optimality of the sequential probability ratio test, Wald's fundamental identity.

278. Nonparametric and Robust Statistics. Prerequisite: course 276B. Nonparametric and robust procedures are developed for hypothesis testing, estimation in one- and two-sample problems, linear and nonlinear regression, multiple classification, density estimation.

M279A-M279B-M279C. Linear Statistical Models. (Same as Public Health M205A-M205B-M205C.) Lecture, three hours. Prerequisites: course 150C or 152B, and 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 Biomathematics M280 and Public Health M207J.) Lecture, three hours. Prerequisites: courses 115 and 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 Vice Chair for Graduate Studies. Topics in various branches of mathematics and their applications by means of lecturers 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.

285F. Seminar in Topology.

285G. Seminar in Analysis.

285H. Seminar in Differential Equations.

285I. Seminar in Functional Analysis.

285J. Seminar in Applied Mathematics.

285K. Seminar in Probability.

285L. Seminar in Statistics.

286A-286M. Participating Seminars. Prerequisite: consent of instructor. Seminars and discussion by staff and students. No course credit will be given, but the courses may be used to satisfy the participating seminar requirement for the Ph.D.:

286A. Participating Seminar in the History and Development of Mathematics.

286B. Participating Seminar in Number Theory.

286C. Participating Seminar in Algebra.

286D. Participating Seminar in Logic.

286E. Participating Seminar in Geometry.

286F. Participating Seminar in Topology.

286G. Participating Seminar in Analysis.

286H. Participating Seminar in Differential Equations.

286I. Participating Seminar in Functional Analysis.

286J. Participating Seminar in Applied Mathematics.

286K. Participating Seminar in Probability.

286L. Participating Seminar in Statistics.

286M. Participating Seminar in Mathematics.

290. 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. Prerequisites: course 3B, 4B, or 31B, and senior standing. A critical inquiry into present-day tendencies in the teaching of mathematics.

375. Teaching Apprentice Practicum (¼ to 1 course). 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 (½ to 1 course). Supervised individual reading and study on a project approved by a faculty member, which may be preparation for the M.A. essay. May be repeated for credit, but only two such courses may be applied toward the M.A. degree unless departmental consent is obtained.

599. Research in Mathematics (½ to 2 courses). Study and research for the Ph.D. dissertation. May be repeated for credit.

Mathematics/ Computer Science (Interdepartmental)

6375 Math Sciences, 206-1286

Bachelor of Science Degree

The mathematics/computer science major is a cooperative program offered jointly by the Department of Computer Science in the School of Engineering and Applied Science, and the Department of Mathematics. The program, administered by the Mathematics Department, leads to the Bachelor of Science degree.

The conditions given below apply to students entering UCLA in the 1983-84 academic year. New standards will be in effect for students entering in 1984-85. Information about these new standards will be available from the Mathematics Department after September 1, 1983.

Pre-Mathematics/Computer Science Major

Students are not admitted directly into the major. You must enroll as a premajor and complete certain requirements before being admitted into the major.

Students entering UCLA directly from high school who declare themselves to be pre-mathematics/computer science majors at the time of their application for admission are automatically enrolled as such.

If you are a UCLA student or transfer student, your admission to the premajor is governed by your performance in those courses you have taken which are equivalent to any of the "Preparation for the Major" courses (Mathematics 31A, 31B, 32A, 32B, 33A, 33B, Engineering 10C, Computer Science 20, 30, Physics 8A, 8C). In general, you must have a minimum grade of C in each of the equivalent courses and, if you have 45 or more quarter units of credit, an overall GPA of at least a B for the set of equivalent courses. In addition, if you have 45 to 89 units of credit, you must have completed 12 quarter units of calculus and one programming course (preferably in the Pascal language). If you have 90 to 119 units, you must have completed 18 units of calculus, one programming course, and one calculus-based physics course. If you have 120 or more units, admission is decided on an individual basis.

Preparation for the Major

Premajors who entered UCLA directly from high school will be admitted to the major provided they completed, during the freshman year, Mathematics 31A, 31B, 32A, Engineering 10C, Computer Science 20, and Physics 8A with a minimum grade of C in each course and with an overall GPA of 3.3 for the set of these courses.

Advanced students who have been admitted to the premajor will be allowed into the major after they complete the six courses mentioned above, complete at least three other "Preparation for the Major" or major courses at UCLA, and earn a minimum grade of C in each and an overall GPA of 3.3 in all "Preparation for the Major" and major courses taken at UCLA.

Mathematics 32B, 33A, 33B, Computer Science 30, and Physics 8C are also required as preparation and are to be taken during the sophomore year.

The Major

Required: Fourteen courses, seven in mathematics and seven in computer science, distributed as follows: (1) Mathematics 115, either 110A or 117, either 150B or 152A, and four courses chosen from 110A through 199 (suggested: 113, 114, 118, 140A, 140B, 140C, 141A, 141B, 142, 144, 150A or 152B, M153); (2) Computer Science 131, 141, 151A, 151B, 152A, 152B, 181, and one additional course chosen from Engineering 121A, 121C, 124A,

127B, or Computer Science 111 through 199 (courses 152A and 152B are laboratory courses; each is to be taken concurrently with its mate). Credit may not be applied toward the degree for more than one of Mathematics 140A, 141A, Engineering 124A.

Minimum Standards

Premajors must earn a minimum grade of C in each course taken in preparation for the major or in the major. Majors must receive a minimum grade of C– in all "Preparation for the Major" or major courses. In addition, you must maintain a GPA of 2.0 or better in upper division mathematics courses and a GPA of 2.0 or better in upper division computer science and engineering courses in the major.

If you do not earn the specified minimum grade in a particular course, you must repeat that course. If you fail to earn the minimum grade for the repeated course, you may not remain in the premajor or major.

Duplications

The rules against duplication of courses that apply to mathematics majors also apply to mathematics/computer science majors.

Honors Program

Majors who wish to graduate with honors should apply for admission to the honors program. You may enter the program after completing two upper division mathematics courses and eight upper division units in computer science or engineering courses in the major with an overall GPA of 3.6. The program consists of completing a suitable special project or participating seminar, earning a 3.6 GPA in upper division mathematics courses, and a 3.6 GPA in upper division computer science and engineering courses in the major.

If you complete the program, you will be awarded honors upon graduation; if you demonstrate exceptional achievement, you will be awarded highest honors.

Mathematics/ System Science (Interdepartmental)

6375 Math Sciences, 206-1286

Bachelor of Science Degree

The mathematics/system science major is a cooperative program offered jointly by the Department of System Science in the School of Engineering and Applied Science, and the Department of Mathematics. The program, administered by the Mathematics Department, leads to the Bachelor of Science degree.

This major is closed to freshmen and transfer students. Incoming students who wish to select this major should enroll as mathematics majors and then petition to be admitted to the mathematics/system science major in accordance with the requirements listed in the next paragraph.

Preparation for the Major

Required: Mathematics 31A, 31B, 32A, 32B, 33A, 33B, Engineering 10C, Physics 8A or 6A, and 8C or 6B. To enter the major, you must have completed seven of the nine courses, have a minimum grade of C in each of the seven completed courses, and have an overall GPA of 2.5 for these courses.

You must also earn a minimum grade of C in each of the "Preparation for the Major" courses completed after being admitted to the major.

The Major

Required: Fourteen courses, including Mathematics 115 and 110A or 117 or 132, and five additional courses chosen from 110A through 199, and Engineering 121C and six additional engineering courses chosen from 100, 110A, 110B, 120A, 120B, 122A, 128A, 128L, 129A. One of the fourteen courses must be chosen from Mathematics 150A, 152A, or Engineering 120A. The seven mathematics courses and the seven engineering courses must be passed with a minimum overall GPA of 2.0.

Duplications

The rules against duplication of courses that apply to mathematics majors also apply to mathematics/systems science majors.

Microbiology

5304 Life Sciences, 825-3578

Professors

R. John Collier, Ph.D.
Frederick A. Eiserling, Ph.D., *Chair*
C. Fred Fox, Ph.D.
June Lascelles, Ph.D.
Rafael J. Martinez, Ph.D.
Donald P. Nierlich, Ph.D.
M. J. Pickett, Ph.D.
Sydney C. Rittenberg, Ph.D.
William R. Romig, Ph.D.
Eli E. Sercarz, Ph.D.
Gary L. Wilcox, Ph.D.
Meridian R. Ball, Sc.D., *Emeritus*
Anthony J. Salle, Ph.D., *Emeritus*

Associate Professors

Arnold J. Berk, M.D.
Mary C. Territo, M.D. *(Medicine)*
Bernadine J. Wisnieski, Ph.D.
Owen N. Witte, M.D.

Assistant Professors

Aldons J. Lusis, Ph.D., *in Residence (Medicine)*
Robert P. Gunsalus, Ph.D.

Professor

John H. Silliker, Ph.D., *Adjunct*

Assistant Professors

Laurel G. Heffernan, Ph.D., *Adjunct*
Alastair T. Pringle, Ph.D., *Adjunct*
Linda Wicker, Ph.D., *Adjunct*

Scope and Objectives

Microbiology at UCLA is a diverse science that includes bacteriology, virology, and the study of single mammalian cells. The science has its roots in the fundamental human needs of health, nutrition, and environmental control, and it provides opportunities for study in the basic biological fields of genetics and cellular and molecular biology.

Undergraduate students majoring in microbiology prepare for careers in medicine or dentistry, medical technology, industrial microbiology (including pharmaceuticals or genetic engineering), and agricultural or environmental sciences, among others. The courses presented by the department lead to a Bachelor of Arts 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 and microbial genetics, and recombinant DNA research. Students are prepared for creative research careers in all of these fields. The objective of the department is to provide breadth in microbiology at the undergraduate level and depth and training in independent study and research for the graduate microbiologist.

Note: Several upper division and graduate courses in this department are multiple-listed with those in the Microbiology and Immunology program offered by 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 Arts Degree

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).

Pre-Microbiology Major

Students (new, transfer, or change of major) who wish to major in microbiology will first register as pre-microbiology students. After a minimum of two quarters in this status, you may petition to change to the microbiology major after completing 10 of the 15 courses required in preparation for the major and Microbiology 101 with a grade of C or better. 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), physics (one year), calculus (one year).

The Major

Required: Microbiology 101, 102, C103A or C103B or 110, 119, M185; Chemistry 152; four additional upper division courses from the departmental list or from related departments chosen with approval of the faculty adviser. In addition to requirements for graduation prescribed by the college, you are required to maintain a minimal grade-point average of 2.0 (C) in the microbiology major. In addition, you must obtain a C or better in Microbiology 101 and 102 before continuing with further departmental upper division courses. If you repeat one of these courses, you must obtain a grade of B or better to remain in the major.

Master of Arts Degree

Admission

Requirements for admission are the same as for the Ph.D. degree. Information is available from the graduate adviser's office.

The department accepts relatively few students whose objective is a master's degree; applicants should contact a potential faculty sponsor at the time of application.

Ph.D. Degree

Admission

For admission, you must have completed an undergraduate major in science 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 GRE Aptitude Test directly to the department. Evidence (via letters of recommendation, interviews, or direct knowledge) of your research potential and motivation is also required. Completion of a master's degree is not normally required.

Course Requirements

Formal Lecture/Laboratory Courses

Biochemistry: Chemistry M253 (six units; offered only in the Fall Quarter; to be completed during the first year) and Microbiology 225 or M239 (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 departmental graduate office is required.

A total of eight additional units of 200-level coursework to be selected from at least two of the three subject areas below is required. Acceptable courses include the following:

(1) *General Microbiology and Cell Biology:* Microbiology C204C, C211, M230A, Biology 229, Microbiology and Immunology M293.

(2) *Host-Parasite Interactions and Virology:* Microbiology C203A, C203B, C204E, Microbiology and Immunology 201, 208, 210, Pathology 242A, 242B, 242C.

(3) *Immunology:* Microbiology M185, M258A, M258B, Microbiology and Immunology M212, 261, 264.

Other courses may be accepted with written consent of the departmental graduate adviser and your advisory committee.

You are expected to complete two courses in physical chemistry (Chemistry 110A and 156). This requirement can be waived on the basis of work done before entering UCLA. If you must take both courses as a graduate student, you may apply one of them (four units) toward satisfaction of the seminar course requirement.

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 204 series, during your first two years of residence.

Laboratories

During the first 15 months of residence, you will rotate for one quarter each through three laboratories within the department (outside laboratories are permissible with the consent of the advisory committee). You will normally enroll in Microbiology 596 for four units of credit for each laboratory.

First-Year Proposal

By June 30 of the 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 will be returned to you and used by faculty to evaluate continuation into the second year.

Teaching Experience

The department considers teaching experience to be an integral part of the graduate program. All Ph.D. candidates are required to serve as teaching assistants or in 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 21 months of entry into graduate school and must be passed, if reexamination is required, no later than 24 months from the date of entry. (These periods may be extended to 26 and 29 months respectively with the written consent of the departmental graduate adviser and your mentor.)

The examination is administered by the doctoral committee which will normally serve as the thesis committee as well. As a major part of the examination, you will 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 will cover 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 chosen in consultation with the major professor is required. This examination, administered by the doctoral committee, is a defense of the completed dissertation, presented as a professional seminar and open in part to the public.

Lower Division Courses

6. Introduction to Microbiology. Lecture, three hours. Not open for credit to students with credit for courses 7, 10, 101, Biology 5, 6, 7, 8, or equivalent courses taken elsewhere. Designed for the nontechnical student; an introduction to the biology of microorganisms (bacteria, viruses, protozoa, algae, fungi), their significance as model systems for understanding fundamental cellular processes, and their role in human affairs. (F,W,Sp)

7. The New Cell Biology. Lecture, three hours; laboratory, four hours. Prerequisites: Biology 5, Chemistry 11A. Designed for undergraduate students intending to major in microbiology and others as interested. Lecture and laboratory sessions to give students basic elements of scientific observation using prokaryotic and eukaryotic cell structure and cellular interactions. 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. Several outstanding invited experts in the scientific community will also present lectures in their special areas.

Mr. Fox, Mr. Witte (W)

10. General Microbiology. Lecture, three hours; laboratory, six hours. Prerequisites: course 7 (or Biology 7), Biology 5, Chemistry 11A, 15. Designed for health sciences students. Not open for credit to students with credit for Microbiology 101; does not substitute for Microbiology 101 in the major. An introduction to the biology of bacteria and their role in diseases of man. Ms. Wisnieski (Sp)

51. The Development of Bacteriology (½ course). Prerequisites: Biology 5, Chemistry 11A, 11B, 11C. Discussion of the early investigations important in the development of bacteriology and the now independent sciences of virology and immunology. P/NP grading. Mr. Rittenberg (W)

Upper Division Courses

101. Fundamentals of Bacteriology. Lecture, three hours; laboratory/discussion, six hours. Prerequisites: course 7 (or Biology 7), Biology 5, Chemistry 21, 23, 25. The historical foundations of the science; the structure, physiology, ecology, and applications of bacteria.

Mr. Gunsalus, Ms. Lascelles, Mr. Romig (F,Sp)

102. Introductory Virology. Lecture, three hours; laboratory, four hours. Prerequisite: course 101. Biological properties of bacterial and animal viruses; replication; methods of detection; interactions with host cells and multicellular hosts.

Mr. Berk, Mr. Romig (W)

C103A. Biochemistry and Biology of Bacterial Infection. (Formerly numbered 103.) Lecture, three hours. Prerequisites: course 101, Chemistry 152. Discussions focus on the biochemical properties of bacteria which afford the potential for pathogenicity. Discussions on the epidemiology and transmission of disease, as well as chemotherapy and drug resistance, are offered. 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 is analyzed in detail. Discussions focus 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 (½ course). Lecture, three hours. Prerequisites: course 101, Biology 8, Chemistry 25, or equivalent, or consent of instructor. Introduction to bacterial physiology, with lectures stressing its experimental foundation. Topics include chromosome replication, gene expression, control of growth rate and cell division, role of cyclic AMP and other regulatory factors, cloning and genetic engineering. May be concurrently scheduled with course C204A.

Mr. Nierlich (Sp, first five weeks)

C104B. Biochemical Genetics of Eukaryotic Cells (½ course). Lecture, three hours. Prerequisites: prior background in microbiology, biochemistry, and genetics and consent of instructor. Important concepts and experimental approaches in biochemical genetics will be illustrated with selected research papers and reviews. Topics include systematic genetic analysis of mammalian cells, somatic cell genetics, developmental genetics, genetic analysis of cancer and human genetic disorders, genetic analysis of hormonal regulation. May be concurrently scheduled with course C204B. Mr. Lusis (F, five weeks)

C104C. The Mammalian Cell as a Microorganism (½ course). Lecture, three hours. Prerequisites: Chemistry 152 and consent of instructor. The cultured mammalian cell as an experimental system for the study of normal regulatory processes and disease mechanisms. Contents include regulation of cell growth in chemically defined medium; establishment, cloning, and characterization of cell lines, cultured cells as model systems in the study of normal growth and development, disease mechanisms and cancer. May be concurrently scheduled with course C204C.

Mr. Fox (F, five weeks)

C104D. Protein Metabolism (½ course). Lecture, three hours. Prerequisites: Chemistry 152 and consent of instructor. Aspects of protein metabolism in both prokaryotes and eukaryotes is covered, including a brief review of synthesis with concentration on other aspects of protein metabolism not normally covered in biochemistry or cell physiology courses. These include breakdown and turnover of enzymes and implications for metabolic control; protein secretion, end processing; factors affecting protein localization in cells; uptake and degradation of proteins. May be concurrently scheduled with course C204D.

Mr. Collier (Sp, five weeks)

C104E. RNA Tumor Viruses (½ course). Lecture, three hours. Prerequisites: Chemistry 152 and consent of instructor. The course will concentrate on 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)

108. Hematology (½ course). Prerequisites: senior standing and consent of instructor. Diagnostic procedures used for the study of normal and pathological blood cells. Ms. Territo (Sp)

110. The Microbiology of Infection. Lecture, three hours; laboratory, six hours. Prerequisites: courses 101, 102, Chemistry 152, or consent of instructor. The salient characteristics of bacteria, rickettsiae, and viruses, both pathogenic and adventitious, associated with diseases of man. Mr. Pickett (F)

110C. The Laboratory Diagnosis of Infection. Lecture, two hours; laboratory, nine hours. Prerequisite: course 110. Techniques in the laboratory examination of clinical material. Mr. Pickett (W)

C111. Biology of the Prokaryotic Cell. (Formerly numbered 111.) Lecture, three hours; discussion, one hour. Prerequisites: course 101 and Chemistry 152, or consent of instructor. A review of current knowledge of the structural organization of prokaryotic cells. Emphasis is on isolation methods, chemical composition, structure and assembly of subcellular components, including membranes, walls, flagella, ribosomes, and viruses. Concurrently scheduled with course C211. Mr. Eiserling, Ms. Wisnieski (W)

113. Bacterial Metabolism. Lecture, three hours; discussion, one hour. Prerequisite: Chemistry 152 or consent of instructor. The major patterns of energy generation and biosynthesis and their regulation. Discussion sections on selected topics will be centered around readings from the current literature.

Ms. Lascelles (W)

119. Microbial Genetics and Genetic Engineering. Lecture, three hours; discussion, one hour. Prerequisites: course 102, Biology 8, or consent of instructor. Genetics of bacteria and bacteriophages, with emphasis on recombinant DNA technology and use of microbial systems in genetic engineering.

Mr. Wilcox (Sp)

151. Principles of Food Microbiology. Lecture, three hours. Prerequisite: course 101 (or equivalent by consent of instructor). Fundamental principles of food microbiology. Emphasis is on basic microbiological principles as applied to food products and processing. The approach is science oriented rather than technology oriented. Readings in past and current research literature in food microbiology.

Mr. Silliker (Sp)

M185. Immunology. (Same as Biology M185 and Microbiology and Immunology M185.) Lecture, three hours; discussion, one hour. Prerequisites: Biology 8, Chemistry 23, 25. Chemistry 152 or 156 should be taken concurrently. Introduction to experimental immunobiology and immunochemistry; 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 and Immunology M186.) Laboratory, twelve hours. Prerequisites: course M185 and consent of instructor. Course M187 must be taken concurrently. The course will focus 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 (½ course). (Same as Biology M187 and Microbiology and Immunology M187.) Prerequisites: course M185 and consent of instructor. Course M186 must be taken concurrently. 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)

M188. Immunological Techniques (½ course). (Same as Microbiology and Immunology M188.) Prerequisites: course M185 with a grade of A and consent of instructor. Techniques in immunochemistry and immunobiology. State of the art advanced technology for performance of experiments in modern immunology in a workshop format. Each workshop is of approximately two full days duration.

Mr. Sercarz (W)

189. Immunological Methods. Lecture, two hours; laboratory, four hours. Prerequisite: course M185. Immunological and immunochemical techniques used in the modern research and clinical laboratory are emphasized. (Sp)

195. Proseminar (½ course). Discussion, one hour. Prerequisites: senior standing and consent of instructor. Small groups of students and instructor discuss current research literature. Topic announced each quarter. Enrollment limited. (F,W,Sp)

199. Special Studies in Microbiology (½ to 4 courses). To be arranged. Limited to students with superior academic standing and consent of instructor and department Chair, (based on written research proposal). Individual research project under the direct supervision of a departmental faculty member. May be repeated for a maximum of sixteen units. (F,W,Sp)

Graduate Courses

C203A. Biochemistry and Biology of Bacterial Infection. Lecture, three hours. Discussions focus on the biochemical properties of bacteria which afford the potential for pathogenicity. Discussions on the epidemiology and transmission of disease, as well as chemotherapy and drug resistance, are offered. Concurrently scheduled with course C103A. A graduate term paper on a topic approved by the instructor is required. Mr. Martinez (W)

C203B. Biochemistry of Host Defense Mechanisms. Lecture, three hours. The biochemical basis of host defense mechanisms is analyzed in detail. Discussions focus on the role of immunoglobulins in combating microbial invasion; the biology and biochemistry of phagocytic cells and constitutive mechanisms of host defense. Concurrently scheduled with course C103B. A graduate term paper on a topic approved by the instructor is required.

Mr. Martinez (Sp)

C204A. Molecular Biology of Bacterial Growth (½ course). Lecture, three hours; discussion, one hour. Prerequisites: course 101, Biology 8, Chemistry 25, or equivalent, or consent of instructor. May be concurrently scheduled with course C104A. Includes an additional discussion section for graduate students on the research literature and methodology. S/U or letter grading. Mr. Nierlich (Sp, first five weeks)

C204B. Biochemical Genetics of Eukaryotic Cells (½ course). Lecture, three hours; discussion, one hour. Prerequisites: prior background in microbiology, biochemistry, and genetics and consent of instructor. May be concurrently scheduled with course C104B. Includes an additional discussion section for graduate students on the research literature and methodology. S/U or letter grading.

Mr. Lusis (F, five weeks)

C204C. The Mammalian Cell as a Microorganism (½ course). Lecture, three hours. Prerequisites: Chemistry 152 and consent of instructor. The cultured mammalian cell as an experimental system for the study of normal regulatory processes and disease mechanisms. Contents include regulation of cell growth in chemically defined medium; establishment, cloning, and characterization of cell lines, cultured cells as model systems in the study of normal growth and development, disease mechanisms and cancer. May be concurrently scheduled with course C104C. Includes an additional discussion section for graduate students on the research literature and methodology. S/U or letter grading.

Mr. Fox (F, five weeks)

C204D. Protein Metabolism (½ course). Lecture, three hours; discussion, one hour. Prerequisites: Chemistry 152 and consent of instructor. May be concurrently scheduled with course C104D. Includes an additional discussion section for graduate students on the research literature and methodology. S/U or letter grading. Mr. Collier (Sp, five weeks)

C204E. RNA Tumor Viruses (½ course). Lecture, three hours; discussion, one hour. Prerequisites: Chemistry 152 and consent of instructor. May be concurrently scheduled with course C104E. Includes an additional discussion section for graduate students on the research literature and methodology. S/U or letter grading. Mr. Witte (Sp, five weeks)

C211. Biology of the Prokaryotic Cell. Lecture, three hours; discussion, one hour. Prerequisites: course 101 and Chemistry 152, or consent of instructor. A review of current knowledge of the structural organization of prokaryotic cells. Emphasis on isolation methods, chemical composition, structure and assembly of subcellular components, including membranes, walls, flagella, ribosomes, and viruses. Concurrently scheduled with course C111. Term paper on research topic chosen by each graduate student is required. Mr. Eiserling, Ms. Wisnieski (W)

M212. Laboratory Procedures in Immunological Research (½ course). (Same as Microbiology and Immunology M212.) Prerequisites: course M185 or equivalent and consent of instructor. Limited to 25 students (enroll through Microbiology and Immunology). A series of intensive laboratory workshops designed to acquaint the student with the advanced methodologies utilized for immunological research. Workshops will be offered at regular intervals and will have a duration of 2 to 3 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)

213. Clinical Aspects of Membrane Research (½ course). Prerequisite: consent of instructor. The course discusses recent advances in clinical aspects of biological membrane behavior. Research progress in areas of medical relevance is stressed. S/U or letter grading. Ms. Wisnieski (F,W,Sp)

214. Methods in Membrane Biology. Lecture and discussion, three hours; laboratory, nine hours. Prerequisite: consent of instructor. Emphasis on the basic techniques for isolating and characterizing biological membranes and component molecules. Basic and advanced techniques of membrane biochemistry and biophysics.

Ms. Wisnieski (W, alternate years)

221U-221Z. Seminars and Symposia on Molecular Biology (½ to 1 course each). Lecture, two hours; discussion, three hours. Prerequisite: consent of instructor. Seminar courses which integrate topically with symposia organized and sponsored by the Molecular Biology Institute. These international symposia feature leading researchers in selected areas of molecular biology. Students receive an abstract booklet for the symposium and use the abstracts as the starting point for weekly presentations on the topics to be treated at the symposium; in this way they prepare for participation in the symposium. Topics are announced each year on September 1 by the Department of Microbiology and the Molecular Biology Institute. Mr. Fox and the Staff (W)

225. Biochemical Methods in Microbial and Cell Biology (2 courses). Lecture and discussion, three hours; laboratory, twelve hours. Prerequisite: consent of instructor. Emphasis is on techniques for purification and characterization of proteins, including cell disruption, column chromatography, gel electrophoresis, ultracentrifugation, various optical methods, and use of radioisotopes.

Mr. Collier, Mr. Wilcox (W)

M230A. Structural Molecular Biology (½ course). (Same as Biology M230A and Chemistry M230A.) Lecture, two hours; discussion, one hour. Prerequisite: consent of instructor, based on a written research proposal. Fundamentals of electron microscopy of macromolecules and supramolecular structures, emphasizing quantitative microscopy, high resolution techniques, nucleic acid analysis, and studies on viruses and protein crystals.

Mr. Eisenberg, Mr. Eiserling, Ms. Kasamatsu, Mr. Lake (F)

M230C. Structural Molecular Biology Laboratory. (Same as Biology M230C and Chemistry M230C.) Laboratory, ten 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. Eisenberg, Mr. Eiserling, Ms. Kasamatsu Mr. Lake (F)

M239. Techniques in Nucleic Acid Research (½ course). (Same as Biology M239.) Lecture, two hours. Highly recommended corequisite: course M239L. Advanced methods in characterization of genes, including sequence determination. Isolation of nucleic acids by centrifugation, chromatography, and electrophoresis, and characterization by restriction mapping and blot hybridization. Cloning in bacterial and plasmid vectors, sequence determination by the dideoxy technique, computer analysis of sequences. Mr. Nierlich, Mr. Simpson (Sp)

M239L. Laboratory in Nucleic Acid Research (1½ courses). (Formerly numbered M239.) (Same as Biology M239L.) Laboratory, twelve hours. Corequisite: course M239. Laboratory in advanced methods in characterization of genes, including sequence determination. Isolation of nucleic acids by centrifugation, chromatography, and electrophoresis, and characterization by restriction mapping and blot hybridization. Cloning in bacterial and plasmid vectors, sequence determination by the dideoxy technique, computer analysis of sequences.

Mr. Nierlich, Mr. Simpson (Sp)

250. Seminar in Microbial Metabolism (½ course). Mr. Gunsalus, Ms. Lascelles

251. Seminar in Regulation and Differentiation (½ course). S/U grading. Mr. Nierlich, Mr. Wilcox

252. Seminar in Medical Microbiology (½ course). Mr. Pickett

253. Seminar in Biochemistry of Host Defense Mechanisms (½ course). Lecture and discussion, one hour. Prerequisite: consent of instructor. Discussion of the literature dealing with host defense mechanisms. The biochemical mechanisms of action of host defense will be stressed. S/U or letter grading. Mr. Collier, Mr. Martinez

256. Seminar in Microbial Genetics (½ course). Mr. Eiserling, Mr. Romig

M257. Seminar in Host-Parasite Relationships (½ course). (Same as Microbiology and Immunology M257.) Prerequisite: consent of instructor. Recent advances in the knowledge of host-parasite interactions and means of controlling the parasites.

Mr. Miller, Mr. Pickett (Sp)

M258A. Advanced Immunology (¾ course). (Same as Biology M250A and Microbology and Immunology M258A.) Lecture, 90 minutes; discussion, 90 minutes. Prerequisite: course M185 or Microbiology and Immunology 202A or equivalent or consent of instructor. The course is designed to provide continuity between the basic immunology courses and the original research literature. The major aspects of the immune system will be intensively examined, with emphasis on fundamental principles and on advances of the past five years. Featured will be lectures dealing with the development of B and T lymphocytes, the interaction of these two lymphocyte subpopulations in the production of immunoglobulin, and cell-mediated immunity. S/U or letter grading. (F)

M258B. Advanced Immunology (¾ course). (Same as Biology M250B and Microbiology and Immunology M258B.) Lecture, 90 minutes; discussion, 90 minutes. Prerequisites: course M185 or Microbiology and Immunology 202A, or equivalent, and course M258A, or consent of instructor. A continuation of course M258A which will consider the fields of immunochemistry, surface membrane receptors, and lymphokines. S/U or letter grading. (W)

M260. Immunology Forum (½ course). (Same as Microbiology and Immunology M260.) Prerequisite: course M185. A broad range of current topics in immunology will be presented and discussed at an advanced frontier level. This is a continuing UCLA-wide, general graduate-level seminar involving faculty, postdoctoral immunologists, and graduate students from diverse departments. Mr. Sercarz (F,W,Sp)

M263. Cellular Immunology Seminar (½ course). (Same as Microbiology and Immunology M263.) Prerequisite: consent of instructor. Critical discussions of the current literature in T and B cell immunology, with emphasis on molecular mechanisms.

Mr. Sercarz (F,W,Sp)

M264A-M264B-M264C. Molecular Basis of Atherosclerosis: Selected Topics (½ course each). (Formerly numbered M264.) (Same as Biological Chemistry M264A-M264B-M264C and Chemistry M264A-M264B-M264C.) Prerequisites: Biological Chemistry M261 or equivalent and consent of instructor. The courses will cover a variety of topics concerning the biochemistry, morphology, and physiology of atherosclerosis. Emphasis will be on the chemistry of lipoproteins and the role of plasma lipoproteins in the regulation of tissue lipid metabolism and the development of atherosclerosis. Each course may be taken independently for credit.

270. Seminar in Molecular Virology (½ course). Prerequisites: graduate standing and 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. Witte (F,W,Sp)

280. Seminar in Molecular and Cellular Endocrinology (½ course). Prerequisites: graduate standing and consent of instructor. Discussion and student presentations of recent work in molecular and cellular endocrinology. S/U grading. Mr. Fox (Sp)

M298. Seminar in Current Topics in Molecular Biology (½ course). (Same as Biological Chemistry M298, Biology M298, Chemistry M298, Microbiology and Immunology M298, and Molecular Biology M298.) Discussion, one hour. Prerequisite: consent of instructor and graduate adviser of interdepartmental Molecular Biology Ph.D. committee. Each student conducts or participates in discussions on assigned topics. May be repeated for credit.

375. Teaching Apprentice Practicum (¼ to 1 course). 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 (½ to 3 courses).

598. Research for M.A. Thesis (½ to 3 courses).

599. Research for Ph.D. Dissertation (½ to 3 courses).

Molecular Biology
(Interdepartmental)

168 Molecular Biology Institute, 825-1018

Professors
Daniel E. Atkinson, Ph.D. *(Biochemistry)*
Marcel A. Baluda, Ph.D. *(Viral Oncology)*
Paul D. Boyer, Ph.D. *(Biochemistry), Director*
William R. Clark, Ph.D. *(Immunology)*
R. John Collier, Ph.D. *(Microbiology)*
Richard E. Dickerson, Ph.D. *(Biochemistry and Geophysics)*
David S. Eisenberg, Ph.D. *(Chemistry and Molecular Biology)*
Frederick A. Eiserling, Ph.D. *(Microbiology)*
John H. Fessler, Ph.D. *(Biology and Molecular Biology)*
C. Fred Fox, Ph.D. *(Microbiology and Molecular Biology)*
Dohn G. Glitz, Ph.D. *(Biological Chemistry)*
Isaac M. Harary, Ph.D. *(Biological Chemistry)*
Harvey R. Herschman, Ph.D. *(Biological Chemistry)*
James A. Lake, Ph.D. *(Biology and Molecular Biology)*
George G. Laties, Ph.D. *(Biology)*
Donald P. Nierlich, Ph.D. *(Microbiology)*
George J. Popjak, M.D., D.Sc. *(Psychiatry and Biological Chemistry)*
Dan S. Ray, Ph.D. *(Biology and Molecular Biology)*
William R. Romig, Ph.D. *(Microbiology)*
Winston A. Salser, Ph.D. *(Biology and Molecular Biology)*
Verne N. Schumaker, Ph.D. *(Biochemistry and Molecular Biology)*
David S. Sigman, Ph.D. *(Biological Chemistry)*
Larry Simpson, Ph.D. *(Biology)*
Roberts A. Smith, Ph.D. *(Biochemistry)*
Clara M. Szego, Ph.D. *(Biology)*
J. Philip Thornber, Ph.D. *(Biology and Molecular Biology)*
Joan S. Valentine, Ph.D. *(Chemistry and Biochemistry)*
Randolph Wall, Ph.D. *(Microbiology and Immunology)*
Charles A. West, Ph.D. *(Biochemistry)*
Felix O. Wettstein, Ph.D. *(Microbiology and Immunology)*
William T. Wickner, M.D. *(Biological Chemistry)*
Gary L. Wilcox, Ph.D. *(Microbiology)*
Irving Zabin, Ph.D. *(Biological Chemistry)*

Associate Professors
Arnold J. Berk, M.D. *(Microbiology)*
Clifford Brunk, Ph.D. *(Biology)*
George C. Fareed, M.D. *(Microbiology and Immunology)*
Robert Goldberg, Ph.D. *(Biology)*
Jay D. Gralla, Ph.D. *(Biochemistry)*
Michael Grunstein, Ph.D. *(Biology and Molecular Biology)*
John M. Jordan, Ph.D. *(Biochemistry and Molecular Biology)*
Harumi Kasamatsu, Ph.D. *(Biology)*
Judith A. Lengyel, Ph.D. *(Biology)*
Harold G. Martinson, Ph.D. *(Biochemistry and Molecular Biology)*
James Paulson, Ph.D. *(Biological Chemistry)*
Emil Reisler, Ph.D. *(Biochemistry and Molecular Biology)*
Allan J. Tobin, Ph.D. *(Biology)*
Richard L. Weiss, Ph.D. *(Biochemistry)*
Bernadine Wisnieski, Ph.D. *(Microbiology)*
Owen N. Witte, M.D. *(Microbiology)*

Assistant Professors
Kathryn L. Calame, Ph.D. *(Biological Chemistry)*
Steven G. Clarke, Ph.D. *(Biochemistry)*
Asim Dasgupta, Ph.D. *(Microbiology and Immunology)*
Kathleen Dixon, Ph.D. *(Biological Chemistry)*
Robert P. Gunsalus, Ph.D. *(Microbiology)*
Michael Lovett, M.D., Ph.D. *(Microbiology and Immunology)*
Aldons J. Lusis, Ph.D., *in Residence (Microbiology)*
Kevin McEntee, Ph.D. *(Biological Chemistry)*
Douglas C. Rees, Ph.D. *(Biochemistry)*

Scope and Objectives

The Ph.D. in Molecular Biology is offered under the supervision of an interdepartmental committee. The Molecular Biology Institute serves this committee and the various departments concerned in support of faculty research and teaching associated with the Ph.D. program. Staff members are 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 each of general and organic chemistry, one year each of physics and 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 will be 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 Institute, UCLA, Los Angeles, CA 90024.

Course Requirements
The usual program is two regular courses per quarter or the equivalent of eight quarter units of upper division or graduate work. Six quarters of course M298 are required.

Teaching Experience
Teaching experience is encouraged, although it is not a requirement for the degree.

Qualifying Examinations
Examinations will be given in course 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 at least six months prior to the final oral examination (usually during the third year).

Final Oral Examination
The final oral examination is required of all students for the degree.

Graduate Course

M298. Seminar in Current Topics in Molecular Biology (½ course). (Same as Biological Chemistry M298, Biology M298, Chemistry M298, Microbiology M298, and Microbiology and Immunology M298.) Discussion, one hour. Prerequisite: consent of instructor and graduate adviser of interdepartmental Molecular Biology Ph.D. committee. Each student conducts or participates in discussions on assigned topics. May be repeated for credit.

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.

Biological Chemistry M253, M255, M257, 259, M261, 266A-266B-266C, M267, M269, M298
Biology 227, 229, M230A, M230B, M230C, M230D, 233A-233B, 234, 238, 255, 280, M282, 294, M298
Chemistry M230A, M230B, M230C, M230D, M253, M255, M257, 259, M261, 266, M267, M269, M298
Microbiology 250, 251, M258A, M258B
Microbiology and Immunology 208, 250, 254, M256, M258A, M258B, 261, 262, 265, M298
Physiology 202, 225

Near Eastern Languages and Cultures

376 Kinsey Hall, 825-4165

Professors
Amin Banani, Ph.D. *(Persian and History)*
Arnold Band, Ph.D. *(Hebrew)*
Andras Bodrogligeti, Ph.D. *(Turkic and Iranian), Chair*
Seeger A. Bonebakker, Ph.D. *(Arabic)*
Giorgio Buccellati, Ph.D. *(Ancient Near East and History)*
Herbert A. Davidson, Ph.D. *(Hebrew)*
Ismail Poonawala, Ph.D. *(Arabic)*

Yona Sabar, Ph.D. *(Hebrew)*
Avedis K. Sanjian, Ph.D. *(Narekatsi Professor of Armenian Studies)*
Hanns-Peter Schmidt, Ph.D. *(Indo-Iranian)*
Stanislav Segert, Ph.D. *(Biblical Studies and Northwest Semitics)*
Wolf Leslau, Docteur es Lettres, *Emeritus*
Moshe Perlmann, Ph.D., *Emeritus*

Associate Professors

John Callender, Ph.D. *(Egyptology)*
Elizabeth Carter Ph.D. *(Near Eastern Archaeology)*
Lev Hakak, Ph.D. *(Hebrew)*
Thomas Penchoen, Ph.D. *(Berber)*

Assistant Professor

Deborah Lipstadt, Ph.D. *(Jewish Studies)*

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: Arabic, Turkic, Persian, Hebrew, Akkadian, and Egyptian. It also provides instruction in Coptic, Armenian, Berber, and various Turkic languages of Central Asia. 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 Arabic, Hebrew, Ancient Near East, and Jewish Studies. Masters and Ph.D. programs are available in Ancient Near Eastern Civilization, Arabic, Armenian, Hebrew, Iranian, Semitics, and Turkic.

Courses in the department prepare students for careers in government, foreign trade, teaching abroad, archaeology, the Peace Corps, journalism abroad, the Foreign Service, 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 will assist in devising 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 will be 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 150A, 150B, 150C, Jewish Studies 150A; three courses in history and religion from Ancient Near East 130, 170, 171, History M104A, M104B, 105, M191A, 193D, 203, Iranian 169, 170; three courses in archaeology and art from Ancient Near East 160A, 160B, 161A, 161B, 161C, 162, Art 102; one course in research methodology (such as Anthropology 115Q, 115R, 116P, or M116Q, or Linguistics 120A or 120B) 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 108B; Greek 130; Jewish studies 150A; History M191A; Semitics 130. The remaining three courses may be selected from Ancient Near East 130, 150A, 150B, 160A, 160B, 171, Art 102, 105A, Classics 166B, Greek 200C, History M104A, M104B, 105, 193D, Iranian 169, 170.

Bachelor of Arts in Arabic

Preparation for the Major

Required: Arabic 1A-1B-1C, 150A-150B.

The Major

Required: Fifteen courses, including Arabic 102A-102B-102C, 103A-103B-103C, 130A-130B-130C; three courses from Arabic 111A-111B-111C or 140A-140B-140C; History 106A, 106B, 106C.

Bachelor of Arts in Hebrew

Preparation for the Major

Required: Hebrew 1A-1B-1C, 102A-102B-102C, Jewish Studies 150A-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 150A-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 chosen 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 chosen for the degree, the Graduate Record Examination Aptitude Test (minimum score of 1500), and three letters of recommendation are required. Prospective students may write to Department of Near Eastern Languages and Cultures, 376 Kinsey Hall, UCLA.

Major Fields or Subdisciplines

Ancient Near Eastern civilizations, Arabic, Armenian, Hebrew, Iranian, Semitics, Turkic.

You may concentrate on either language or literature in your chosen field but will be required to do work in both. In the case of the ancient Near Eastern field, you may concentrate on a combination of both language and literature with Near Eastern archaeology.

Foreign Language Requirement

You will be required to pass an examination in one major modern European language other than English by the end of the third quarter of residence. The choice of the language will be determined in consultation with your adviser.

You may satisfy this requirement by one of the following methods: (1) Educational Testing Service (ETS) examination, (2) departmentally administered examination, (3) two years of college work or equivalent in the language selected. 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, of which at least six must be on the graduate level. All candidates will be required to take one quarter of Near Eastern Languages 200.

Students in ancient Near Eastern civilizations will be required to study two ancient languages of the Ancient Near East (Ancient Egyptian, Akkadian, or Hebrew) and the history and archaeology of the related area. The major area of concentration may be either the linguistic, literary, or archaeological aspect of the discipline. Students in Hebrew will be required to study Hebrew and another Semitic language; in Semitics, three Semitic languages; in Turkish, two Turkic languages; and in Arabic, Armenian, and Iranian, one other related Near Eastern language in addition to the major language area.

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

Upon completion of course requirements and the foreign language examination, you will be required to take a written comprehensive final examination in both your major and related fields administered by your guidance committee. You may be reexamined a second time.

Ph.D. Degree

Admission

In addition to the regular University requirements, an M.A. or equivalent in your field, the Graduate Record Examination Aptitude Test (minimum score of 1500), and three letters of recommendation are required. Prospective students may write to Department of Near Eastern Languages and Cultures, 376 Kinsey Hall, UCLA.

The M.A. program need not have been completed at UCLA.

Major Fields or Subdisciplines

Ancient Near Eastern civilizations, Arabic, Armenian, Hebrew, Iranian, Semitics, Turkic. You may concentrate on either language or literature in your chosen field but will be required to do work in both. In all areas of specialization, your program of study will be devised 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 three options: (1) passing the Educational Testing Service (ETS) examination, (2) passing an examination administered by the department with a minimum grade of B, or (3) two years of college work in the language or equivalent.

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 related languages within your field of concentration, with particular emphasis on two major languages. You are also advised to acquaint yourself with the historical, literary, religious, and social background of the various language areas of your interest.

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 your first language (e.g., a Hebraist can choose Akkadian, Arabic, Aramaic, or Yiddish; an Arabist can choose Persian or Turkish, and so on). You must also be familiar with the history of literary criticism and methods of literary research. This requirement may be fulfilled by taking courses offered by various departments at UCLA, particularly the course in literary criticism offered by the English Department or the course in the methodology of comparative literature.

If you are specializing in ancient Near Eastern civilization, you will be required to achieve competence in two ancient languages. Your major area of concentration may be in either the linguistic, literary, or archaeological aspect of the discipline.

Qualifying Examinations

Before the Chair of the department recommends the formation of a doctoral committee, you must pass written qualifying examinations.

Candidates in languages will be examined in three Near Eastern languages and the literary and historical background of at least two of them. Candidates in literature will be 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 will be examined in two ancient languages and the history and archaeology of the major areas of the Ancient Near East.

When you have passed the written examinations, your doctoral committee will administer the University Oral Qualifying Examination. Passing this examination allows you to advance to candidacy and begin work on the dissertation.

Final Oral Examination

The department does not require an oral defense of the dissertation except when deemed necessary by the doctoral committee.

Candidate in Philosophy Degree

The Department of Near Eastern Languages and Cultures has been approved to grant the C.Phil. degree upon advancement to candidacy.

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.) Course M104A is not prerequisite to M104B. The course will study the political and cultural institutions of ancient Egypt and the ideas upon which they were based. Discussion will proceed chronologically and cover Prehistory, the Old and Middle Kingdom in **M104A. M104B** will cover the New Kingdom and the Late period until 332 B.C.
Mr. Callender

120A-120B-120C. Elementary Ancient Egyptian. Lecture, three hours; laboratory, two hours. Prerequisite: consent of instructor. Grammar and texts.
Mr. Callender

121A-121B-121C. Intermediate Ancient Egyptian. Lecture, three hours. Prerequisites: courses 120A-120B-120C. Readings in ancient Egyptian literature.
Mr. Callender

123A-123B. Coptic. Lecture, three hours. Prerequisite: consent of instructor. An introduction to Coptic grammar and reading of Coptic texts.
Mr. Callender

124. Middle Egyptian Technical Literature. Prerequisite: course 121C. Reading of Middle Egyptian technical literature in hieroglyphic transcription. Included are medical, veterinary, mathematical, and astronomical texts.
Mr. Callender

130. Ancient Egyptian Religion. Lecture, three hours. An introductory survey of various ancient Egyptian religious beliefs and practices, their origin, and development. Included will be 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.

145. Sumerian Literary Texts. Lecture, three hours. Prerequisites: courses 140A-140B or consent of instructor. Reading and interpretation of selected Sumerian literary texts.

150A-150B-150C. Survey of Ancient Near Eastern Literatures in English. Lecture, three hours. Each course may be taken independently for credit. **150A.** Mesopotamia; **150B.** Egypt; **150C.** Syria and Palestine, Asia Minor, Persia.
Mr. Buccellati, Mr. Callender, Mr. Segert

160A-160B. Introduction to Near Eastern Archaeology. Lecture, three hours. Terminology, geography, principles, strategy of research, bibliography, and a general survey of Near Eastern archaeology.
Ms. Carter

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.
Ms. Carter

162. Archaeology of Palestine. Lecture, three hours. A survey of the archaeology of Palestine and the Sinai Peninsula from the Paleolithic to the destruction of Jerusalem in 586 B.C., with emphasis on the geographic setting and relationships to the other cultures of the Near East.

163A-163B. Archaeology of Iran. (Formerly numbered 163.) Lecture, three hours. Designed to introduce students to Iranian archaeology from prehistoric through Achaemenid times. **163A** will focus on the prehistoric and protohistoric phases of Iranian archaeology. **163B** will cover the archaeology of Elam, the Iron Age, and the Achaemenid Empire.
Ms. Carter

164A-164B-164C. The Archaeology of the Historic Periods in Mesopotamia. Prerequisites: History 105, Ancient Near East 161A-161B-161C, or consent of instructor. Survey of the main archaeological periods in Mesopotamia, with special emphasis on the historic periods and with reference to neighboring cultural areas. Each course may be taken independently for credit.

170. Introduction to Biblical Studies. Lecture, two hours. Knowledge of original languages is not required. The Bible (Old and New Testaments) as a book. Canon, text, and versions. Linguistic, literary, historical, and religious approaches to Bible study. Survey of history of interpretation from antiquity to the present.
Mr. Segert

171. Old Testament: Hebrew and Septuagint Texts. Lecture, two hours. Prerequisites: Hebrew 102A-102B-102C, Greek 1, 2, or consent of instructor. Study of the Hebrew original and of the Greek version of the Old Testament books.
Mr. Segert

199. Special Studies in the Ancient Near East (½ to 2 courses). Prerequisite: consent of instructor.

Graduate Courses

210. Late Egyptian. Lecture, three hours. Prerequisites: courses 121A-121B-121C and consent of instructor. Late Egyptian grammar and reading of both hieroglyphic and hieratic texts. May be repeated for credit.
Mr. Callender

211A-211B. Texts of the Greco-Roman Period. Prerequisite: course 121C. Introduction to the grammar and orthography of hieroglyphic texts from Greco-Roman temples. Text readings and translation of various textual types.
Mr. Callender

220. Seminar in Ancient Egypt. Seminar, three hours. Prerequisite: consent of instructor. May be repeated for credit.
Mr. Callender

221A-221B. Demotic. Prerequisite: course 121C. Introduction to Demotic grammar and orthography. Reading of texts from various genres.
Mr. Callender

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.

M250. Seminar in Ancient Mesopotamia. (Same as History M207.) Prerequisite: consent of instructor. Selected topics on the political, social, and intellectual history of ancient Mesopotamia. May be repeated for credit.
Mr. Buccellati

250X. Seminar in Ancient Mesopotamia (¼ course). 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.
Mr. Buccellati

260. Seminar in Ancient Near Eastern Archaeology. Lecture, two hours. Prerequisite: consent of instructor. May be repeated for credit.

261. Practical Field Archaeology (½ to 2 courses). 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 Heeramanek Collection of the Los Angeles County Museum of Art.
Ms. Carter

272. Semitic Background of the New Testament. (Formerly numbered 172.) Lecture, two hours. Prerequisites: Hebrew 102A-102B-102C, Semitics 130, Greek 1, 2, or consent of instructor. Study of the Semitic elements in the Greek New Testament: traditions transmitted in Aramaic, relations to the Old Testament and to the post-Biblical literature, and Palestinian Judaism.
Mr. Segert

596. Directed Individual Study (½ to 2 courses). May be repeated for credit.

597. Examination Preparation (½ to 2 courses).

599. Ph.D. Dissertation Research and Preparation (½ to 2 courses).

Related Courses in Other Departments

Art 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 Arabic. Lecture, four hours; laboratory, two hours. Basic structure.
Mr. Sbait

Upper Division Courses

102A-102B-102C. Intermediate Arabic. Prerequisites: courses 1A-1B-1C or consent of instructor. Readings in both classical and modern Arabic, composition, conversation.
Mr. Sbait

103A-103B-103C. Advanced Arabic. Prerequisites: courses 102A-102B-102C or consent of instructor. Review of grammar, continued reading of literary works. Composition, conversation, and a weekly lecture in Arabic.
Mr. Poonawala

111A-111B-111C. Spoken Arabic. Lecture, three hours. Prerequisites: courses 102A-102B-102C. Introduction to one Arabic dialect with some comparison of the other dialects. May be repeated once for credit by consent of instructor.
Mr. Poonawala

112A-112B-112C. Spoken Egyptian Arabic. (Formerly numbered 112.) Discussion, three hours; laboratory, two hours. Prerequisites: courses 111A-111B-111C or consent of instructor. The syntactic and morphological structures of spoken Egyptian Arabic will be treated in a more elaborate and in-depth fashion than first-year spoken Arabic, which is on an elementary level. Excerpts of literary texts in colloquial Arabic (plays, short stories, poetry) and folk literature will constitute the basic material for the course. Emphasis will be on conversation, laboratory exercises. The study of dialectology will be included. Oral and written tests will be administered.
Mr. Poonawala

113A-113B-113C. Spoken Iraqi Arabic. Lecture, three hours. Prerequisites: courses 102A-102B-102C. Introduction to the contemporary Arabic dialect of Iraq. Phonology, morphology, and syntax will be presented, with emphasis on oral practice.

114A-114B-114C. Spoken Moroccan Arabic. Lecture, three hours; laboratory, one hour. Introduction to the spoken Arabic dialect of Morocco. Phonology, morphology, and syntax will be presented. Emphasis will be on developing oral skills.
Mr. Penchoen

130A-130B-130C. Classical Arabic Texts. Lecture, three hours. Prerequisites: courses 102A-102B-102C. Reading and interpretation of texts from classical Arabic literature: Koran, historiography, geography, and poetry.
Mr. Bonebakker

132A-132B-132C. Philosophical Texts. Lecture, three hours. Prerequisites: courses 102A-102B-102C or consent of instructor. A study of excerpts from the major works of medieval Arab philosophy.

140A-140B-140C. Modern Arabic Texts. Lecture, three hours. Prerequisites: courses 102A-102B-102C. Readings and interpretation of modern Arabic texts.
Mr. Sbait

141. Modern Arabic Literature. Lecture, three hours. Prerequisites: courses 140A-140B-140C or equivalent. Readings of selected texts representing the most important modern styles and trends. May be repeated once for credit by consent of instructor.
Mr. Sbait

150A-150B. Survey of Arabic Literature in English. Lecture, three hours. Knowledge of Arabic is not required. Each course may be taken independently for credit.
Mr. Bonebakker

199. Special Studies in Arabic (½ to 2 courses). Prerequisite: consent of instructor.

Graduate Courses

220A-220B-220C. Islamic Texts. Lecture, two hours. Scripture and interpretation in Islam; traditional scholarship; historical and literary problems of modern research; selections from various fields of Islamic thought. May be repeated for credit.
Mr. Poonawala

230A-230B-230C. Arabic Poetry. Lecture, two hours. Prerequisite: consent of instructor. Readings in Arabic poetry from various periods. Each course may be taken independently for credit.
Mr. Bonebakker

240A-240B-240C. Arab Historians and Geographers. Lecture, two hours. Readings from the works of the most outstanding Arab historians and geographers of the classical period of Islam.
Mr. Poonawala

250A-250B-250C. Seminar in Arabic Literature. Seminar, two hours. May be repeated for credit by consent of instructor.
Mr. Bonebakker

260A-260B-260C. Introduction to Modern Arabic Dialects. Lecture, three hours. Prerequisites: courses 103A-103B-103C or consent of instructor. Survey of partition and geographic distribution of modern Arabic dialects; common structural features and contrasts with classical Arabic; sociolinguistic evaluation of the Arabic diglossia; analysis of representative texts.

280. Structure of Classical Arabic. Lecture, three hours. Prerequisites: courses 103A-103B-103C or consent of instructor. The patterning of classical Arabic at the morphophonemic, morphological, and morphosyntactic structural levels; application of traditional, statistical, and generative methods to the synchronic investigation of structural features.

596. Directed Individual Study (½ to 2 courses). May be repeated for credit.

597. Examination Preparation (½ to 2 courses).

599. Ph.D. Dissertation Research and Preparation (½ to 2 courses).

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

101A-101B-101C. Elementary Modern Armenian. Armenian grammar, conversation, and exercises. Mr. Sanjian

102A-102B-102C. Intermediate Modern Armenian. Prerequisites: courses 101A-101B-101C or equivalent. Reading of selected texts, composition, and conversation. Mr. Sanjian

103A-103B-103C. Advanced Modern Armenian. Lecture, three hours. Prerequisites: courses 102A-102B-102C or equivalent. Readings in advanced modern Armenian texts. Mr. Sanjian

130A-130B. Elementary Classical Armenian. Lecture, three hours. Grammar of the classical Armenian language and readings of selected texts. Mr. Sanjian

131A-131B. Intermediate Classical Armenian. Lecture, three hours. Prerequisites: courses 130A-130B or equivalent. Reading of selected texts. Mr. Sanjian

132A-132B. Advanced Classical Armenian. Lecture, three hours. Prerequisites: courses 131A-131B or equivalent. Readings in advanced classical Armenian texts. Mr. Sanjian

150A-150B. Survey of Armenian Literature in English. Lecture, three hours. Knowledge of Armenian is not required. Each course may be taken independently for credit. Mr. Sanjian

160A-160B. Armenian Literature of the 19th and 20th Centuries. Lecture, three hours. Prerequisites: courses 102A-102B-102C or equivalent. Reading of texts and discussion of various genres of modern Armenian literature within the context of the Armenian cultural renaissance. Mr. Sanjian

199. Special Studies in Armenian Language and Literature (½ to 2 courses). Prerequisite: consent of instructor. Mr. Sanjian

Graduate Courses

207. Armenian Intellectual History. Lecture, three hours. Intellectual and cultural trends reflected in Armenian literature, historiography, religious and philosophical thought. Mr. Sanjian

210. History of the Armenian Language. Lecture, three hours. Prerequisite: consent of instructor. The development of the Armenian language in its various stages: classical, middle, and modern. Mr. Sanjian

220. Armenian Literature of the Golden Age (A.D. 5th Century). Lecture, three hours. Prerequisites: courses 131A-131B or equivalent. Readings of texts and discussion of literary genres; course concentrates on both original works and those translated from Greek and Syriac. Mr. Sanjian

250A-250B. Seminar in Armenian Literature. Seminar, three hours. Prerequisite: consent of instructor. Selected topics from various periods of Armenian literature. May be repeated for credit. Mr. Sanjian

290. Seminar in Armenian Paleography. Seminar, three hours. Prerequisite: consent of instructor. Discussion of variety of Armenian scripts and training in the use of manuscripts. Mr. Sanjian

596. Directed Individual Study (½ to 2 courses). May be repeated for credit. Mr. Sanjian

597. Examination Preparation (½ to 2 courses). Mr. Sanjian

599. Ph.D. Dissertation Research and Preparation (½ to 2 courses). Mr. Sanjian

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

201S. 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. Mr. Penchoen

102A-102B-102C. Advanced Berber. Prerequisites: courses 101A-101B-101C or consent of instructor. Advanced study of Berber. Regional and stylistic variants in folk literature. Mr. Penchoen

120A-120B-120C. Introduction to Berber Literature. Lecture, three hours. Prerequisites: courses 102A-102B-102C or consent of instructor. The development of Berber literary forms: systematic analysis of texts and a study of Berber writing systems. Mr. Penchoen

130. The Berbers. Examination of the main features of Berber societies and cultures, with particular attention given to social structures and institutions on the one hand, and to customs, values and beliefs on the other. The course will present a broad framework within which the study of particular aspects of Berber cultures may be pursued. Mr. Penchoen

199. Special Studies in Berber Languages (½ to 2 courses). 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

Caucasian Languages

Upper Division Courses

111A-111B-111C. Elementary Georgian. Lecture, three hours. Prerequisite: consent of instructor. Script, grammar, simple reading in this main Caucasian language.

199. Special Studies in Caucasian Languages (½ to 2 courses). Prerequisite: consent of instructor.

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 courses 10A-10B-10C. Students with credit for course 10A will not receive credit for 1A; those with credit for course 10B will not receive credit for 1B or 1C. Mr. Sabar

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 10B. Mr. Davidson

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

103A-103B-103C. Advanced Hebrew. Lecture, three hours; discussion, two hours. Prerequisites: courses 102A-102B-102C or equivalent. Introduction to modern Hebrew literary texts. Mr. Hakak

120. Biblical Texts. Lecture, three hours. Prerequisites: courses 102A-102B-102C or equivalent. Translations and analysis of Old Testament texts, with special attention given to texts of primary literary and historical importance. May be repeated for credit. Mr. Lieber

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 sixteen units. Mr. Davidson

140. Modern Hebrew Poetry and Prose. Lecture, three hours. Prerequisites: courses 103A-103B-103C and consent of instructor. A study of the major Hebrew writers of the past one hundred years: prose — Mendele, Ahad Ha'am, Agnon, Yizhar; poetry — Bialik, Tchernichovsky, Greenberg, Shlonsky, 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. The literary, political, philosophical, and scholarly essay will be studied. 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 (alternate years)

199. Special Studies in Hebrew (½ to 2 courses). 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. May be repeated for credit. Mr. Sabar

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

231. Texts in Judaeo-Arabic. Prerequisite: a reading knowledge of Hebrew and Arabic. Reading of philosophic texts in Judaeo-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

242. Studies in Modern Hebrew Poetry. Studies in specific problems and trends in Hebrew poetry of the last two centuries. Mr. Band

596. Directed Individual Study (½ to 2 courses). May be repeated for credit.

597. Examination Preparation (½ to 2 courses).

599. Ph.D. Dissertation Research and Preparation (½ to 2 courses).

Iranian

Lower Division Courses

10A-10B-10C. Persian Conversation (½ course each). Lecture, three hours. Prerequisite: consent of instructor. Systematic and structured conversation Persian. Mr. Banani

Upper Division Courses

101A-101B-101C. Elementary Persian. Lecture, four hours; laboratory, two hours. Mr. Banani

102A-102B-102C. Intermediate Persian. Lecture, three hours; laboratory, three hours. Prerequisites: courses 101A-101B-101C or equivalent. Mr. Banani

103A-103B-103C. Advanced Persian. Lecture, three hours. Prerequisites: courses 102A-102B-102C or equivalent. Mr. Banani

140. Contemporary Persian Belle Lettres. Lecture, three hours. Prerequisites: courses 103A-103B-103C or equivalent and 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, Golestan; poetry — Nima, Shamlu, Farrokhzad, Akhavan. Mr. Banani

141. Contemporary Persian Analytical Prose. Lecture, three hours. Prerequisites: courses 102A-102B-102C or equivalent and 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

169. Civilization of Pre-Islamic Iran. A survey of Iranian culture from the beginnings through the Sasanian period. Mr. Schmidt

170. Religion in Ancient Iran. History of religion in Iran from the beginnings to the Mohammedan conquest; Indo-Iranian background, Zoroastrianism, Manichaeism, Mazdakism. Mr. Schmidt

190A-190B. Introduction to Modern Iranian Studies. Lecture, three hours. Prerequisites: courses 101A-101B-101C or equivalent. Survey of the Iranian languages. Comparative and historical grammar. Mr. Bodrogligeti

199. Special Studies in Iranian (½ to 2 courses). Prerequisite: consent of instructor.

Graduate Courses

211A-211B. Modern Iranian Dialects. Prerequisites: Linguistics 100 or equivalent and consent of instructor. A survey of the Northwestern and Southwestern Iranian languages and their interaction with the non-Iranian languages of Iran. Discussion includes historical development, linguistic affinities, and modern distribution. Material gathered in the field will supplement lectures. May be repeated for credit by consent of instructor. Mr. Banani

220A-220B. Classical Persian Texts. Lecture, three hours. Prerequisites: courses 103A-103B-103C or consent of instructor. Study of selected classical Persian texts. Each course may be taken independently for credit. Mr. Banani

221. Rumi, the Mystic Poet of Islam. Lecture, three hours. Prerequisites: course 220A or 220B or equivalent and consent of instructor. A study of the life and works of Rumi in the context of interaction of Sufism and poetic creativity. Mr. Banani

M222A-M222B. Vedic. (Same as Oriental Languages M222A-M222B.) Prerequisites: knowledge of Sanskrit equivalent to Oriental Languages 162 and consent of instructor. Characteristics of the Vedic dialect and readings in the Rig-Vedic hymns. Only course M222B may be repeated for credit. Mr. Schmidt

230A-230B. Old Iranian. Prerequisite: consent of instructor. Studies in the grammars and texts of Old Persian and Avestan. Comparative considerations. Only course 230B may be repeated for credit. Mr. Schmidt

231A-231B. Middle Iranian. Prerequisite: consent of instructor. Studies in the grammars and the 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 and consent of instructor. Studies in specific problems and trends in Persian poetry and prose in the 20th century. Mr. Banani

596. Directed Individual Study (½ to 2 courses). May be repeated for credit.

597. Examination Preparation (½ to 2 courses).

599. Ph.D. Dissertation Research Preparation (½ to 2 courses).

Related Courses in Other Departments

History 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

Oriental Languages 160. Elementary Sanskrit

161. Intermediate Sanskrit

162. Advanced Sanskrit

Islamics

Upper Division Course

110. Introduction to Islam. (Formerly numbered Arabic 210.) Lecture, three hours. The course will treat the genesis of Islam, its doctrines, and practices with readings from the Gur'an; forms of Islam: tensions and schism; reform and modernism. Mr. Poonawala

Graduate Courses

596. Directed Individual Study (½ to 2 courses). May be repeated for credit.

597. Examination Preparation (½ to 2 courses).

598. M.A. Thesis Research and Preparation (½ to 2 courses).

599. Ph.D. Dissertation Research and Preparation (½ to 2 courses).

Related Courses in Another Department

History 107A-107B. Islamic Civilization

Jewish Studies

Upper Division Courses

110. Social, Cultural, and Religious Institutions of Judaism. The course will examine Judaism's basic beliefs, institutions, and practices. Topics include the development of biblical and rabbinic Judaism; the concepts of god, sin, repentence, prayer, and the messiah; the history of the Talmud and the synagogue; the evolution of folk beliefs and yearcycle and lifecycle practices. Ms. Lipstadt

130. Modern Jewish National Movements. Lecture, three hours. Study of the evolution of modern Jewish national movements, with particular emphasis on the history of Zionism and Diaspora nationalism. Covers the period up to 1948. Ms. Lipstadt

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 upon the integration of successive immigrants and the development of institutions. **140A** covers from 1654 to 1914. **140B** covers from 1914 to the present. Ms. Lipstadt

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 pre-modern theories; case studies (e.g., the Dreyfus affair, the Beiliss Trail, the Holocaust); Jewish reactions to these phenomena. Ms. Lipstadt

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 upon major trends, personalities, and ideologies, and the state's position in the wider framework of modern Jewish history. Ms. Lipstadt

M143. Introduction to Jewish Folklore. (Same as Folklore M142.) The nature of Jewish folklore; narrative, folk song, folk art, folk religion, and the methods and perspectives used in their analysis.

150A-150B. Hebrew Literature in English. Lecture, three hours. Each course may be taken independently for credit. **150A.** Biblical and Apocryphal Literature; **150B.** Rabbinic and Medieval Literature. Mr. Band, 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

190. Undergraduate Seminar in Jewish Studies. The course will examine 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 will be included. Ms. Lipstadt

M191A-M191B. Survey of Jewish History. (Same as History M191A-M191B.) 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

199. Special Studies in Jewish Studies (½ to 2 courses). Limited to Jewish studies majors.

Related Courses in Another Department

History 191C-191D. Focal Themes in Jewish History
192A-192B. Jewish Intellectual History

Near Eastern Languages

Upper Division Course

130. Archaeology in Armenia and in the Caucasus. Lecture, three hours. A survey of the cultures of Armenia and the Caucasus from late prehistoric to medieval times, from the viewpoint of artifactual evidence. Major recent excavations and finds will be especially highlighted. Mr. Arakelian

Graduate Courses

200. Bibliography and Method of Near Eastern Languages and Literatures. Lecture, two hours. Prerequisite: consent of instructor. Required for the M.A. degree. Introduction to bibliographical resources and training in methods of research in various areas of specialization offered by the department. May be repeated for credit.

210. Survey of Afro-Asiatic Languages. Lecture, three hours. Prerequisite: consent of instructor. A survey of the structures of a number of the representative languages from various major branches of the Hamito-Semitic (Afro-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 (¼ to 1 course). 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 (½ to 2 courses). Prerequisite: consent of UCLA graduate adviser and Graduate Dean and host campus instructor, department Chair, and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596. Directed Individual Study (½ to 2 courses). May be repeated for credit.

597. Examination Preparation (½ to 2 courses).

599. Ph.D. Dissertation Research and Preparation (½ to 2 courses).

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

140A-140B. Elementary Akkadian. Lecture, three hours. Elementary grammar and reading of texts in standard Babylonian. Mr. Buccellati

141. Advanced Akkadian. Lecture, three hours. Prerequisite: consent of instructor. Old Babylonian syntax; reading of basic Old Babylonian texts. Mr. Buccellati

142. Akkadian Literary Texts. Lecture, three hours. Prerequisite: consent of instructor. Selected readings from Akkadian myths and epics, with an introduction to the historical tradition of the works and their literary structure. Mr. Buccellati

Graduate Courses

201A-201B-201C. Old Ethiopic. Lecture, two hours. Grammar of Old Ethiopic and reading of texts.

202A-202B-202C. Readings in Old Ethiopic Literature. Lecture, two hours. Prerequisites: courses 201A-201B-201C.

209A-209B-209C. Comparative Study of the Ethiopian Languages. Lecture, two hours. Prerequisite: consent of instructor. Comparative study of the various Semitic Ethiopic languages: Geez, Tigrinya, Tigre, Amharic, Harari, Gurage, and Gafat.

210. Ancient Aramaic. Lecture, two hours. Prerequisite: course 130 or consent of instructor. Reading of the surviving inscriptions and papyri. May be repeated for credit. 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

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. Lecture, two hours. Prerequisite: consent of instructor. May be repeated for credit. Mr. Segert

240. Seminar in Akkadian Language. Seminar, two hours. Prerequisite: consent of instructor. Readings of texts from various dialects of Akkadian; selected problems in the linguistic analysis of Akkadian dialects. May be repeated for credit. Mr. Buccellati

240X. Seminar in Akkadian Language (¼ course). 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. Mr. Buccellati

241. Seminar in Akkadian Literature. Seminar, two hours. Prerequiste: 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. Buccellati

241X. Seminar in Akkadian Literature (¼ course). 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. Mr. Buccellati

280A-280B-280C. Seminar in Comparative Semitics. Seminar, two hours.

290A-290B-290C. Comparative Morphology of the Semitic Languages. Lecture, two hours. Prerequisites: courses 280A-280B-280C or consent of instructor. Comparative study of the noun and verb of the various Semitic languages (Arabic, Hebrew, Ethiopic, Akkadian, and Aramaic). Mr. Leslau

596. Directed Individual Study (½ to 2 courses). May be repeated for credit.

597. Examination Preparation (½ to 2 courses).

599. Ph.D. Dissertation Research and Preparation (½ to 2 courses).

Turkic Languages

Upper Division Courses

101A-101B. Elementary Turkish. Lecture, five hours. Grammar, reading, conversation, and elementary composition drills. Mr. Jaeckel

102A-102B. Intermediate Turkish. Lecture, five hours. Prerequisites: courses 101A-101B or equivalent. Continuing study of grammar, reading, conversation, and composition drills. Mr. Jaeckel

103A-103B. Advanced Turkish. Lecture, five hours. Prerequisites: courses 102A-102B or equivalent. Reading in modern literature and social science texts; conversation and composition. Mr. Jaeckel

112A-112B-112C. Uzbek. Lecture, three hours. Prerequisite: course 102A or consent of instructor. Grammar, composition drills, reading of literary and folkloric texts. 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

160A-160B. Cultural History of the Turks. Lecture, three hours. A survey of the cultural history of the Turks, as seen primarily through their literature, from their early history to the present.

180A-180B-180C. Introduction to Turkic Studies. Lecture, three hours. Prerequisite: consent of instructor. Required of students in the Turkish program. Introduction to Turkic philology and an ethnic and cultural survey of the Turkic people. Mr. Bodrogligeti

199. Special Studies in Turkic Languages (½ to 2 courses). Prerequisite: consent of instructor.

Graduate Courses

210A-210B-210C. Introduction to Ottoman. Lecture, three hours. Prerequisite: consent of instructor. Introduction to the literary language of the Ottoman Empire from its foundation in the 14th century to its overthrow in the 20th century for students of the history, literature, and religion of the Balkans, the Near East, and Central Asia. Topics include the Arabic script as applied to Ottoman; Arabic and Persian elements in grammar and vocabulary. Readings of historical and literary texts. Mr. Jaeckel

211. Ottoman Diplomatics. 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 112A-112B-112C or 114A-114B-114C or consent of instructor. Introduction to Chagatay: descriptive grammar; Arabic, Persian, and Tajik elements in grammar and vocabulary. Readings and composition drills.
Mr. Bodrogligeti

225A-225B-225C. Old Turkic: Turk and Uygur. Lecture, three hours. Prerequisites: courses 180A-180B-180C and consent of instructor. Textual and linguistic analysis of Turk and Old Uygur documents: inscriptions, Manichean and Buddhist literary works.
Mr. Bodrogligeti (alternate years)

230A-230B-230C. A Historical and Comparative Survey of the Turkic Languages. Lecture, three hours. Prerequisites: courses 180A-180B-180C. Extinct and living Turkic languages. The history of Turkic: developments in the phonemic, grammatical, and lexical systems from the 8th to the 20th century. Structural analysis of the Turkic languages on a comparative basis. Mr. Bodrogligeti

235A-235B. Middle Turkic: Karakhanid, Khorazmian, Mamluk-Kipchak, and Old Anatolian. Lecture, three hours. Prerequisites: courses 180A-180B-180C and consent of instructor. A survey of Middle Turkic documents. Textual and linguistic analysis of Middle Turkic texts from various literary genres.
Mr. Bodrogligeti (alternate years)

240A-240B-240C. Advanced Ottoman. Lecture, three hours. Prerequisites: courses 210A-210B-210C or equivalent or consent of instructor. Emphasis is on the different genres of Ottoman writing (belles lettres as well as various types of state documents) in the elaborate high style of the classical Ottoman period (15th to 19th centuries). Selections will be 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

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 and 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 and 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 (½ to 2 courses). May be repeated for credit.

597. Examination Preparation (½ to 2 courses).

599. Ph.D. Dissertation Research and Preparation (½ to 2 courses).

Urdu

Upper Division Courses

101A-101B-101C. Elementary Urdu. Lecture, three hours. Prerequisite: consent of instructor. Elements of Urdu, the language of Pakistan.

199. Special Studies in Urdu. Prerequisite: consent of instructor.

Near Eastern Studies
(Interdepartmental)

10286 Bunche Hall, 825-1181

Scope and Objectives

The 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 Computer Science 10S and one course from Mathematics 50A, Psychology 41, Sociology 18, Political Science 6, or Economics 40, plus one course from Psychology 142, Sociology 116, Political Science C102, Economics 141, or Geography 171. Also required are History 9D and four courses from History 1A, 1B, 1C, Anthropology 5, 6, Economics 1, 2, Geography 3, Political Science 2, 3, Sociology 1.

The Major

Required: Sixteen courses as follows: (1) completion of the advanced level or equivalent in the same language taken in lower division; (2) History 106A-106B-106C and three additional courses in the history of the Near East, two of which are related to the major language; (3) four courses (two of which must be in the same discipline) from Anthropology 110, 176, Art 102, 104B, 104C, 104D, Economics 110, 111, 112, 190, Geography 187, 188, Political Science 132A, 132B, 164, 165, Sociology 132, 133. This program may be modified in exceptional cases by consent of the adviser.

If you are interested in doing graduate work in this field, see the M.A. and Ph.D. programs offered under "Islamic Studies" earlier in this chapter.

For further information, contact the Von Grunebaum Center for Near Eastern Studies, 10286 Bunche Hall (825-1181) or Professor Michael Morony, History, 6242 Bunche Hall (825-1962).

Oriental Languages

222 Royce Hall, 206-8235

Professors
Hartmut E. F. Scharfe, Ph.D. *(Indic Studies)*
Ensho Ashikaga, M. Litt., Giko, *Emeritus*
Kenneth K. S. Chen, Ph.D., *Emeritus*
Kan Lao, B.A., *Emeritus*
Richard Rudolph, Ph.D., *Emeritus*

Associate Professors
Ben Befu, Ph.D.
Hung-hsiang Chou, Ph.D.
Robert C. Epp, Ph.D.
William R. LeFleur, Ph.D.
E. Perry Link, Jr., Ph.D., *Chair*
Herbert E. Plutschow, Ph.D.
Richard E. Strassberg, Ph.D.
Shirleen S. Wong, Ph.D.

Lecturers
Y. C. Chu, M.A. *(Chinese)*
Kuo-yi Pao (Unensečen), M.A., M.S.

Associate Professor
Noriko Akatsuka, Ph.D., *Visiting*

Lecturer
Ikuyo Nishide, B.A., *Visiting*

Scope and Objectives

The Department of Oriental Languages aims to provide students with an exposure to the cultural heritage of China and Japan. This is accomplished through courses in civilization, religion, archaeology, literature in translation, and other cultural topics. For undergraduates who wish to major in Oriental languages, the department offers a program leading to the B.A. degree in Chinese or Japanese, in which the emphasis is on a more specialized knowledge of the language and literature of the area of major interest. In the language program, the emphasis proceeds from an acquaintance with the spoken language (either Chinese or Japanese) to a reading knowledge of the modern and classical forms of the language.

At the graduate level, the department offers a program leading to an M.A. degree in either Chinese or Japanese language and literature. The program aims to give students a solid mastery of some aspect of Chinese or Japanese culture preparatory to careers in teaching or in fields such as journalism, business, banking, or government science. The Ph.D. program, which is very selective, trains research scholars for academic careers in specialized fields of Chinese or Japanese literature or in East Asian Buddhism.

Bachelor of Arts in Chinese

Preparation for the Major

Required: Oriental Languages 1A-1B-1C, 11A-11B-11C, 13A-13B, and 40A or 46, History 9B-9C. *Recommended:* Oriental Languages 113A, Anthropology 6, 22, English 4.

The Major

Required: A total of 11½ courses, of which seven must be upper division language courses, including two chosen from Oriental Languages 121A, 121B, 121C, 122A, 122B, 124A, 124B, 124C, 126 and two chosen from 113A, 113B, 151A, 151B, 152A, 152B, 163A, 163B, 163C.

The other four and one-half required courses must include Oriental Languages 140A or 140B or 140C; one course from 170A, 170B, 173, or 183; 199 (at least one-half course); Art 114B and either History 182A, 182B, 182C, or 183.

Recommended: English 100A, 100B, 100C, and additional courses in history. Those planning to undertake graduate study are urged to include in their undergraduate program three courses in classical Chinese or Japanese at the upper division level. Those planning to undertake advanced graduate study are urged to include five quarters of French or German.

Bachelor of Arts in Japanese

Preparation for the Major

Required: Oriental Languages 9A-9B-9C, 19A-19B-19C, 40B, History 9B-9C. *Recommended:* Anthropology 6, 22, English 4.

The Major

Required: A total of 11½ courses, of which seven must be upper division language courses chosen from Oriental Languages 119A, 119B, 129, 134A, 134B, 137, 139, 142A, 142B, 153A, 153B, 175, 179A, 179B. The seven courses must include 119B, 129, and 134A or 134B or 153A or 153B.

The other four and one-half required courses must include Oriental Languages 141A or 141B; one course from 174 or 184; 199 (at least one-half course); Art 114C and either History 187A, 187B, or 187C.

Recommended: English 100A, 100B, 100C, and additional courses in history. Those planning to undertake graduate study are urged to include in their undergraduate program three courses in classical Chinese or Japanese at the upper division level. Those planning to undertake advanced graduate study are urged to include five quarters of French or German.

Master of Arts Degree

Admission

You are expected to meet general University requirements and minimum requirements for the undergraduate major and have taken a minimum of three courses in classical Chinese or Japanese at the upper division level. If your undergraduate preparation was not in the field of Oriental languages, you will be admitted only if you can meet the departmental standards in linguistic competence and complete the minimum departmental requirements for the equivalent of a B.A. degree within the period of one year. Selection will be based on (1) prior scholastic performance (at the junior, senior, and/or graduate levels), (2) recommendations by professors and others, (3) score on the Graduate Record Examination (Aptitude Test), and (4) degree of commitment to the field of study. Foreign students, furthermore, are required to take the Test of English as a Foreign Language administered by the Educational Testing Service, unless this test is not offered in their country of residence. Foreign students may also be required to take English as a Second Language 33A, 33B, 33C, 34, 36, or other courses in ESL. No additional application forms are required besides that used by Graduate Admissions.

Major Fields or Subdisciplines

The department recognizes two fields of specialization at the M.A. level: Chinese language and literature and Japanese language and literature.

Foreign Language Requirement

Students majoring in Chinese must have completed one year of Japanese with a grade of B or better; those majoring in Japanese must have completed one year of Chinese with a grade of B or better. This requirement need not be fulfilled before admission to the M.A. program.

Course Requirements

Eleven courses are required for the degree, of which five must be graduate courses. Oriental Languages 295 is required for the Chinese major, and Oriental Languages 296 is required for the Japanese major.

With the consent of the department, up to two courses taken outside the department may be applied toward the 11 courses but not toward the five graduate courses.

Courses in the 500 series may not be applied toward the total course requirement.

Thesis or Comprehensive Examination Plan

All students will take comprehensive examinations in the areas of Chinese or Japanese language, literature, and civilization. These examinations are given at the end of each quarter.

In addition, a brief research paper embodying the results of independent investigation will be required. The results of the examinations and the quality of the paper will determine whether the student will be permitted to enter the Ph.D. program.

Ph.D. Degree

Admission

An M.A. degree in the department or the equivalent is required for admission to the doctoral program. Students admitted with an M.A. degree in Oriental Languages from another institution may be required to take supplementary courses before proceeding to the doctoral program. Students admitted with an M.A. degree in a field other than Oriental languages must fulfill the course requirements for the M.A. degree. In either case, students may be required to submit a brief research paper demonstrating their ability to conduct original research and their aptitude in communicating their findings.

Three letters of recommendation from professors and others are required. No additional application forms are required besides that used by Graduate Admissions.

Major Fields or Subdisciplines

The department recognizes three major fields at the Ph.D. level: (1) Chinese language and literature with the subdisciplines of poetry, drama, fiction, and archaeological inscriptions; (2) Japanese language and literature with the subdisciplines of ancient, medieval, early modern, and modern Japanese literature; (3) Buddhism with the subdisciplines of Chinese Buddhism and Japanese Buddhism.

Foreign Language Requirement

You must demonstrate a reading knowledge of French and 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, one of these languages may be substituted by another language or an additional year of Japanese for the Chinese major or Chinese for the Japanese major.

Course Requirements

A minimum of five courses beyond the M.A. degree is required. In addition, students whose major field of interest is Chinese language and literature must pass three courses in modern Japanese at the intermediate level (courses 19A-19B-19C) or higher; those whose major field of interest is Japanese language and literature must pass three courses in classical Chinese (courses 13A-13B-13C) or higher. Those whose major field of interest is Buddhism must take five quarters of Sanskrit and one quarter of Pali. A grade of B or better is required for all language courses.

Qualifying Examinations

You will be required to take a language examination in your major language area well in advance of the written qualifying examinations. The examination will consist of translations into English to test your ability to render the language into English accurately and in an acceptable style.

You must also take three written examinations, as follows:

(1) For the major in Chinese language and literature:

(a) A general examination in Chinese language and literature.

(b) An examination in poetry, drama, fiction, or archaeological inscriptions.

(c) An examination in one of the following fields: Japanese language and literature, Buddhism (Chinese), Chinese archaeology (not open to those who offer archaeological inscriptions as a subfield), or a cognate field offered in another department or interdepartmental program in the Graduate Division and approved by the department.

(2) For the major in Japanese language and literature:

(a) A general examination in Japanese language and literature.

(b) An examination in ancient, medieval, early modern, or modern Japanese literature.

(c) An examination in one of the following fields: Chinese language and literature, Buddhism (Japanese), or a cognate field offered in another department or interdepartmental program in the Graduate Division and approved by the department.

(3) For the major in Buddhism:

(a) A general examination in Buddhism.

(b) An examination in a specified subfield in Buddhism.

(c) A general examination in Chinese or Japanese language and literature or a cognate field.

All three examinations must be taken within four weeks, after satisfying all language and course requirements. With the consent of the department, you may repeat the examinations once only.

After successful completion of the examinations, the Chair of the department recommends the formation of a doctoral committee.

You must pass the University Oral Qualifying Examination on the proposed dissertation topic and in appropriate related areas of study.

Following advancement to candidacy, you must present a dissertation embodying the results of independent investigation. If you fail to meet the maximum time limit for the completion of the dissertation, you will be required to take the written qualifying examinations again.

Final Oral Examination

A final oral defense of the dissertation will be optional at the discretion of the doctoral committee.

Candidate in Philosophy Degree

The C.Phil. degree is available upon advancement to candidacy.

Lower Division Courses

No credit will be 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 with prior training. An introduction to standard spoken Chinese and Chinese characters, with emphasis on conversation. Mr. Chu, Mr. Pao

3A-3B-3C. Basic Cantonese. An introduction to a major dialect of the Chinese language. Basic grammar and culture of the dialect will be given with emphasis on conversational patterns. Basic Chinese characters will also be introduced.

9A-9B-9C. Elementary Modern Japanese. Lecture, five hours. Not open to students with prior training. Introduction to modern Japanese with attention to conversation, grammar, and the written forms. Conversation drill is based on material covered in class.

10A-10B-10C. Intermediate Spoken Chinese (½ course each). Prerequisites: course 1C and consent of department. To be taken in conjunction with second-year Chinese to enhance command of spoken Mandarin at the intermediate level and above. Mr. Link, Mr. Pao, Mr. Strassberg

11A-11B-11C. Intermediate Modern Chinese. Lecture, three hours; laboratory, one hour. A continuation of courses 1A-1B-1C, with balanced instruction in reading, writing, and conversation. Mr. Pao

13A-13B-13C. Introduction to Classical Chinese. Lecture, three hours; reading or discussion, one hour. Prerequisite: course 1C or consent of instructor. Study of the development of the writing system and introduction to literary Chinese. Ms. Wong

15A-15B-15C. Intermediate Spoken Japanese (½ course each). Prerequisites: course 9C and consent of department. Limited enrollment; priority to Japanese majors.

19A-19B-19C. Intermediate Modern Japanese. Lecture, three hours; laboratory, two hours. Prerequisite: course 9C or equivalent. A continuation of courses 9A-9B-9C. Readings in modern Japanese, with emphasis on comprehension and structural analysis. Mr. Epp

40A. Chinese Civilization. Knowledge of Chinese is not required. A survey of the development of the outstanding aspects of Chinese culture from prehistoric to modern times. Mr. Chou

40B. Japanese Civilization. Knowledge of Japanese is not required. A survey of the development of Japanese culture and its relationship to the Asiatic mainland. Mr. Plutschow

42. The Tea Ceremony: An Introduction to the History of Japanese Culture in Theory and Practice. Lecture, three hours; demonstration. The course will treat the history and culture of Japan as revealed through study and practice of the Tea Ceremony. Topics include Buddhism, aesthetics, calligraphy, painting, architecture, gardens, ceramics, and politics. Mr. Plutschow

46. Chinese Civilization in Modern Times. Knowledge of Chinese is not required. A survey of developments in Chinese culture from the late 19th century to the present. Mr. Link

Upper Division Courses

113A-113B. Intermediate Classical Chinese. Lecture, three hours; reading or discussion, one hour. Prerequisites: courses 13A-13B. Further readings in the classics. Mr. Strassberg, Ms. Wong

115A-115B-115C. Advanced Spoken Japanese (½ course each). Prerequisites: course 19C and consent of department. Limited enrollment; priority to Japanese majors.

119A-119B. Advanced Modern Japanese. Lecture, three hours; laboratory, one hour. A continuation of courses 19A-19B-19C. Emphasis is on comprehension, grammar, and proficiency in reading, composition, and conversation in modern Japanese.

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 masterpieces 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

126. Post-1949 Chinese Literature. Prerequisite: course 121B or consent of instructor. Reading and discussion of selected works in contemporary poetry, drama, and fiction, with emphasis on the People's Republic of China. Mr. Link

129. Introduction to Classical Japanese. Lecture, three hours. Prerequisite: course 119B or consent of instructor. Introduction to literary Japanese, with readings and discussions in the prose and poetry of the Heian period. Mr. Befu

134A. Introduction to Kawabata Yasunari. Lecture, three hours. Prerequisite: course 19C. Reading and analysis of the Nobel Laureate's short stories, with particular emphasis on their emotional structure. Mr. Epp

134B. Introduction to Mushakoji Saneatsu. Lecture, three hours. Prerequisite: course 19C. Reading and discussion of Mushakoji's prose, fiction, and poetry. Mr. Epp

135. Buddhist Themes in Asian Literature. Knowledge of Asian languages is not required. A survey of selected works of Buddhist literature of India, China, and Japan. Includes canonical works such as the *Lotus Sutra* and noncanonical works of poetry, prose, and drama containing Buddhist themes. Mr. LaFleur

137. Introduction to Kambun and Other Literary Styles. Lecture, three hours. Prerequisite: course 119B or consent of instructor. Introduction to Kambun, the Japanese literary rendering of Classical Chinese, and Sorobun, the epistolary style. Mr. Befu, Mr. Plutschow

139. Introduction to Buddhist Texts. Lecture, three hours. Prerequisite: course 13C, 119A, or 121A. Studies in Buddhist terminology.

140A-140B-140C. Chinese Literature in Translation. Knowledge of Chinese is not required. Lectures and collateral reading of representative works in English translation. **140A.** Poetry from Earliest Times to the 19th Century; **140B.** Drama and Fiction from the 13th Century to the End of the Ch'ing Period; **140C.** 20th-century Poetry, Drama, Fiction. Mr. Link, Ms. Wong

141A-141B. Japanese Literature in Translation. Knowledge of Japanese is not required. A survey of Japanese literature from the beginning to modern times, emphasizing Chinese, Buddhist, and Western influences. **141A.** Beginning to 1600; **141B.** 1600 to Modern Times. Mr. Plutschow

142A. Readings in the Japanese Family System. Lecture, three hours. Prerequisite: course 119B. Analysis and discussion of articles describing and criticizing the family-system mindset, how this mindset permeates interpersonal relationships, and the way the system has functioned in the past. Mr. Epp

142B. Human Problems in the Modernization of Japan. Lecture, three hours. Prerequisite: course 119B. Analysis and discussion of articles that deal with the definition of modernization, with its relation to traditional values and self-awareness, and with the role of the intellectual. Mr. Epp

145. Readings in Modern Expository Japanese. Prerequisite: course 119A. Readings in contemporary affairs, including politics, economics, trade, and social issues. The reading material will be taken from current Japanese newspapers and journals. Mr. Plutschow

151A-151B. Readings in Traditional Chinese Fiction. Prerequisite: course 11C or equivalent or consent of instructor. Selected readings from the classic Chinese novels. Designed primarily as a language course; emphasis is 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 113A or consent of instructor. Discussion and collateral reading of representative works selected on the basis of such critical concerns as thematic patterns, image clusters, genres, and the characteristics of major poets. Ms. Wong

153A. Kawabata's Contemporaries. Lecture, three hours. Prerequisite: course 119A or 134A or 134B. Readings in the fiction and poetry of Ibuse Masuji, Maruyama Kaoru, Ozaki Kazuo, Tsuboi Sakae, and Yokomitsu Riichi. Mr. Epp

153B. Introduction to Shiga Naoya. Lecture, three hours. Prerequisite: course 119A or 134A or 134B. Reading and discussion of Shiga's short stories, with special emphasis on his I-novel technique. Mr. Epp

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. The entire Bhagavadgita or a comparable amount of other Sanskrit literature is read. Mr. Scharfe

163A-163B-163C. Readings in Chinese Literary Texts. Lecture, three hours. Prerequisite: course 113B. **163A-163B.** Literary Texts; **163C.** Historical Texts.

165. Readings in Sanskrit. Prerequisite: course 162 or equivalent. Extensive reading in such texts as best serve the students' needs. Mr. Scharfe

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:

170A. Introduction to Chinese Archaeology. Early Chinese study of their own past, types of artifacts, antiquarianism, and the beginnings of scientific archaeology in China before 1949.

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

172. Introduction to Buddhism. Knowledge of Asian languages is not required. Not open to students with credit for former course 172A or 172B. Life of the Buddha and fundamental doctrines of Buddhism; Buddhist writings; the monastic order; early sects. The popular cult. The rise and development of Mahayana Buddhism: writings and doctrines. The Tantric doctrines and the end of Indian Buddhism.

173. Chinese Buddhism. Knowledge of Asian languages is not required. The introduction and development of Buddhism in China, interaction between Buddhism and Chinese culture, rise of the Chinese schools of Buddhism such as Pure Land and Zen, contributions to Chinese culture.

174. Japanese Buddhism. Knowledge of Asian languages is not required. The development of Buddhism in Japan and its influence on Japanese culture, with emphasis on the arts.

175. The Structure of the Japanese Language. Lecture, three hours; reading or discussion, one hour. Prerequisite: consent of instructor. Phonology, morphology, and syntax of Japanese.

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

183. Introduction to Chinese Thought. Knowledge of Asian languages is not required. A general survey of indigenous Chinese thought from the Chou period to circa 1800 covers Confucianism, Taoism, Mo-tzu, the legalists, the study of the classics, pseudoscientific thoughts, the rise of the skeptical tradition, the penetration of Buddhism, the development of neo-Taoism and neo-Confucianism. Buddhism will be touched on only in the general context of Chinese thought.

184. Introduction to Japanese Thought. Knowledge of Asian languages is not required. A general survey of Japanese thought from the earliest records to the Tokugawa period, with primary emphasis on indigenous elements. Deals with the religious ideas that shaped Shinto, the encounter of Shinto with Buddhism, the formation of "syntheses" such as Ryobu Shinto, the rise of pessimistic attitudes (mappo), philosophies of history and the growth of Japanese self-consciousness, the rise of new Shinto sects in the medieval period, Confucianism in the Tokugawa period, and the "National Learning" movement.

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. A combination studio-lecture course surveying the aesthetics and techniques of Chinese literati painting. Emphasis is on realizing the philosophical ideals of critical treatises through mastery of the traditional materials and elements of landscape. Mr. Strassberg

199. Special Studies in Oriental Languages (½ to 1 course). Prerequisites: senior standing in department or advanced reading knowledge of Chinese or Japanese and consent of instructor. Required of senior majors transferring from other institutions. Special individual study. May be repeated once by consent of instructor.

Graduate Courses

203A-203B. Chinese Philosophical Texts. May be repeated for credit by consent of instructor. Mr. Strassberg

213. Chinese Buddhist Texts. May be repeated for credit by consent of instructor.

214A-214B. Pali and Prakrits. Prerequisites: knowledge of Sanskrit equivalent to course 161 and consent of instructor. Grammatical studies and reading of texts. Comparative considerations. Mr. Scharfe

221A-221B. Introduction to Panini's Grammar. Prerequisite: course 162 or equivalent. Reading of selected passages of the text, with an introduction to Panini's technique. Mr. Scharfe

M222A-M222B. Vedic. (Same as Iranian M222A-M222B.) Prerequisites: knowledge of Sanskrit equivalent to course 162 and 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. History of the Japanese Language.

229A-229B. Japanese Buddhist Texts. May be repeated for credit by 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 by 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 by consent of instructor. Mr. Befu

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, hermeneutical, and historical approaches. Topics in fiction are chosen from narrative genres from the Chou through the Ching periods. Topics in drama are chosen from *tsa-chu* and *ch'uan-ch'i*. May be repeated for credit by consent of instructor. Mr. Strassberg

245. Seminar in Modern Japanese Literature. May be repeated for credit by consent of instructor.

247. Selected Readings in Sanskrit Texts. May be repeated for credit by consent of instructor. Mr. Scharfe

250. Seminar in Medieval Japanese Literature. Prerequisite: one year of classical Japanese. Selected readings in travel poetry, travel diaries, and other genres of Japanese travel literature of the Heian, Kamakura, Nambokucho, and Muromachi periods. May be repeated for credit by consent of instructor. Mr. Plutschow

251. Seminar: Selected Topics in Modern Chinese Literature. Prerequisite: course 122A or 122B or consent of instructor. Selected readings in 20th-century Chinese literature, emphasizing fiction. Discussion of individual research projects. May be repeated for credit. Mr. Link

252. Seminar: Selected Topics in Japanese Literature. May be repeated for credit. Mr. Befu

253. Seminar: Selected Topics in Japanese Buddhism. May be repeated for credit. Mr. LaFleur

255. Seminar: Selected Topics in Chinese or Indian Buddhism. May be repeated for credit.

261A-261B. Seminar in Classical Chinese Poetry. Prerequisites: courses 152A and/or 152B, or consent of instructor. **261A.** Chinese poetry from the *Shih-ching* 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 *tz'u* from the T'ang period (ca. 600-900) and onward; traditional and modern critical approaches to classical Chinese poetry. Ms. Wong

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, with emphasis on the studies of the Xia and Shang cultures and the Xia and Shang dynasties. May be repeated for credit. Mr. Chou

275. Seminar: Selected Topics in Chinese Cultural History. Prerequisite: consent of instructor. Discussion and research on the major problems related to Chinese culture, such as beginnings of the Chinese civilization and the Chinese dynastic history. Other topics include the cultural developments of ancient and medieval China. May be repeated for credit. Mr. Chou

285. Selected Topics in Buddhist Culture. May be repeated for credit by 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

301. Teaching an Oriental Language as a Foreign Language.

375. Teaching Apprentice Practicum (¼ to 1 course). 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.

A student may repeat the courses below by consent of instructor; however, none may be applied toward the minimum course requirement for the M.A.

501. Cooperative Program (½ to 2 courses). Prerequisite: consent of UCLA graduate adviser and Graduate Dean and host campus instructor, department Chair, and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596. Directed Individual Studies (1 to 3 courses). S/U grading.

597. Preparation for M.A. Comprehensive Examination or Ph.D. Qualifying Examination. S/U grading.

599. Research for and Preparation of Ph.D. Dissertation (1 to 3 courses). S/U grading.

Related Courses in Other Departments

Anthropology 166. Comparative Minority Relations
175S. Japan
261. Comparative Minority Relations
Art 114A. The Early Art of India
114B. Chinese Art
114C. Japanese Art
C115A. Advanced Indian Art
C115B. Advanced Chinese Art
C115C. Advanced Japanese Art
260. Asian Art
English 100A. Introduction to Poetry
140A. Criticism: History and Theory
140B. Criticism: Special Topics
201. The History of Literary Criticism
Geography 186. Contemporary China
286. Eastern Asia
History 182A-182B-182C. History of China
183. Modern China, 1840-1920
184. The Chinese Revolution
185. The Mongols in East Asian History
186. Diplomatic History of the Far East
187A-187B-187C. Japanese History
188A. Early History of India
200. Advanced Historiography: L. China; M. Japan; P. History of Religions
201. Topics in History: L. China; M. Japan; P. History of Religions
282A-282B-282C. Seminar in Chinese History
285A-285B. Seminar in Modern Japanese History
293A-293B. Seminar in the History of Religions
Linguistics 103. Introduction to General Phonetics
120A. Linguistic Analysis: Phonology
120B. Linguistic Analysis: Grammar
220. Linguistic Areas
225. Linguistic Structures: H. Japanese; P. Chinese
Music 81. Ethnomusicology Performance Organizations: D. Music and Dance of China; G. Music and Dance of Japan; J. Music and Dance of Korea
141. Survey of Music in Japan
145. History of Chinese Opera
146A-146B-146C. Studies in Chinese Instrumental Music
147A-147B. Music of China
Political Science 135. International Relations of China
136. International Relations of Japan
159. Chinese Government and Politics
160. Japanese Government and Politics
C250. Seminars in Regional and Area Political Studies: C. Chinese and East Asian Studies; D. Japanese and Western Pacific Studies
Sociology 134. Comparative Social Institutions of East Asia

Philosophy

321 Dodd Hall, 825-4641

Professors

Marilyn Adams, Ph.D.
Robert Merrihew Adams, Ph.D.
Rogers Albritton, Ph.D.
Tyler Burge, Ph.D.
Alonzo Church, Ph.D., *in Residence (Flint Professor of Philosophy)*
Keith S. Donnellan, Ph.D.
Philippa Foot, M.A.
Montgomery Furth, Ph.D.
Donald Kalish, Ph.D.
David Kaplan, Ph.D., *Chair*
Herbert Morris, Ph.D.
Robert M. Yost, Ph.D.
Hugh Miller, Ph.D., *Emeritus*
Wesley Robson, Ph.D., *Emeritus*

Associate Professors

Thomas E. Hill, Jr., Ph.D.
Warren S. Quinn, Ph.D.

Assistant Professors

Jean Hampton, Ph.D.
Richard Healey, Ph.D.

Scope and Objectives

In a 1982 survey conducted by the Conference Board of the Associated Research Councils, UCLA's Philosophy Department was judged fifth 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.

Philosopher, 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 offerings should be of interest and useful to students who are reflective about their beliefs or who wish to become so. It also provides the occasion to ponder the foundations of almost any other subject to which they are exposed — whether history, religion, government, or science.

The principal goal of the graduate program is to produce philosophers of high quality, thinkers informed by the great historical traditions of Western philosophers who can apply the methods of philosophical analysis to a broad range of current philosophical problems. Since all its graduate students hope to teach at the college or university level, the department is also committed to training clear, able, and stimulating teachers.

Bachelor of Arts Degree

Preparation for the Major

Required: Philosophy 21, 22, 31, and one other lower division course in philosophy.

The Major

Required: Twelve upper division or graduate philosophy courses (48 units). Seven of the twelve courses must be distributed among the groups into which the undergraduate and graduate courses are divided, in the following manner: two courses (eight units) in each of three of the groups and one course (four units) in the remaining group.

Courses listed under "Special Studies" may be applied toward the major, but not toward a group requirement. A maximum of eight units of course 199 may be applied toward the major

but not toward a group requirement. No course used to satisfy the major or preparation requirements may be taken on a P/NP basis.

Students intending to do graduate work in philosophy should consult with both the graduate and the undergraduate advisers.

Honors at Graduation

Upon the recommendation of the department faculty, honors in philosophy will be 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 Graduate School Foreign Language Test in an approved language. Alternatively, it can be satisfied in either of the ways in which the Ph.D. language requirement can be satisfied.

Course Requirements

You must complete at least nine upper division or graduate courses (36 units), excluding course 199, of which five courses (20 units) must be in the philosophy series numbered between 200 and 296.

500-series courses 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), official scores from the Aptitude Test of the Graduate Record Examination (the Advanced Test in Philosophy is not required), and one official transcript from each institution attended should be sent to the department graduate counselor. Departmental information and applications can be obtained by writing to the Graduate Counselor, Department of Philosophy, UCLA, Los Angeles, CA 90024.

At the end of your first year of graduate work, the faculty determines whether you are to be admitted to the doctoral program. Passing the master's comprehensive examination is neither necessary nor sufficient for admission to the program.

Foreign Language Requirement

You must demonstrate a reading knowledge of French, German, Latin, or Greek. (Another language may be substituted with the consent of the department, if it is used in the doctoral work.) You may satisfy this requirement by having completed, with a grade of C or better, the final course in a two-year sequence of college courses in an approved language. Alternatively, you may satisfy the requirement by passing the department language examination. Completion of the foreign language requirement is not required for admission to the doctoral program but is required by the University for advancement to candidacy.

Course Requirements

A Ph.D. candidate must complete, with a grade of B or better, the three first-year seminars, plus nine additional upper division and graduate courses in philosophy (not including individual studies courses), distributed as follows:

Logic: Two upper division or graduate courses in logic in either the Philosophy or Mathematics Department (approved by your adviser).

History of Philosophy: Two graduate-level courses.

Ethics and Value Theory: One graduate-level course.

Metaphysics and Epistemology: One graduate-level course.

Electives: Three upper division or graduate-level courses of your choice.

Group classification of a course is generally given by its catalog listing, but final classification of a course is determined by the instructor on the basis of its content and the departmental guidelines. Normally, no substitutions for these courses are allowed, but if you have done graduate coursework elsewhere, you may be permitted to substitute previous graduate coursework in exceptional cases.

Qualifying Examinations

The master's comprehensive examination consists of four different examinations. One is in logic on the materials covered in Philosophy 31 and 32. Consult the *Manual for Graduate Students in Philosophy* for further information about this examination.

There are also examinations on each of the three first-year seminars. These examinations last two hours and each occurs soon after the completion of the seminar to which it applies. The examination is passed or failed as a whole, which does not necessarily require passing of all four parts.

In the second and third years, you must write two papers, prepared in accordance with a specific format, called "propositions." One must be on a topic in metaphysics or epistemology and the other on a topic in ethics or value theory.

The first proposition should be submitted before the end of the second year; the second, before the end of the third year. Both propositions must be accepted by the department before you can take the University Oral Qualifying Examination. Consult the *Manual for Graduate Students in Philosophy* for further details.

In the third year, you begin a new series of individual studies courses (Philosophy 596) with your dissertation supervisor to develop a well-defined dissertation project. A doctoral committee is chosen and the University Oral Qualifying Examination is scheduled. The primary purpose of this examination is to determine whether you will be able to complete the dissertation successfully. The scope of the examination varies according to the definiteness of the dissertation topic and the extent of your preliminary investigations. In case of failure, the doctoral committee makes a recommendation for or against allowing a second oral examination.

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.

Candidate in Philosophy Degree

You are eligible to receive the C.Phil. degree upon advancement to candidacy for the Ph.D.

Lower Division Courses

1. The Beginnings of Western Philosophy. Lecture, three hours; discussion, one hour. The views of Plato, Aristotle, and other thinkers from before Socrates to St. Augustine on such topics as the nature of the physical universe, the nature of knowledge, the concept of God, soul, and body, the foundations of morality, the Greek and Christian ideas of love.
Mr. Albritton, Mr. Furth

2. Introduction to the Philosophy of Religion. Lecture, three hours; discussion, one hour. An introductory study of such topics as the nature and grounds of religious belief, the relation between religion and ethics, the nature and existence of God, the problem of evil, and what can be learned from religious experience. Mr. Adams, Mrs. Adams

3. Personal and Social Ideals. Lecture, three hours; discussion, one hour. A study of various conceptions of human perfection and social utopias. Readings will be chosen from such authors as Freud, Thomas More, Marx, B.F. Skinner, and Sartre. Mr. Hill

4. Philosophical Analysis of Contemporary Moral Issues. Lecture, three hours; discussion, one hour. A critical study of principles and arguments advanced in discussion of current moral issues. Possible topics include revolutionary violence, rules of warfare, sexual morality, the right of privacy, punishment, nuclear warfare and deterrence, abortion and mercykilling, experimentation with human subjects, rights of women, the drug culture. Ms. Hampton, Mr. Quinn

5A. Philosophy in Literature. Lecture, three hours; discussion, one hour. A philosophical inquiry into such themes as freedom, responsibility, guilt, love, self-knowledge and self-deception, death, and the meaning of life through examination of great literary works in the Western tradition. Mr. Morris

5B. Recurring Philosophical Themes in Black Literature. Lecture, three hours; discussion, one hour. Analysis of some main themes in Afro-American political writings (e.g., assimilation, cultural nationalism, and separatism in the writings of Booker T. Washington, Frederick Douglass, W.E.B. du Bois, and others).

6. Historical Introduction to Moral and Political Philosophy. Lecture, three hours; discussion, one hour. A study of some classic works in moral and political philosophy. Questions that may be discussed include What is justice? Why be moral? Why obey the law? Which form of government is best? How much personal freedom should be allowed in society? Ms. Hampton, Mr. Hill

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.
Mr. Burge, Mr. Healey

8. Introduction to the Philosophy of Science. Lecture, three hours; discussion, one hour. An introduction to philosophical questions about the nature of science, drawing examples from specific scientific theories and controversies that can be understood without much mathematical or technical background. What role do observation and explanation play in building and evaluating scientific theories? How should we view the relation between science and common sense?

9. Principles of Critical Reasoning. The course concerns the nature of arguments: how to analyze them and assess the soundness of the reasoning they represent. Common fallacies that often occur in arguments will be discussed in light of what counts as a good deductive or inductive inference. Other topics include the use of language in argumentation to arouse emotions as contrasted with conveying thoughts, the logic of scientific experiments and hypothesis-testing in general, and some general ideas about probability and its application in making normative decisions (e.g., betting). Mr. Kaplan

10. Virtues and Vices. Lecture, three hours; discussion, one hour. A study of the traditional theory of the virtues and vices, and an inquiry into its truth. Readings in Aristotle, Aquinas, and contemporary authors; discussion of concepts such as courage, wisdom, and justice. Should we accept the traditional list of the virtues and vices, or should it be revised?
Mrs. Foot

21. Skepticism and Rationality. Lecture, three hours; discussion, one hour. 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. Hill, 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

32. Logic, Second Course. Lecture, three hours; discussion, one hour. Prerequisite: course 31 (preferably in the preceding quarter). Symbolic logic: extension of the systematic development of course 31. Quantifiers, identity, definite descriptions.
Mr. Burge, Mr. Kalish, Mr. Kaplan

Upper Division Courses

Group I: History of Philosophy

100A. History of Greek Philosophy. Lecture, three hours; discussion, one hour. Prerequisite: one course in philosophy or consent of instructor. Survey of Greek philosophy, with emphasis on the metaphysics and epistemology of Plato and Aristotle.
Mr. Albritton, Mr. Furth

100B. Medieval and Early Modern Philosophy. Lecture, three hours; discussion, one hour. Prerequisite: one course in philosophy or consent of instructor. Strongly recommended: course 100A. 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

100C. History of Modern Philosophy, 1650-1800. Lecture, three hours; discussion, one hour. Prerequisite: one course in philosophy. Strongly recommended: course 100B. Courses 100A, 100B, and 100C should be taken in immediately successive quarters if possible. Survey of the development of metaphysics and the theory of knowledge from 1650 to 1800, including Leibniz, Locke, and/or Berkeley, and culminating in Hume and Kant. The views of these (and perhaps other) philosophers of the period on mind and body, causality, the existence of God, skepticism, empiricism, the limits of human knowledge, and the philosophical foundations of modern science are among the topics that may be studied. Mr. 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 middle and later 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 Muslim philosophy in its great age (from Kindo to Averroes, 850 to 1200), considered in connection with Muslim theology and mysticism.

105. Medieval Philosophy from Augustine to 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 the Greek philosophical heritage. Focus on the problem of universals, the existence and nature of God, the problem of evil, and the doctrines of the Trinity and atonement. Selected writings 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 Ockham, with less full discussion of other authors from the 13th through early 15th century. Selected texts read in English translation.
Mrs. Adams

107. Topics in Medieval Philosophy. Prerequisite: one course in philosophy. Recommended: course 105 or 106. 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 to be announced each quarter. May be repeated for credit by consent of instructor. Mrs. Adams

C109. Descartes. Prerequisites: course 21 or two courses in philosophy or consent of instructor. A study of the works of Descartes, with emphasis on the *Meditations.* Such issues as the problem of skepticism, the foundations of knowledge, the existence of God, the relation between mind and body will be discussed. Limited to 30 students when concurrently scheduled with course C209. Mr. Burge, Mr. Yost

C110. 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 C210, in which case there will be a weekly discussion meeting, plus fewer readings and shorter papers for undergraduates. Limited to 30 students when concurrently scheduled. Mr. Adams

C111. 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 C211, in which case there will be a weekly discussion meeting, plus fewer readings and shorter papers for undergraduates. Limited to 30 students when concurrently scheduled.
Mr. Adams

C112. Locke and Berkeley. Prerequisite: one course in philosophy or consent of instructor. A study of the philosophies of Locke and Berkeley; the emphasis may sometimes vary from one figure to the other. May be concurrently scheduled with course C212.
Mr. Donnellan

C114. Hume. Prerequisite: one course in philosophy or consent of instructor. Selected topics from the metaphysical, epistemological, and ethical writings of Hume. Limited to 40 students when concurrently scheduled with course C214. Mr. Donnellan

115. Kant. Lecture, three hours; discussion, one hour. Prerequisite: course 21 or 22 or consent of instructor. A study of Kant's views on related topics in theory of knowledge, ethics, and politics. May be repeated for credit by consent of instructor.
Ms. Hampton, Mr. Hill

116. 19th-Century Philosophy. Lecture, three hours; discussion, one hour. Prerequisite: one course in philosophy or consent of instructor. Selected topics in 19th-century thought.

117. Late 19th- and Early 20th-Century Philosophy. Lecture, three hours; discussion, one hour. Prerequisite: one course in philosophy or consent of instructor. Selected topics in the work of one or more of the following philosophers: Bolzano, Frege, Husserl, Meinong, the early Russell, and Wittgenstein.
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 will be discussed in the context of actual episodes in the development of the natural sciences.
Mr. Healey

126B. Philosophy of Science. Lecture, three hours; discussion, one hour. Prerequisite: course 31, 126A, or consent of instructor. An introduction to contemporary philosophy of science, focusing on problems of central importance. Mr. Healey

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).

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, semantical paradoxes. May be repeated for credit by consent of instructor.
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 will be discussed but at a more advanced and technical level.
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. 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. 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 semantical theory and learning theory; psychological aspects of the theory of syntax; behaviorism, functionalism, and alternatives; physiology and psychology. Mr. Burge

130. Philosophy of Space and Time. (Formerly numbered 185.) Lecture, three hours; discussion, one hour. Prerequisites: 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 relationist views of space and time, philosophical impact of relativity theory.
Mr. Healey

131. Science and Metaphysics. Lecture, three hours; discussion, one hour. Prerequisites: 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 by 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.
Mr. Kalish, Mr. Kaplan

134. Introduction to Set Theory. Prerequisites: course 32 or upper division standing in mathematics and consent of instructor. Introduction to axiomatic set theory; sets, natural numbers, relations, functions, cardinality, infinity. Mr. Kalish

135. Introduction to Metamathematics. Prerequisite: course 32. Recommended: course 134 or equivalent. Models, satisfaction, truth, definability; logical truth and logical consequence; consistency and completeness. Mr. Church, Mr. Kalish, Mr. Kaplan

136. Modal Logic. Prerequisite: course 32. Recommended: course 133 or 135. The logic of necessity and possibility. Various formulations of the syntax and semantics of such logics. The problem of interpreting quantified modal logic, deontic, and other nonextensional logics. Mr. Kaplan

Group III: Ethics and Value Theory

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 will be similar to those in course 4, but familiarity with some basic philosophical concepts and methods will be presupposed. May be repeated for credit by consent of instructor. Mr. Hill

151A-151B. History of Ethics. Lecture, three hours; discussion, one hour. Prerequisites: two courses in philosophy or consent of instructor. Course 151A is not prerequisite to 151B. **151A.** Selected classics in earlier ethical theories. **151B.** Selected classics in later ethical theories. Mr. Hill, 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 various conceptions of the criteria of right action, human rights, virtues and vices, principles of culpability and praiseworthiness. Mr. Hill

153B. Topics in Ethical Theory: Metaethics. Lecture, three hours. Prerequisite: course 22 or consent of instructor. A study of selected problems in metaethics ethical theory. Topics may include the analysis of moral language and the justification of moral beliefs. Mrs. Foot, Mr. Quinn

155. Medical Ethics. An examination of the philosophical issues raised by problems of medical ethics such as abortion, euthanasia, and medical experimentation. Mrs. Foot

156. Topics in Political Philosophy. Lecture, three hours; discussion, one hour. Prerequisites: two courses in philosophy or consent of instructor. Recommended: course 22. Analysis of some basic concepts in political theory. May be repeated for credit by consent of instructor. Ms. Hampton, Mr. Hill

157A-157B. History of Political Philosophy. (Formerly numbered 157.) Lecture, three hours; discussion, one hour. Prerequisites: two courses in philosophy or consent of instructor. May be repeated by 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. Ms. Hampton, Mr. Hill

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 by consent of instructor. Mr. Quinn

166. Introduction to Legal Philosophy. Prerequisite: one course in philosophy or consent of instructor. An examination, through the study of recent philosophical writings, of such topics as the nature of law, the relationship of law and morals, legal reasoning, punishment, and the obligation to obey the law.
Ms. Hampton, Mr. Morris

Group IV: Metaphysics and Epistemology

170. Philosophy of Mind. Lecture, three hours; discussion, one hour. Prerequisites: two relevant courses in philosophy or consent of instructor. 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. 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. Topics in Philosophy of Religion. Lecture, three hours; discussion, one hour. Prerequisite: course 21 or 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 to be announced each quarter. May be repeated for credit by consent of instructor.
Mr. Adams, Mrs. Adams, Mr. Albritton

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, Marcel, and Camus. Possible topics include metaphysical foundations, nature of mind, freedom, problem of the self, other people, ethics, existential psychoanalysis.

177B. Historical Studies in Existentialism. Prerequisite: one course in philosophy or consent of instructor. A study of the central philosophical texts of one of the following: Kierkegaard, Nietzsche, Heidegger, Jaspers, Buber, Sartre, or Camus. The course will focus primarily on explication and interpretation of the texts. May be repeated for credit by consent of instructor. Mr. Adams

178. 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, Ricoeur. Topics include ontology, epistemology, and particularly philosophy of mind.

182. Elements of Metaphysics. Lecture, three hours; discussion, one hour. Prerequisite: course 21 or consent of instructor. Study of basic metaphysical questions; nature of the physical world, of minds, and of universals; and the answers provided by alternative systems (e.g., phenomenalism, materialism, dualism). Mr. Adams, Mr. Yost

183. Theory of Knowledge. Prerequisite: course 21 or consent of instructor. An analysis of the concept of empirical knowledge. Mr. Yost

184. Topics in Metaphysics. Prerequisite: course 21 or consent of instructor. An intensive investigation of one or two topics or works in metaphysics, such as personal identity, the nature of dispositions, possibility and necessity, universals and particulars, causality. Topics to be announced each quarter. May be repeated for credit by consent of instructor.
Mr. Adams, Mr. Albritton, Mr. Donnellan, Mr. Healey

186. Topics in the Theory of Knowledge. Prerequisite: course 182 or 183 or consent of instructor. An intensive investigation of one or two selected topics or works in the theory of knowledge, such as a priori knowledge, the problem of induction, memory, knowledge as justified true belief. Topics to be announced each quarter. May be repeated for credit by consent of instructor. Mr. Albritton, Mr. Yost

187. Philosophy of Action. Prerequisites: two courses in philosophy or consent of instructor. A study of various concepts employed in the understanding of human action. Topics may include rational choice, desire, intention, weakness of will, and self-deception. Mr. Albritton, Mr. Burge, Mr. Donnellan

188. Philosophy of Perception. Prerequisites: two courses in philosophy or consent of instructor. A critical study of the main philosophical theories of perception and the arguments used to establish them. Mr. Yost

189. Major Philosophers of the 20th Century. Prerequisites: two courses in philosophy or consent of instructor. A study of the writings of one or more major modern philosophers (e.g., Russell, Moore, Wittgenstein, Carnap, Quine). May be repeated for credit by consent of instructor. Mr. Albritton, Mr. Burge, Mr. Donnellan

Special Studies

190. Third World Political Thought. Lecture, three hours; discussion, one hour. The political philosophy of various Third World thinkers. Topics may vary from year to year, but typically will be chosen from Franz Fanon, Senghor and Cesaire's "Negritude," W.E.B. du Bois' Pan-Africanism, Che, and Mao.

192. Philosophical Analysis of Issues in Women's Liberation. Prerequisite: one course in philosophy or consent of instructor. A critical study of concepts and principles which arise in the discussion of women's rights and liberation. Topics may include economic and educational equality, preferential treatment, abortion, sex roles, sexual morality, marriage, love, friendship.

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 two hundred 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, three hours; discussion, one hour. Prerequisite: consent of instructor. Variable topics; consult *Schedule of Classes* or "Department Announcements" for current topic. May be repeated for credit by consent of instructor.

197. Reading and Writing Philosophy. Lecture, three hours; discussion, one hour. Prerequisites: two lower or upper division courses in philosophy. The course is designed to help philosophy students who wish to improve their ability to read philosophical texts and to write philosophical essays. Selected texts are used to illustrate problems of reading and writing, and students are required to do and redo many written exercises. Mr. Quinn

199. Special Studies (½ to 2 courses). Prerequisite: consent of instructor. Eight units may be applied toward the degree requirements, but the course cannot be substituted for a course in one of the four groups on the basis of similarity of subject matter.

Graduate Courses

200A-200B-200C. Seminar for First-Year Graduate Students. Limited to and required of all first-year graduate students in philosophy. Selected topics in metaphysics and epistemology, history of philosophy, and ethics.

Group I. History of Philosophy

201. Plato. Prerequisite: consent of instructor. A study of the 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 by 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 to be announced each quarter. May be repeated for credit by 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 by 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

C209. Descartes. Prerequisite: consent of instructor. A study of the works of Descartes, with emphasis on the *Meditations.* Such issues as the problem of skepticism, the foundations of knowledge, the existence of God, the relation between mind and body will be discussed. May be concurrently scheduled with course C109.

C210. Spinoza. Prerequisite: consent of instructor. Selected topics in the philosophy of Spinoza. May be concurrently scheduled with course C110, in which case there will be a two-hour biweekly discussion meeting, plus additional readings and a longer term paper for graduates. Mr. Adams

C211. Leibniz. Prerequisite: consent of instructor. Selected topics in the philosophy of Leibniz. May be concurrently scheduled with course C111, in which case there will be a two-hour biweekly discussion meeting, plus additional readings and a longer term paper for graduates. Mr. Adams

C212. Locke and Berkeley. Prerequisite: consent of instructor. Selected topics in the philosophy of Locke and Berkeley. May be repeated for credit by consent of instructor. May be concurrently scheduled with course C112. Mr. Donnellan

C214. Hume. Prerequisite: consent of instructor. Selected topics in the philosophy of Hume. May be repeated for credit by consent of instructor. May be concurrently scheduled with course C114. Mr. Donnellan

215. Kant. Prerequisite: consent of instructor. An intensive study of selected writings of Immanuel Kant. Mr. Hill

216. 19th-Century Philosophy. Prerequisite: consent of instructor. Topics in 19th-century philosophy. May be repeated for credit by consent of instructor.

219. Seminar: History of Modern Philosophy. Prerequisite: consent of instructor. Selected problems and philosophers. May be repeated for credit by consent of instructor.

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-Gödel theory. May be repeated for credit by consent of instructor. Mr. Kalish

221B. Non-Neumannian Set Theory. Prerequisite: course 221A or consent of instructor. Standard (so-called Z-F) set theory relies on a principle of limitations of size as a means of avoiding antinomy. As this principle was first formulated explicitly as an axiom of set theory by von Neumann, set theories in which it fails may appropriately be spoken of as non-Neumannian. Possibilities in regard to non-Neumannian set theories will be 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

222A-222B-222C. Gödel Theory:

222A. Prerequisites: several courses in logic, preferably including course 135. First in a series of three courses leading up to Gödel's incompleteness theorem and Tarski's definition of truth.

222B. Prerequisite: course 222A. Second-order arithmetic. Second in series of three courses leading up 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

224. Philosophy of Physics. Prerequisite: consent of instructor. Selected philosophical topics related to physical theory, depending on interests and background of the participants, including space and time; observation in quantum mechanics; foundations of statistical mechanics. May be repeated for credit by consent of instructor. Mr. Healey

225. Probability and Inductive Logic. Prerequisite: course 134 or Mathematics 112A-112B or consent of instructor.

226. Topics in Mathematical Logic. Prerequisite: consent of instructor. Content varies from quarter to quarter. May be repeated for credit by consent of instructor. Mr. Kalish, Mr. Kaplan

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 individual psychology, the logic of explanation in the social sciences, determinism and spontaneity in history, the interpretation of cultures radically different from one's own. Students with a primary interest and advanced preparation in a social science are encouraged to enroll. May be repeated for credit by consent of instructor.

230. Seminar: Logic. Prerequisite: consent of instructor. May be repeated for credit by consent of instructor. Mr. Church, Mr. Kaplan

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 by consent of instructor. Mr. Church, Mr. Kaplan

232. Philosophy of Science. Prerequisite: consent of instructor. Selected topics in the philosophy of science. May be repeated for credit by consent of instructor. Mr. Healey

233. Seminar: Philosophy of Physics. Prerequisite: consent of instructor. May be repeated for credit by consent of instructor. Mr. Healey

Group III. Ethics and Value Theory

241. Topics in Political Philosophy. Prerequisites: course 150, 156, or 157 or any two courses in philosophy or consent of instructor. An examination of one or more topics in political philosophy (e.g., justice, democracy, human rights, political obligation, alienation). May be repeated for credit by consent of instructor. Ms. Hampton

245. Seminar: History of Ethics. Prerequisite: consent of instructor. Selected topics. May be repeated for credit by consent of instructor. Mr. Hill

246. Seminar: Ethical Theory. Prerequisite: consent of instructor. Selected topics. Content varies from quarter to quarter. May be repeated for credit by consent of instructor. Mr. Hill, Mr. Quinn

247. Seminar: Political Theory. Prerequisite: consent of instructor. May be repeated for credit by consent of instructor. Ms. 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 by consent of instructor. Mrs. Foot

255. Seminar: Aesthetic Theory. Prerequisite: consent of instructor. Selected topics. May be repeated for credit by consent of instructor. Mr. Quinn

M256. 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 by consent of instructor. Mr. Morris, Mr. Munzer

M257. Seminar: Philosophy of Law. (Same as Law M524.) Lecture, thee hours. Prerequisite: consent of instructor. Selected topics in the philosophy of law. May be repeated for credit by consent of instructor. Mr. Morris

Group IV. Metaphysics and Epistemology

271. Seminar: Topics in Metaphysics and Epistemology. Discussion, three hours. Prerequisite: consent of instructor. May be repeated for credit by consent of instructor. Mr. Albritton

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 by 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 by consent of instructor.

281. Seminar: Philosophy of Mind. Prerequisite: consent of instructor. May be repeated for credit by consent of instructor. Mr. Burge

282. Seminar: Metaphysics. Prerequisite: consent of instructor. May be repeated for credit by consent of instructor.

283. Seminar: Theory of Knowledge. Prerequisite: consent of instructor. May be repeated for credit by consent of instructor. Mr. Donnellan

284. Seminar: Philosophy of Perception. Prerequisite: consent of instructor. May be repeated for credit by consent of instructor.

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 by consent of instructor. Mr. Burge, Mr. Donnellan, Mr. Furth

288. Seminar: Wittgenstein. Prerequisite: consent of instructor. Mr. Albritton

289. Seminar: Philosophy of Religion. Prerequisite: consent of instructor. May be repeated for credit by consent of instructor. Mr. Adams, Mrs. Adams, Mr. Albritton

Special Studies

375. Teaching Apprentice Practicum (¼ to 1 course). 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 (½ to 1 course). 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 (½ to 2 courses). Properly qualified graduate students who wish to pursue a problem through reading or advanced study may do so if their proposed project is acceptable to a staff member. May be repeated for credit. S/U (course 596B) and letter (course 596A) grading.

597. Directed Studies for Graduate Examinations (½ to 2 courses). Preparation for either the M.A. comprehensive examination or the Ph.D. oral qualifying examination. S/U grading.

599. Research for Ph.D. Dissertation (½ to 2 courses). Prerequisite: advancement to doctoral candidacy. May be repeated for credit. S/U grading.

Physics

3-174 Knudsen Hall, 825-3224

Professors

Ernest S. Abers, Ph.D.
Rubin Braunstein, Ph.D.
Nina Byers, Ph.D.
Paul M. Chaikin, Ph.D.
Marvin Chester, Ph.D.
W. Gilbet Clark, Ph.D.
John M. Cornwall, Ph.D.
Ferdinand V. Coroniti, Ph.D.
John M. Dawson, Ph.D.
Robert J. Finkelstein, Ph.D.
A. Theodore Forrester, Ph.D.
Burton D. Fried, Ph.D.
Christian Fronsdal, Ph.D.
George Gruner, Ph.D.
Roy P. Haddock, Ph.D.
Theodore D. Holstein, Ph.D.
George J. Igo, Ph.D.
Charles F. Kennel, Ph.D.
Leon Knopoff, Ph.D.
Steven A. Moszkowski, Ph.D.
Bernard M. K. Nefkens, Ph.D.
Richard E. Norton, Ph.D.
Raymond L. Orbach, Ph.D.
Philip A. Pincus, Ph.D.
Seth J. Putterman, Ph.D.
Isadore Rudnick, Ph.D.
Robert A. Satten, Ph.D.
Peter E. Schlein, Ph.D.
Julian S. Schwinger, Ph.D. *(University Professor)*
William E. Slater, Ph.D.
Reiner L. Stenzel, Ph.D.
Donald H. Stork, Ph.D.
Harold K. Ticho, Ph.D.
Charles A. Whitten, Jr., Ph.D.
Alfred Y. Wong, Ph.D.
Chun Wa Wong, Ph.D.
Eugene Y. Wong, Ph.D.
Alfredo Baños, Jr., Dr.Eng., Ph.D., *Emeritus*
Hans E. Bommel, Ph.D., *Emeritus*
Joseph Kaplan, Ph.D., Sc.D., L.H.D., *Emeritus*
Kenneth R. MacKenzie, Ph.D., *Emeritus*
J. Reginald Richardson, Ph.D., *Emeritus*
Norman A. Watson, Ph.D., *Emeritus*
Byron T. Wright, Ph.D., *Emeritus*

Associate Professors

Charles D. Buchanan, Ph.D.
George J. Morales, Ph.D.
Gary A. Williams, Ph.D.

Assistant Professors

Claude W. Bernard, Ph.D.
Robert D. Cousins, Ph.D.

Associate Professors

Walter N. Gekelman, Ph.D., *Adjunct*
Philip L. Pritchett, Ph.D., *Adjunct*

Assistant Professors

Elizabeth H. Bleszynski, Ph.D., *Adjunct*
Marek K. Bleszynski, Ph.D., *Adjunct*
Siu Ah Chin, Ph.D., *Adjunct*
Bethold-Georg Englert, Ph.D., *Adjunct*
Bernard J. Leikind, Ph.D., *Adjunct*
George Mozurkewich, Jr., Ph.D., *Adjunct*
Amarjit S. Soni, Ph.D., *Adjunct*

Lecturers

S. Merton Burkhard, M.S., *Visiting*
Guy Dimonte, Ph.D., *Adjunct*
Arthur H. Huffman, Ph.D., *Adjunct*
Jesusa V. Kinderman, Ph.D., *Visiting*

Scope and Objectives

Physics is a basic science with actual and potential applications in many fields. The undergraduate curriculum is broad and general with respect to physics but includes an introduction to theoretical and experimental work in specialized subfields of physics in the senior year. The Physics B.S. degree program is primarily directed at providing a basic foundation for students who intend to go on to graduate school in physics or related fields such as engineering or other physical sciences. However, for many this is a terminal degree preparatory to working as an engineer or technician in industry. The B.A. program in General Physics provides flexibility for students who are interested in fields outside of physics in which a strong background knowledge of physics would be helpful.

The department offers a comprehensive graduate program leading to the Master of Science degree, the Master of Arts in Teaching (M.A.T.), and the Ph.D., which is offered in theoretical or experimental work in a choice of subfields.

Undergraduate Study

The Department of Physics offers a choice of two undergraduate majors: the B.S. degree program in Physics and the B.A. degree program in General Physics. Courses taken to fulfill any of the requirements for either major must be taken for a letter grade.

Bachelor of Science in Physics

This major should be taken if you intend to continue toward the Ph.D. in Physics.

Preparation for the Major

Required: Physics 8A, 8B, 8C, 8D, 8E; Chemistry 11A, 11B, 11BL, 11C (Chemistry 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 Physics 180 series; three additional upper division lecture courses selected from Physics 108, 114, M122, 123, 124, 126, 132, 140. An upper division course in mathematics may be substituted for Physics 132 upon consent of an adviser. A C average is required in the above courses. Reading knowledge of Russian, German, or French is recommended.

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.

If you are preparing for graduate school, you should take additional courses in physics and mathematics. Physics M122, 123, 124, 126, 132, and 140 are recommended.

Bachelor of Arts in General Physics

The major is intended to provide the necessary flexibility for fields in which a strong background of knowledge in physics would be helpful. If you intend to continue work toward the Ph.D. in Physics, you are advised to work for the B.S. in Physics as described earlier.

Preparation for the Major

Required: Physics 8A, 8B, 8C, 8D, 8E; Chemistry 11A, 11B, 11BL, 11C (Chemistry 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 199), and five upper division courses in no more than two departments other than physics. 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/nuclear, 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 Advanced Test in Physics and to submit three letters of recommendation. Foreign 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.

Master of Science Degree

Major Fields or Subdisciplines

It is not required to designate an area of specialization for a terminal master's degree.

Course Requirements

The University requires a total of nine courses for the M.S. degree. The Physics Department requires that a minimum of six of the nine be graduate courses in physics of which you must pass the five fundamental (core) courses: 210A, 210B, 215A, 221A, 221B. To complete the minimum six graduate courses you are required to pass one of the following courses with a B or better: 220, 221C, 231A. The remaining three courses (to complete the nine courses for the M.S. degree) may be satisfied by upper division or graduate courses, not necessarily in physics, which are acceptable to the Physics Department. No more than two of the three courses may be chosen from Physics 596 or seminar courses. Only eight units of 500-series courses may be applied toward the total course requirement for the M.S.degree (Physics 597 and 598 may not be applied).

Comprehensive Examination Plan

A passing grade on a written comprehensive examination is required. It is recommended that the examination be taken during the first year by UCLA graduates in physics and must be taken no later than the fourth quarter in residence by other students. This examination is given twice a year.

Although the department operates under the comprehensive examination plan rather than the thesis plan, arrangements generally can be made to write a master's thesis, provided you have a particularly interesting research problem and a professor is willing to undertake the guidance of your work. You must petition the departmental committee of graduate advisers for permission to pursue the thesis plan. The comprehensive examination requirement is waived if the petition is approved.

Master of Arts in Teaching

Major Fields or Subdisciplines

It is not required to designate an area of specialization for the M.A.T. degree.

Course Requirements

This degree leads to qualification for teaching credentials at the secondary school or junior college level. Five graduate courses, five professional (300 series) courses, and 12½ total courses are required.

(1) The five graduate physics courses include Physics 370 and four chosen from 210A, 210B, 215A, 221A, 221B.

(2) Also required are the courses necessary for completion of the preliminary State of California single subject instructional credential, K-12: Education 100A, 100B, 112, 312, 315A-315B, 330B, 330C, Public Health 187.

Courses in the 500 series are not applicable toward the M.A.T. degree.

Teaching Experience

Teaching experience is required insofar as the required education courses are concerned (supervised teaching at the secondary or junior college level).

Comprehensive Examination Plan

A passing grade on a written comprehensive examination is required. M.A.T. candidates who fail to qualify at the master's level of achievement may repeat the examination a second time. Permission to repeat it a third time may be granted only under exceptional circumstances.

Ph.D. Degree

Major Fields or Subdisciplines

Ph.D. degrees are granted in the following fields of specialization: elementary particles, intermediate energy and nuclear physics, low temperature/acoustics, plasma and astrophysics, solid-state and condensed matter, and spectroscopy.

Course Requirements

Before the formation of a doctoral committee, you must satisfy the core course requirements by taking Physics 210A, 210B, 215A, 221A, 221B. Course examinations are graded on both a letter and an S/U basis. All students seeking candidacy for the Ph.D. degree must pass with a grade of S the final examination in four of the five courses. In case of failure, you may petition to repeat the examination in question. The five examinations should be completed by the fifth quarter in residence. In addition to the five required courses, you must fulfill a breadth requirement by passing one of the following courses with a B or better: Physics 220, 221C, 231A (course 132 is the mathematics prerequisite to graduate classes; if you have not taken this course or its equivalent as an undergraduate, you must do so at the beginning of your graduate career).

Qualifying Examinations

All departmental graduate students (master's and Ph.D.) take the same examination, which is graded as follows: (1) pass at the Ph.D. level of achievement, (2) pass at the master's level of achievement, or (3) fail.

All students in the Ph.D. program must pass the examination at the Ph.D. level of achievement. In case of failure, you may take the examination a second time. Permission to take it a third time may be granted only under exceptional circumstances.

You may arrange for the comprehensive oral examination (departmental field oral) only after completing the core course requirements and passing the comprehensive written examination at the Ph.D. level. The departmental oral may encompass material covered in all graduate courses but with special emphasis on your field of specialization. The examination, if failed, may be repeated upon the recommendation of your committee to the graduate affairs officer. All students are expected to complete the examination by the eighth quarter in residence.

The doctoral committee conducts the University Oral Qualifying Examination, which may include (1) material in your field of specialization, (2) related material that members of the committee from other departments may wish to ask, and (3) discussion of the proposed dissertation problem. Committee members will 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 will be required.

When a satisfactory report on the completion of the written and oral qualifying examinations has been submitted, you will be eligible to be formally advanced to candidacy for the Ph.D.

Final Oral Examination

This examination ordinarily will be a discussion of your original work, including your dissertation and other related matters to be determined by the committee. It may be, if the committee so desires, a survey or comprehensive examination.

Lower Division Courses

Physics 1Q is intended for entering freshman physics majors and will normally be taken in the first quarter of 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 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-8E by taking the final examination with a class at the end of any quarter. These will serve as placement examinations. You should discuss such possibilities with your departmental adviser.

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 10 is a one-quarter, non-laboratory course which surveys the whole field of physics. Any two or more courses from Physics 10, 3A, 6A, and 8A will be limited to six units credit.

1Q. Contemporary Physics (½ course). Limited to physics majors. A review of current problems in physics, with emphasis on those being studied in the research laboratories at UCLA. The significance of the problems and their historical context. (F)

3A. General Physics: Mechanics of Solids and Fluids. Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisites: three years of high school mathematics including trigonometry or two years of high school mathematics and a one-term college course in mathematics with trigonometry included in the group of courses or equivalent courses. Not open for credit to students with credit for course 8A or equivalent. The fundamentals of classical mechanics: Newton's laws; conservation of momentum, angular momentum, energy; Kepler's laws; dynamics of systems of particles; fluid mechanics. (F,W)

3B. General Physics: Heat, Sound and Electricity, and Magnetism. Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisite: 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. (W,Sp)

3C. General Physics: Light, Relativity, and Modern Physics. Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisite: course 3B or equivalent. Light, optical instruments. Introduction to relativity. The electron and the atom. Matter waves. Nuclear and particle physics. (F,Sp)

6A. Physics for Life Science Majors: Mechanics and Wave Motion. Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisites: Mathematics 3A, 3B, and 3C (may be taken concurrently), or equivalent. (F,W)

6B. Physics for Life Science Majors: Electricity and Magnetism. Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisite: course 6A. (W,Sp)

6C. Physics for Life Science Majors: Light and Modern Physics. Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisite: course 6B. (F,Sp)

8A. Physics for Scientists and Engineers: Mechanics. Lecture and 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. (F,W,Sp)

8AL. Physics Laboratory for Scientists and Engineers: Mechanics (¼ course). Lecture, one hour; laboratory, 90 minutes. Corequisite: course 8A or consent of instructor. (F,W,Sp)

8B. Physics for Scientists and Engineers: Waves, Sound, Heat. Lecture and demonstration, three hours; discussion, one hour. Prerequisites: course 8A, Mathematics 31B. Corequisites: course 8BL, Mathematics 32A (or equivalent). Harmonic oscillators, standing and traveling waves, fluid dynamics, sound, kinetic theory of gases, laws of thermodynamics. (F,W,Sp)

8BL. Physics Laboratory for Scientists and Engineers: Waves, Sound, Heat (¼ course). Lecture, one hour; laboratory, 90 minutes. Corequisite: course 8B or consent of instructor. (F,W,Sp)

8BH. General Physics: Vibration, Wave Motion, Sound, Fluids, Heat, and Kinetic Theory (Honors). Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisites: course 8A with a grade of A or recommendation of 8A instructor, Mathematics 31B (or preferably 31BH) completed, and 32A (or preferably 32AH) concurrent, or equivalent. The course covers the same material as course 8B but in greater depth. (Sp)

8HB. Physics for Scientists and Engineers (Honors) (1¼ courses). Lecture, four hours; discussion, two hours; laboratory, 90 minutes. Prerequisite: same as for the Physics 8 and 8L series. Limited to the top 20 students (determined by previous Physics 8 grades) by consent of instructor. Intended for outstanding students with a deep interest in physics. Honor students participate in the lectures and examinations of the regular Physics 8 series. Discussions and laboratories are given by an honors instructor who discusses challenging problems in depth. (F,W,Sp)

8C. Physics for Scientists and Engineers: Electricity and Magnetism. Lecture and demonstration, three hours; discussion, one hour. Prerequisites: course 8B, Mathematics 32A. Corequisites: course 8CL, Mathematics 32B. Electrostatics: electric field and potential, capacitors and dielectrics. Currents, DC circuits, transients in RC circuits. Magnetism: magnetic fields and forces, Ampere's law, Faraday's law. Maxwell's equations in integral form. Inductance and transients in RL circuits. (F,W,Sp)

8CL. Physics Laboratory for Scientists and Engineers: Electricity and Magnetism (¼ course). Lecture, one hour; laboratory, 90 minutes. Corequisite: course 8C or consent of instructor. (F,W,Sp)

8CH. General Physics: Electricity and Magnetism (Honors). Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisites: course 8BH or 8B with a grade of A or recommendation of 8B instructor, Mathematics 32A (or preferably 32AH) completed and 32B (or preferably 32BH) concurrent, or consent of instructor. The course covers the same material as course 8C but in greater depth. (F)

8HC. Physics for Scientists and Engineers (Honors) (1¼ courses). Lecture, four hours; discussion, two hours; laboratory, 90 minutes. Prerequisite: same as for the Physics 8 and 8L series. Limited to the top 20 students (determined by previous Physics 8 grades) by consent of instructor. Intended for outstanding students with a deep interest in physics. Honor students participate in the lectures and examinations of the regular Physics 8 series. Discussions and laboratories are given by an honors instructor who discusses challenging problems in depth. (F,W,Sp)

8D. Physics for Scientists and Engineers: Electromagnetic Waves, Light, and Relativity. Lecture and demonstration, three hours; discussion, one hour. Prerequisites: course 8C, Mathematics 32B. Corequisites: course 8DL, Mathematics 33A. AC circuits, resonance. Maxwell's equations in differential form. Electromagnetic waves. Light: reflection, refraction, interference, diffraction, polarization. The special theory of relativity. (F,W,Sp)

8DL. Physics Laboratory for Scientists and Engineers: Electromagnetic Waves, Light, and Relativity (¼ course). Lecture, one hour; laboratory, 90 minutes. Corequisite: course 8D or consent of instructor. (F,W,Sp)

8DH. General Physics: Electromagnetic Waves, Light, and Relativity (Honors). Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisites: course 8CH or 8C with a grade of A or recommendation of 8C instructor, Mathematics 32B (or preferably 32BH) completed and 33A (or preferably 33AH) concurrent, or consent of instructor. The course covers the same material as course 8D but in greater depth. (W)

8HD. Physics for Scientists and Engineers (Honors) (1¼ courses). Lecture, four hours; discussion, two hours; laboratory, 90 minutes. Prerequisite: same as for the Physics 8 and 8L series. Limited to the top 20 students (determined by previous Physics 8 grades) by consent of instructor. Intended for outstanding students with a deep interest in physics. Honor students participate in the lectures and examinations of the regular Physics 8 series. Discussions and laboratories are given by an honors instructor who discusses challenging problems in depth. (F,W,Sp)

8E. Physics for Scientists and Engineers: Modern Physics. Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisites: course 8D, Mathematics 33A. Corequisite: Mathematics 33B or equivalent. Wave-particle duality, quantum theory, Schroedinger equation, hydrogen atom, exclusion principle. (W,Sp)

10. Physics. Lecture and demonstration, three hours; quiz and discussion, one hour. Special mathematical preparation beyond that necessary for admission to the University in freshman standing is not required. The course satisfies in part the college requirements in the physical sciences for nonphysical science majors. Topics include planetary motion, Newton's laws, gravitation, electricity and magnetism, wave motion, light, sound, and heat, relativity, quantum mechanics, atoms, and subatomic particles. As time permits, the development of physical ideas will be placed in their cultural and historical perspective. (W,Sp)

11. Modern Physics for Nonscience Majors. Lecture and demonstration, three hours; quiz and discussion, one hour. Prerequisite: course 10. Topics include the concept of energy, quantum theory, nuclear physics, relativity.

14A-14B. Mechanics: Preparatory Courses. Lecture, three hours; discussion, one hour. Prerequisites: Mathematics 3A, 3B, and 3C, or 31A. Corequisite for course 14A: Mathematics 31B. Introductory courses in mechanics that satisfy the physics prerequisite for course 6B or 8B. Primarily intended for students who are inadequately prepared for course 6A or 8A, the courses include lectures, demonstrations, discussions, laboratory, and small group problem solving sessions. (W,Sp)

Upper Division Courses

Prerequisites for all upper division courses: Physics 8A-8E, Mathematics 31A, 31B, 32A, 32B, 33A, and (except for Physics 105A, 116) 33B, or consent of instructor. Students must complete one quarter of upper division physics before enrolling in the 180 laboratory series.

105A. Analytic Mechanics. Newtonian mechanics and conservation laws, gravitational potentials, calculus of variations, Lagrangian and Hamiltonian mechanics, central force motion, linear oscillations.

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. Coherence theory, Kirchhoff formulation of diffraction theory, crystal optics, optical rotation, electro and magneto optical effects. Additional topics of fundamental or current interest.

110A. Electricity and Magnetism. Prerequisite: course 131A. Electrostatics and magnetostatics.

110B. Electricity and Magnetism. Prerequisite: course 110A. Faraday's law and Maxwell's equations. Propagation of electromagnetic radiation. Multipole radiation and radiation from an accelerated charge. The special theory of relativity.

112. Thermodynamics. (Formerly numbered 112A.) Lecture, three hours; discussion, one hour. Fundamentals of thermodynamics, including the first, second, and third laws. The statistical mechanical point of view and its relation to thermodynamics. Some simple applications.

114. Mechanics of Wave Motion and Sound. Vibrating systems and wave propagation in gases, liquids, and solids, including elements of hydrodynamics and elasticity. Applications in ultrasonics, low temperature physics, solid-state physics, architectural acoustics.

115A. Elementary Quantum Mechanics. Prerequisites: courses 105B (may be taken concurrently), 131A. 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.

115C. Elementary Quantum Mechanics. Prerequisite: course 115B. Further development in the methods and concepts of quantum mechanics.

116. Electronics. Lecture, three hours; laboratory, three hours. Alternating current circuits, vacuum tube characteristics and parameters, transistor characteristics and parameters, amplifiers, oscillators, nonlinear tube and transistor circuits.

M122. Plasma Physics. (Same as Engineering M118.) Prerequisite: course 110A or Engineering 100B. 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. Illustrative laboratory experiments will be discussed. (F,Sp)

123. Atomic Structure. Prerequisite: course 115B. The theory of atomic structure. Interaction of radiation with matter.

124. Nuclear Physics. Prerequisite: course 115A. Nuclear charge, mass, radius, spin, and moments; nuclear models; nuclear forces; alpha, beta, and gamma emission.

126. Elementary Particle Physics. Prerequisite: course 115B. Experimental determination of the properties of elementary particle states. Relativistic kinematics and phase space; angular momentum and isotopic spin formalism; elastic and inelastic scattering; invariance principles and conservation laws; strong, electromagnetic, and weak interactions. Survey of important experiments.

131. Mathematical Methods of Physics. (Formerly numbered 131A.) Lecture, three hours; discussion, one hour. Vectors and fields in space, linear transformations, matrices, and operators; Fourier series and integrals.

132. Mathematical Methods of Physics. (Formerly numbered 131B.) Lecture, three hours; discussion, one hour. Prerequisite: course 131. Functions of a complex variable and topics selected from special functions, probability and statistics, and Green's functions.

140. Introduction to Solid-State Physics. Prerequisite: course 115B or equivalent. Introduction to the basic theoretical concepts of solid-state physics with applications. Crystal symmetry; cohesive energy; diffraction of electron, neutron, and electromagnetic waves in a lattice; the reciprocal lattice; phonons and their interactions; free electron theory of metals; energy bands.

180A. Nuclear Physics Laboratory.

180B. Physical Optics and Spectroscopy Laboratory.

180C. Solid-State Physics Laboratory.

180D. Acoustics Laboratory.

180E. Plasma Physics Laboratory.

180F. Elementary Particle Physics Laboratory.

185. Foundations of Physics. Prerequisite: senior standing in physics or consent of instructor. The historical development and philosophical sources of classical and modern physics.

199. Special Studies in Physics (½ to 1 course). May be repeated, but no more than twelve units may be applied toward the Physics B.S. degree requirements.

Graduate Courses

210A. Electromagnetic Theory. Boundary value problems in electrostatics and magnetostatics. Multipole expansions; dielectrics and macroscopic media. Maxwell's equations and conservation laws. Wave guides and resonators; simple radiating systems.

210B. Electromagnetic Theory. The electromagnetic potentials and the Hertz vectors. Cylindrical waves. Spherical waves. Debye potentials. Multipole radiation. Classical relativistic electrodynamics. Radiation from moving charges.

213A. Advanced Atomic Structure. Group representation theory. Angular momentum and coupling schemes. Interaction of radiation with matter.

213B. Advanced Atomic Structure. The n-j symbols, continuous groups, fractional parentage coefficients, n electron systems.

213C. Molecular Structure. Application of group theory to vibrational and electronic states of molecules. Molecular orbital theory. Raman effect. Angular momentum and coupling in molecules.

214A. Advanced Acoustics. Propagation of waves in elastic and fluid media. Reflection, refraction, diffraction, and scattering of waves in fluids. Attenuation mechanisms in fluids.

214B. Advanced Acoustics. Propagation in nonhomogeneous fluids and in moving fluids. Radiation pressure, acoustic streaming, and attenuation in large amplitude sound fields. Propagation of sound in liquid helium. Mechanisms resulting in attenuation for elastic waves in solids.

215A. Statistical Physics. Thermodynamics and statistical mechanics with applications.

215B. Nonequilibrium Statistical Mechanics. Probability theory, Markov processes, equations of change, BBGKY hierarchy and its consequences, Boltzmann equation, Chapman-Enskog method, transport coefficients, fluctuation-dissipation theorems, density matrix, H-theorems.

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 physics of continuous media and fluids, nonlinear phenomena.

221A. Quantum Mechanics. Lecture, three hours. Fundamentals of quantum mechanics, operators and state vectors, equations of motion.

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.

222A-222B-222C. Plasma Physics. Properties of a Coulomb gas with and without a magnetic field: equilibrium, oscillations, instabilities, fluctuations, collective phenomena, transport properties, and radiation. Description via single-particle orbit theory, magnetohydrodynamics, and kinetic equations of various types.

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 one pion exchange potential, phase shift analysis.

225A. Advanced Nuclear Physics. An advanced course in the structure of complex nuclei, nuclear models, and nuclear reactions. Normally preceded by course 224.

225B. Advanced Nuclear Physics. Nuclear beta decay, neutrino experiments, parity violation, conserved vector current theory, interaction between nucleons and the electromagnetic field.

226A-226B-226C. Elementary Particle Physics. (Formerly numbered 226A-226B.) Prerequisites: courses 221A, 221B. Recommended corequisites: courses 224 and 230A-230B-230C. Relativistic kinematics and phase space. Survey of elementary particle masses and lifetimes. Quantum number determination. Relativistic S-matrix. C, P, and T invariance. Weak interaction theory; decay rate and cross section calculations. Continuous symmetries and gauge theories. Electromagnetic structure of hadrons. Deep inelastic lepton scattering, SU (3); the quark model. Charm and higher symmetries; e+ e-annihilations. Theory and phenomenology of high energy hadron-hadron collisions.

230A-230B-230C. Relativistic Quantum Theory. Quantum electrodynamics, general quantum field theory, S-matrix theory.

231A. Methods of Mathematical Physics. Linear operators, review of functions of a complex variable, integral transforms, partial differential equations. Students with credit for Mathematics 266A will not receive credit for this course.

231B. Methods of Mathematical Physics. Ordinary differential equations, partial differential equations, and integral equations. Calculus of variations. Students with credit for Mathematics 266B will not receive credit for this course.

231C. Methods of Mathematical Physics. Perturbation theory. Singular integral equations. Numerical methods. Students with credit for Mathematics 266C will not receive credit for this course.

232A-232B. Relativity. The special and general theories, with applications to elementary particles and astrophysics.

232C. Special Topics in General Relativity.

233. Introduction to High Energy Astrophysics. Introductory lectures on modern high energy astrophysics. High energy radiation processes. Neutron stars. Pulsars. X-ray sources. Black holes. Supermassive rotators and quasars.

235. Group Theory and Quantum Mechanics. Prerequisite: course 221A. Group representation theory and applications to the quantum mechanics of atoms, molecules, and solids.

241A. Solid-State Physics. Prerequisites: courses 140, 215A, 221A. Symmetry, free electrons, electrons in a periodic potential, experimental measurement of band structure and Fermi surface parameters, cohesive energy, lattice vibrations, thermal properties.

241B. Solid-State Physics. Prerequisite: course 241A. Transport theory with applications, electron-electron interactions.

241C. Solid-State Physics. Prerequisite: course 241B. Semiconductors, magnetism, phase transitions, superconductivity.

242A-242B. Advanced Solid-State Theory. Prerequisites: courses 241A, 241B, 241C (may be taken concurrently). Many body methods in solid-state physics.

243A-243K. Special Topics in Solid-State Physics. 243A. Disordered Systems; **243B.** Magnetic Resonance; **243C.** Phase Transitions; **243D.** Magnetism; **243E.** Superconductivity; **243F.** Macromolecules; **243G.** Semiconductors; **243H.** Optical Interactions; **243I.** Nonlinear Optics; **243J.** Hopping Transport; **243K.** Low Temperature Physics.

260. Seminar: Problems in Plasma Physics.

261. Seminar in Special Problems in Theoretical Physics.

262. Seminar in Physics of the Solid State.

264. Seminar in Advanced Physical Acoustics.

266. Seminar in Propagation of Waves in Fluids.

268. Seminar in Spectroscopy.

269A. Seminar in Nuclear Physics.

269B. Seminar in Elementary Particle Physics.

284. Advanced Laboratory in Acoustics and Cryogenics. Selected advanced experiments in acoustics and cryogenics designed to train the student in the techniques and instrumentation used in acoustic research and low temperature physics.

290. Research Tutorial in Plasma Physics (½ or 1 course). Seminars and discussion by staff and students directed toward problems of current research interest in the plasma physics group, both experimental and theoretical. Each graduate student doing research in this field is required to take three quarters of this course, ordinarily during the second or third year. May be repeated for credit.

291. Research Tutorial in Elementary Particle Theory (½ or 1 course). Prerequisites: courses 226A, 230A, 230B. Seminars and discussion by staff, postdoctoral fellows, and graduate students. Each graduate student doing research in this field is required to take this course, ordinarily during the second or third year. May be repeated for credit.

292. Research Tutorial in Spectroscopy, Low Temperature, and Solid-State Physics (½ or 1 course). Seminars and discussion by staff and students on problems of current research interest in spectroscopy, low temperature, and solid-state physics. Each graduate student doing research in these fields is required to take this course, ordinarily during the second or third year. May be repeated for credit.

295. Research Tutorial in Solid Earth Physics (½ or 1 course). Seminars and discussion in solid earth physics. Each graduate student doing research in this field is required to take this course (or course 292 if appropriate), ordinarily in the second or third year. May be repeated for credit.

298. Research Tutorial in Experimental Elementary Particle Physics (½ or 1 course). 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.

299. Research Tutorial in Nuclear Physics (½ or 1 course). 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.

370. The Teaching of Physics. Prerequisite: consent of instructor. A study of the physics laboratory experiments and demonstrations available today for secondary school and community college physics courses. The course is part of the Master of Arts in Teaching (M.A.T.) program, but is open to other interested students.

375. Teaching Apprentice Practicum (¼ to 1 course). 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 Physics (½ course). Lecture with discussion (five or more one-hour meetings during the quarter, plus intensive training week at the beginning of Fall Quarter). Required of all new teaching assistants. A special course for teaching assistants designed to deal with the problems and techniques of teaching college physics. The ideas and techniques learned will be applied and evaluated in the sections of each teaching assistant. May be repeated for credit. S/U grading.

596. Directed Individual Studies (½ to 3 courses). May be repeated for credit. S/U grading.

597. Preparation for Master's Comprehensive Examination and Ph.D. Qualifying Examination (½ to 2 courses). May be repeated. S/U grading.

598. Master's Thesis Research and Writing (½ to 2 courses). May be repeated. S/U or letter grading.

599. Ph.D. Research and Writing (2 to 3 courses).

Political Science

4289 Bunche Hall, 825-4331

Professors

Richard E. Ashcraft, Ph.D.
Hans H. Baerwald, Ph.D.
Richard D. Baum, Ph.D.
Irving Bernstein, Ph.D.
John C. Bollens, Ph.D.
David T. Cattell, Ph.D.
James S. Coleman, Ph.D.
Mattei Dogan, Docteur és Lettres
Leonard Freedman, Ph.D.
Robert C. Fried, Ph.D.
Robert S. Gerstein, LL.B., Ph.D.
Edward Gonzalez, Ph.D.
Marvin Hoffenberg, M.A., *in Residence*
Michael Intriligator, Ph.D.
Roman Kolkowicz, Ph.D.
Andrzej Korbonski, Ph.D.
Michael F. Lofchie, Ph.D.
Dwaine Marvick, Ph.D.
Charles R. Nixon, Ph.D.
David C. Rapoport, Ph.D.
John C. Ries, Ph.D.
Ronald L. Rogowski, Ph.D.
David O. Sears, Ph.D.
Richard Sisson, Ph.D., *Chair*
Richard L. Sklar, Ph.D.
Stephen L. Spiegel, Ph.D.
David O. Wilkinson, Ph.D.
David A. Wilson, Ph.D.
E. Victor Wolfenstein, Ph.D.
Charles E. Young, Ph.D.
Ciro Zoppo, Ph.D.
Winston W. Crouch, Ph.D., *Emeritus*
Ernest A. Engelbert, M.P.A., Ph.D., *Emeritus*
David G. Farrelly, Ph.D., *Emeritus*
J.A.C. Grant, Ph.D., LL.D., *Emeritus*
Foster H. Sherwood, Ph.D., LL.D., *Emeritus*
H. Arthur Steiner, Ph.D., *Emeritus*

Associate Professors

L. Blair Campbell, Ph.D.
Pierre-Michel Fontaine, Ph.D., *Acting*
Douglas S. Hobbs, Ph.D.
Karen J. Orren, Ph.D.
John R. Petrocik, Ph.D.
Raymond A. Rocco, Ph.D.
Stephen L. Skowronek, Ph.D.
Duane E. Smith, Ph.D.
Leo M. Snowiss, Ph.D.
Arthur A. Stein, Ph.D.

Assistant Professors

Thad A. Brown, Ph.D.
Jeffry A. Frieden, M.A., *Acting*
P. Brett Hammond, Ph.D.
David A. Lake, M.A., *Acting*
Robert C. Welsh, Ph.D.

Professor

James G. Fisk, B.S., *Adjunct*

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. This 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.

The graduate programs leading to the M.A. and Ph.D. degrees in Political Science are designed to give students a strong foundation in the discipline while enabling them to acquire additional skills for advancing their professional careers. Both M.A. and Ph.D. students enter a single-track program that requires them to take two major fields in political science during their first two years of study.

Bachelor of Arts Degree

Preparation for the Major

Required: Two lower division courses (eight units), including Political Science 1 and 2, 3, 4, or 6. These courses must be taken for a letter grade.

The Major

Required: Ten upper division political science courses (40 units) chosen from those numbered C102 to 199. You are also required to complete four upper division courses (16 units) in one or more of the following social sciences: anthropology, communication studies (only 160), economics, geography, history, management (only 150, 190), psychology (except 115, 116, 117), sociology. You are expected to maintain a 2.0 overall grade-point average in all upper division political science courses and in the related social science courses. All courses required for the major must be taken for a letter grade.

Upper division political science courses are organized into six fields: (I) political theory, (II) international relations, (III) politics, (IV) comparative government, (V) public law, and (VI) public administration and local government.

In fulfilling the requirement of ten upper division political science courses, you must satisfy the following:

(1) A **concentration** in one field by completing at least four upper division courses in that field. It is recommended that one of these courses be a seminar (C197A-C197F; see field concentration requirements below).

(2) A **distribution** of two courses in each of two other fields (four courses).

(3) Course 110 is required of all political science majors and must be taken no later than the junior year. The Political Science 110 requirement may be met by taking two quarters of the Political Science 111 series. Course 110 may be applied toward either the concentration or the distribution requirement.

(4) One additional elective course in political science to comprise the total of ten.

Field Concentration Requirements: Specific requirements for field concentration are as follows:

(I) *Political Theory:* Course 110 and three additional courses in Field I.

(II) *International Relations:* Course 2 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:* Any four courses in Field III. Course 182A may also be applied toward concentration in this field.

(IV) *Comparative Government:* Course 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. Course 3 is recommended as the second lower division course.

(V) *Public Law:* Course 170 or 171 and any three additional courses in Field V. Course 171 is prerequisite to 172A and 172B. Course 117 or 187 — but no more than one of them — may also be applied toward concentration in this field.

(VI) *Public Administration and Local Government:* Any four courses in Field VI. Course 138C, 173, or 174 — but no more than one of them — and course 123 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, M169, 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 198 and 199 may not be applied toward either the concentration or distribution requirement.

Undergraduate Seminars

Each quarter the department offers a series of seminars (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

Students wishing to qualify for graduation with departmental honors must maintain a 3.5 grade-point average in upper division political science courses and complete the following: (1) Political Science 195A-195B-195C, in which a senior thesis is written; (2) eight upper division courses (excluding courses 119, 139,

149, M169, 179, and 189) distributed as follows: course 110, three courses in one field, and four additional courses, two in each of two other fields; (3) four upper division courses in the social sciences other than political science.

Graduate Study

Admission

In addition to University minimum requirements, the department requires three letters of recommendation, scores of the General Test of the Graduate Record Examination, 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, UCLA, Los Angeles, CA 90024. The department does not have an application form in addition to the one used by Graduate Admissions. The deadline for receipt of all application materials is December 31 prior to the Fall Quarter in which you plan to register.

Transfer Students: With the approval of the graduate committee and the Dean of the Graduate Division, a maximum of four courses taken at another UC campus may be applied toward the 12-course requirement under the two-year program, but no more than two may be applied toward each of the two major fields in political science. If the work was completed at another institution, only two courses may be applied.

Students who apply for admission with an M.A. in Political Science from another institution will be admitted to the Ph.D. track by completing the course breadth requirements and qualifying in their two major field examinations. Upon petition, the department will accept up to six courses taken in master's programs elsewhere.

Major Fields

Six fields of study are offered to graduate students in the department: political theory; international relations; politics; comparative government; public law; and public administration and local government.

Master of Arts Degree

You may enter a two-year program leading solely to the M.A. degree, or to the M.A. degree and, if qualified, onto the Ph.D. track beginning the third year. You may choose between the M.A./Ph.D. examination plan and the M.A. thesis plan, but you are advised to take the examination plan if you wish to qualify for entry onto the Ph.D. track.

Foreign Language Requirement

There is no foreign language requirement for the M.A. degree.

Course Requirements

Under either the M.A./Ph.D. examination plan or M.A. thesis plan, 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. These 12 courses must be distributed as follows during the two years of study:

(1) First-year students will take Political Science 200 normally in the Fall Quarter of their first year.

(2) A minimum of four graduate courses is required in each of your two major fields. Each field will determine the core courses needed to fulfill a first or second major in that field. Where approved by a field, you may take one designated Concepts and Methods (CAM) course (Political Science 203A-203B-C203C or C204) to satisfy one of the four course requirements in either of the two major fields, but not in both fields.

(3) If you opt for the M.A./Ph.D. examination plan, you must take a minimum of two courses in your minor field, of which at least one is at the graduate level. The minor field may be taken in one of the six 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.

(4) If you opt for 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, chosen from within or outside the department. If your minor is taken outside the department, the elective must be in one of the six fields, excluding the two major fields. It may not be Political Science 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. You may also enroll in course 597 or 598, but neither of these may be applied toward any of the substantive requirements for the M.A. or Ph.D.

Thesis Plan

To qualify solely for the M.A. degree, you may choose to write an M.A. thesis in lieu of taking the examination sequence at the end of the second year. Under the thesis plan, you are required to fulfill all of the above course requirements, except that in lieu of taking courses in a minor field, you will take two thesis-related courses under the direction of the chair of the thesis committee. These may be course 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 upon the thesis plan by the middle of the Spring Quarter of your first year and must form a thesis committee. You will 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 will be considered to have failed the requirement and will not be allowed to resubmit the thesis. If you have received the M.A. on the thesis plan, you may register for the Ph.D. examination without reapplying, but you must take the Ph.D. preliminary examinations in the two major and one minor fields by the Spring Quarter of your third year at UCLA.

Qualifying Examinations

Unless you have opted for the M.A. thesis plan, you must take the combined M.A./Ph.D. qualifying examinations in your two major fields in the Spring Quarter of your second year. Retake examinations will be taken in the Fall Quarter of the subsequent year. The outcome of the spring examinations determines whether you (1) obtain an M.A. degree but do not qualify for the Ph.D. track; (2) obtain an M.A. and qualify for the Ph.D. track beginning the third year; (3) obtain an M.A. but must retake an examination in one or both fields to qualify for the Ph.D. track; or (4) fail to obtain an M.A. and are terminated from the program.

The combined M.A./Ph.D. qualifying examinations in the two major fields consist of two written examinations. Each field committee will provide two assessments of the examinations as to whether (1) your performance is sufficient for the M.A. degree and (2) it 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. track, grades are not qualified, marginal, qualified, and qualified with distinction. To obtain an M.A. degree only, you must receive a grade of pass on at least one field examination. If you obtain a pass on both field examinations, you will receive a departmental letter certifying qualification in both fields.

Qualification for the Ph.D. Track: To proceed onto the Ph.D. track, you must (1) receive grades of pass on both field examinations and (2) receive a grade of qualified or qualified with distinction in both examinations.

There are no retake examinations for the M.A. degree. Retake examinations are given to determine whether you qualify for the Ph.D. track. They may be retaken once only, provided you receive a grade of qualified in one field and not qualified or marginal in the sec-

ond field. If you receive two marginals, an ad hoc committee will determine whether you should be allowed to retake the examinations.

Ph.D. Degree

The Ph.D. program in Political Science is an extension of the two-year program that qualifies students for the Ph.D. track. It consists of a modified dissertation mode which allows Ph.D.-bound students to tailor courses to their dissertation interest, and to prepare the research design for the University Oral Qualifying Examination which may be held as early as the end of the second quarter in the Ph.D. program.

Admission

Only those students who have passed the M.A./Ph.D. field examinations in political science at UCLA, and who have received the grades of qualified or qualified with distinction on both examinations, will be admitted to the Ph.D. program. This prerequisite applies to students holding an M.A. degree in Political Science from another institution, who normally will take their field examinations at the end of their first year in residence.

Foreign Language or Research Methodology Requirement

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 examination with a minimum score of 550. In languages for which no ETS examination is given, you must take a department examination to test your proficiency at a level comparable to an ETS score of 550. You may also satisfy the requirement by having completed, with a grade of B or better, the final course in a two-year sequence of college courses in a foreign language.

(2) Research methodology proficiency may be demonstrated by completing three courses with a grade of B or better. Two of the courses are to be a sequence in elementary statistics, plus Political Science C203C. Acceptable statistics courses include Mathematics 50A-50B and Sociology 210A-210B. More advanced classes in mathematics or statistics may be substituted for these statistics courses.

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

In consultation with the graduate adviser, you will select your individual research adviser during the quarter in which you become qualified to start the Ph.D. track. You and your research adviser will then 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 will take one elective course within or outside the department. The elective should be relevant to the dissertation topic and may be a 596 course provided it is a substantive course.

(3) **Directed Reading and Research:** You must take Political Science 590A to research your proposed dissertation topic and 590B to prepare your research design for the dissertation. Normally, course 590B is taken preceding or during the quarter in which the oral examination is taken. With the approval of your research adviser, you may take more than one elective or 590A or 590B course.

Teaching Experience

All graduate students in the Department of Political Science before being granted the Ph.D. are required to have formal teaching experience in an institution of higher learning. Waiver of this requirement is possible in exceptional circumstances upon petition to the graduate studies committee.

Oral Qualifying Examination

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. Upon successful completion of the University Oral Qualifying Examination and the language or methodological requirement, you will be advanced to candidacy.

Approval of a written dissertation by your doctoral committee constitutes the final requirement for the Ph.D. degree in Political Science.

Final Oral Examination

The doctoral committee for each candidate decides whether or not a final oral examination should be required.

Candidate in Philosophy Degree

You are eligible to receive the C.Phil. degree upon advancement to candidacy for the Ph.D.

Lower Division Courses

1. Introduction to American Government. Lecture, three hours; discussion, one hour. Required of political science majors. 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.

2A-2B. World Politics. Lecture, three hours; discussion, one hour. Either course 2A or 2B is required of all students concentrating in Field II and may be used to fulfill one of the two course requirements for the "Preparation for the Major." An introduction to problems of world politics. **2A.** Problems of Power Politics; **2B.** Problems of World Order. Mr. Wilkinson

3. Introduction to Comparative Government. Lecture, three hours; discussion, one hour. Prerequisite: course 1. May be used to fulfill one of the two course requirements for the "Preparation for the Major." A comparative study of constitutional principles, governmental institutions, and political processes in selected contemporary states, with emphasis on the major European governments.

4A-4Z. Current Problems in Political Science. Prerequisite: successful completion of or concurrent enrollment in course 1. Limited enrollment. Preference is given to declared freshman majors. May be used to fulfill one of the two course requirements for the "Preparation for the Major." Proseminars dealing with selected political problems are offered each quarter. Topics are announced during the preceding quarter.

6. Introduction to Quantitative Research. Prerequisite: one prior course in political science (e.g., course 1, 2, or 3). May be used to fulfill one of the two course requirements for the "Preparation for the Major." An introduction to the collection and analysis of political data. The course emphasizes the application of statistical reasoning to the study of relationships among political variables. Students use 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.

Upper Division Courses

Prerequisite for all upper division courses: upper division standing or consent of instructor.

C102. The Statistical Analysis of Political Data. 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 are illustrated with applications to a variety of political data. May be concurrently scheduled with course C204.
Mr. Brown, Mr. Marvick, Mr. Petrocik

M103. Economic Models of the Political Process. (Same as Economics M135.) Prerequisites: Economics 101A, a basic course in political science, junior/senior standing, consent of instructor. The course examines conceptions and applications of two different processes of political interaction, the cooperative (as in public choice) and the conflictual (as in warfare), making use of economic models of choice and equilibrium. Mr. Hirshleifer

104A-104B. Introduction to Survey Research. Prerequisite: course 6 (undergraduates) or course C203C (graduates). Course 104A is prerequisite to 104B. A course in the fundamentals of survey research as a method. **104A** covers sampling theory and methods, the writing of questions, questionnaire construction, and interviewing. In addition, students are introduced to attitudes, attitude measurement, and attitude change. Students participate in the formulation of a research problem. **104B** involves conducting a survey. Students are responsible for developing a survey questionnaire, designing a sample, collecting interviews, maintaining quality control, and coding the interviews for machine tabulation. The final requirement is that students perform a computer-aided analysis of some part of the data and submit a written report of that research. Both quarters must be taken to receive credit.

Field I: Political Theory

110. Introduction to Political Theory. Lecture, three hours; discussion, one hour. Required of all majors (must be taken no later than the junior year). An exposition and analysis of selected political theorists and concepts from Plato to the present.

111A. History of Political Thought: Ancient and Medieval Political Theory. An exposition and critical analysis of the major political philosophers and schools from Plato to Machiavelli.

111B. History of Political Thought: Early Modern Political Theory. An exposition and critical analysis of the major political philosophers and schools from Hobbes to Bentham. Mr. Ashcraft

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. Mr. Nixon

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:

114A. An exposition and critical analysis of American political thinkers from the Puritan period to 1865.

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. Prerequisite: course 110 or consent of instructor. 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 IV.
Mr. Coleman, Mr. Lofchie

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

119A-119Z. Special Studies in Political Theory. Prerequisites: course 110, one additional course in Field I, and consent of instructor. Intensive examination of one or more special problems appropriate to political theory. Sections are offered on a regular basis, with topics announced in the preceding quarter. Courses 119, 139, 149, M169, 179, and 189 may be applied no more than twice toward the field concentration requirement. No more than three of these courses may be applied toward the major.

Field II: International Relations

120. Foreign Relations of the United States. Lecture, three hours; discussion, one hour. A survey of the factors and forces entering into the formation and implementation of American foreign policy, with special emphasis on contemporary problems.
Mr. Jabber, Mr. Spiegel, Mr. Stein

121. Studies in Formulation of American Foreign Policy. A study of the formation of American foreign policy with respect to individual cases. Specific topics are announced in the *Schedule of Classes* each quarter.

123. International Organization and Administration. A general survey of the institutions, political and administrative, of international organization, with emphasis on the United Nations. May be applied toward either Field II or VI.

124. International Political Economy. A study of the political aspects of international economic issues.
Mr. Krasner

125. Arms Control and International Security. Survey of contemporary arms control issues, with emphasis on efforts to limit nuclear weapons proliferation and the international arms trade. Mr. Jabber

126. Peace and War. Theory and research on the causes of war and the conditions of peace.
Mr. Wilkinson

127. The Atlantic Area in World Politics. A contemporary survey of the foreign policies of the North Atlantic countries and of cooperative efforts to attain political, economic, and military coordination on a regional basis. Mr. Zoppo

128A-128B. The Soviet Sphere in World Politics. Course 128A or consent of instructor is prerequisite to 128B. A contemporary survey of the foreign policies and aspirations of the Soviet Union and other states in the Soviet bloc; analysis of content and effects of Communist doctrine affecting relations between the Soviet and democratic spheres.
Mr. Cattell, Mr. Kolkowicz, Mr. Korbonski

131. Latin American International Relations. The major problems of Latin American international relations and organization in recent decades.
Mr. Gonzalez

132A-132B. International Relations of the Middle East:

132A. Contemporary regional issues and conflicts, with particular attention to inter-Arab politics, the Arab-Israeli problem, and the Persian Gulf area.

132B. Prerequisite: course 132A or consent of instructor. Role of the great powers in the Middle East, with emphasis on American, Soviet, and West European policies since 1945. Mr. Jabber

135. International Relations of China. 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. The foreign policies of Japan and the interests and policies of other countries, particularly the United States, as they relate to Japan. Mr. Baerwald

137. International Relations Theory. An examination of various theoretical approaches to international relations and their application to a number of historical cases and contemporary problems.
Mr. Krasner, Mr. Stein

138A-138B-138C. Defense Studies:

138A. Defense Strategy and Policies. Analysis of national and international security problems in the nuclear era, with special emphasis on the United States.

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 VI.
Mr. Ries

139A-139Z. Special Studies in International Relations. Prerequisites: two courses in Field II, or course 2 and one course in Field II, and consent of instructor. Intensive examination of one or more special problems appropriate to international relations. Sections are offered on a regular basis, with topics announced in the preceding quarter. Courses 119, 139, 149, M169, 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.

M139. Political and Economic Issues in the Proliferation of Nuclear Weapons. (Same as Economics M103A.) The course provides an interdisciplinary approach to the problem of nuclear proliferation. It also deals with the economic aspects of the acquisition of nuclear weapons and economic aspects of nuclear energy treating technological, bargaining, and stability issues. Mr. Intriligator (alternate years)

Field III: Politics

M140. Political Psychology. (Same as Psychology M138.) Prerequisite: Psychology 10. Examination of political behavior, political socialization, personality and politics, racial conflict, and the psychological analysis of public opinion on these issues.
Mr. Sears

141. Public Opinion and Voting Behavior. Lecture, three hours; discussion, one hour. A study of the character and formation of political attitudes and public opinion. The role of public opinion in elections, the relationship of political attitudes to the vote decision, and the influence of public opinion on public policy formulation will be emphasized.
Mr. Brown, Mr. Petrocik

142. The Politics of Interest Groups. A systematic investigation of the role of political interest groups in the governmental process, with attention directed 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. Ms. Orren, Mr. Skowronek

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 upon the presidency and national policy making.
Ms. Orren, Mr. Skowronek, Mr. Snowiss

145. Political Parties. The organization and activities of political parties in the United States. Attention is focused upon 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. Brown, Mr. Marvick, Mr. Petrocik

146. Political Behavior Analysis. Prerequisite: course 141. The use of quantitative methods in the study of political behavior, especially in relation to voting patterns, political participation, and techniques of political action.
Mr. Brown, Mr. Marvick, Mr. Petrocik

M147. Minority Group Politics. (Formerly numbered 147.) (Same as Chicano Studies M147.) Lecture, three hours; discussion, one hour. Prerequisites: course 1 plus one of the following: one additional 140-level course or one upper division course on race or ethnicity from history, psychology, or sociology, or consent of instructor. A systematic evaluation of the functioning of the American polity related to problems of race and ethnicity. Topics include leadership, organization, ideology, conventional versus unconventional political behavior, inter-minority relations, cooptation, symbolism, and repression. Mr. Rocco

149A-149Z. Special Studies in Politics. Prerequisites: two courses in Field III and consent of instructor. Intensive examination of one or more special problems appropriate to politics. Sections are offered on a regular basis, with topics announced in the preceding quarter. Courses 119, 139, 149, M169, 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 Government

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. Rogowski

154. Governments of Central Europe. The constitutional and political structure and development of Germany and other Central European states, with particular attention to contemporary problems.
Mr. Rogowski

156. The Government of the Soviet Union. An intensive study of the political and institutional organization of the Soviet Union and its component parts, with special attention to contemporary political issues, as well as party and governmental structures.
Mr. Cattell, Mr. Kolkowicz, Mr. Korbonski

157. Governments of Eastern Europe. A study of the political and governmental organization of the Communist countries of Eastern and Central Europe (exclusive of the U.S.S.R.), with special reference to the institutions, practices, and ideologies including interregional relations. Mr. Korbonski

159. Chinese Government and Politics. Organization and structure of Chinese government, with particular attention to the policies, doctrines, and institutions of Chinese Communism; political problems of contemporary China. Mr. Baum

160. Japanese Government and Politics. The structure and operation of the contemporary Japanese political system, with special attention to domestic political forces and problems.
Mr. Baerwald

161. Government and Politics in Southeast Asia. The institutional and political processes and problems of states in Southeast Asia (Burma, Thailand, Malaya, Laos, Cambodia, Vietnam, Indonesia, and the Philippines).

162. Government and Politics in South Asia. A comparative study of political change and the development and performance of public institutions in Southern Asia, with special emphasis on India, Pakistan, and Bangladesh. Mr. Sisson

163A. Government and Politics in Latin America. A comparative study of governmental and political development, organization, and practices in the states of Middle America. Mr. Gonzalez

163B. Government and Politics in Latin America. A comparative study of governmental and political development, organization, and practices in the states of South America. Mr. Gonzalez

164. Government and Politics in the Middle East. A comparative study of government in the Arab States, Turkey, Israel, and Iran. Mr. Jabber

165. Government and Politics in North Africa. A comparative study of the government and politics of the North African states, including the relationship between political development, political organization, and social structure.

166A-166B-166C. Government and Politics in Sub-Saharan Africa. Patterns of political change in Africa south of the Sahara, with special reference to nationalism, nation-building, and the problems of development: **166A.** Western Africa; **166B.** Eastern Africa; **166C.** Southern Africa.
Mr. Coleman, 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 are examined in light of the current debate about imperialism. Mr. Sklar

168L. Comparative Political Analysis. Lecture. Prerequisites: two courses in Field IV, or course 3 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). The course will be conducted as a lecture course. Major approaches to the study of comparative politics. Concepts and methodology of comparative analysis.

168S. Comparative Political Analysis. Seminar. Prerequisites: two courses in Field IV, or course 3 and one course in Field IV, and consent of instructor. Either course 168L or 168S is required of all students concentrating in Field IV (students with credit for course 168L will not receive credit for this course). The course will be conducted as a seminar. Major approaches to the study of comparative politics. Concepts and methodology of comparative analysis.

M169A-M169Z. Special Studies in Comparative Government. (Formerly numbered 169A-169Z.) Prerequisites: two courses in Field IV, or course 3 and one course in Field IV, and consent of instructor. Intensive examination of one or more special problems appropriate to comparative government. Sections are offered on a regular basis, with topics announced in the preceding quarter. Courses 119, 139, 149, M169, 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.

M169B. Special Studies in Comparative Government: Race, Class, and Politics in Latin America. (Same as Afro-American Studies M100A.) Intensive examination of one or more special problems appropriate to comparative government. Sections are offered on a regular basis, with topics announced in the preceding quarter. Mr. Fontaine (F)

Also see courses 115, 188A, 188B

Field V: Public Law

170. The Anglo-American Legal System. Lecture, four hours; discussion, one hour. Either course 170 or 171 is 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

171. The Supreme Court. Lecture, four hours; discussion, one hour. Either course 170 or 171 is required of all students concentrating in Field V. The history, procedures, and role of the Supreme Court in its legal-constitutional and political aspects. Emphasis will be given to the current and recent activities of the Court. Decisions of the Court, historical and current commentaries, and judicial biography will be utilized. Mr. Gerstein, Mr. Hobbs

172A. American Constitutional Law. Prerequisite: course 171. Constitutional questions concerning the separation of powers, federalism, and the relationship between government and property.
Mr. Gerstein, Mr. Hobbs

172B. American Constitutional Law. Prerequisite: course 171. 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.

179A-179Z. Special Studies in Public Law. Prerequisites: course 170 or 171, one additional course in Field V, any special requirements, and consent of instructor. Intensive examination of one or more special problems appropriate to public law. Sections are offered on a regular basis, with topics announced in the preceding quarter. Courses 119, 139, 149, M169, 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 given to California. Mr. Bollens, Mr. Hammond

181. Introduction to Public Administration. An introduction to the study of the processes and structures designed to convert citizen demands and public decisions into collective action and achievement. Particular attention is devoted to the capacity of American administrative systems to respond effectively to citizen expectations within the restraints of due process. Mr. Fried

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 is also given 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.
Mr. Bollens

182B. City Government and Politics. Prerequisite: course 182A or consent of instructor. Intensive analysis of contemporary urban governance in the United States. Emphasis is on such student participatory activities as fieldwork, research, and gaming of urban politics and policy problems. Mr. Bollens

183. Administration of International Agencies and Programs. An examination of the administrative patterns and practices of the United Nations agencies and overseas development programs, including distinctive characteristics of organization and management selection of personnel, and methods of financing.

185. Public Personnel Administration. The process of formulating and administering public personnel policies; concepts and principles utilized in selected governmental personnel systems. Focus will be primarily upon governmental systems in the United States (national, state, local, foreign service, military) but comparisons will also be made with other selected governmental systems.

186. National Policy and Administration. A study of the major policies and programs of the national government and their administration as illustrated in such areas as national defense, social welfare, agriculture, etc. Particular attention will be paid to the role of the President and other administrators in formulating public policy and in maintaining a responsible bureaucracy. Mr. Engelbert, Mr. Fried

187. Law and Administration. Legal controls of administration action. Substantive and procedural limits on administrative discretion imposed by legislation, executive and judicial agencies, and the sources of legal powers of administrative bodies within these limits. May be applied toward either Field V or VI.

188A. Comparative Public Administration. An analysis of bureaucratic structures and function in the United States, other industrialized, and less developed countries, primarily at the national level. Special attention is paid to methods of comparative analysis and the utility of various models. May be applied toward either Field IV or VI. Mr. Fried

188B. Comparative Urban Government. A cross-cultural examination of the forms and processes of urban government. Particular attention will be paid to the role of urbanization in political development. May be applied toward either Field IV or VI. Mr. Fried

189A-189Z. Special Studies in Public Administration. Prerequisites: two courses in Field VI and consent of instructor. Intensive examination of one or more special problems appropriate to public administration. Sections are offered on a regular basis, with topics announced in the preceding quarter. Courses 119, 139, 149, M169, 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.

190. Theories of Organization. An examination of the theoretical frameworks for studying public and private bureaucracies, with emphasis upon ideologies, values, behavioral patterns, and concepts of organization.
Mr. Engelbert, Mr. Hammond, Mr. Hoffenberg

191. Urban and Regional Planning and Development. A comparative study of governmental policies, procedures, and agencies involved in the planning and development of urban and regional communities and areas. Mr. Engelbert, Mr. Hoffenberg

Also see courses 138C, 173, 174

Special Studies

195A-195B-195C. Honors Seminar and Thesis. Prerequisites: one course in the C197 series, a 3.5 grade-point average at the upper division level in political science courses, eligibility for College of 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 will 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.

C197A-C197F. Seminars for Majors. Prerequisites: political science major, upper division standing, a 3.25 grade-point average at the upper division level in political science courses, two upper division courses in the field in which the seminar is offered. May be applied toward the distribution or concentration requirement. May be concurrently scheduled with various graduate courses.

199. Readings in Political Science (½ to 1 course). Prerequisites: upper division standing, 3.0 overall grade-point average, 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 sixteen units.

Graduate Courses

200. Survey of the Discipline. Seminar, three hours. Required of all graduate students and normally taken during the Fall Quarter of the first year. Other students may be admitted by consent of instructor. An introduction to major areas of inquiry within the fields of political science. S/U grading. Mr. Sisson

203A-203B-C203C. Introduction to Political Inquiry:

203A. Problems of Scientific Inquiry and Normative Discourse. Mr. Nixon

203B. Major Conceptual Frameworks and Approaches to Political Science. Prerequisite: course 203A or equivalent.

C203C. Quantitative Research Methods in Political Science. An introduction to the analysis of political data. The relationships among theory, concepts, measurements, and inference will be stressed. The nature of measurement will be discussed, and there will be an introduction to scaling, index construction, and the measurement of political variables. The student will become familiar with such ideas as variables, relationships, association and correlation, controls and causal ordering. Students will be introduced to basic techniques of data collection and analysis. They will also engage in computer-aided interpretation of political data. May be concurrently scheduled with course C197C.

C204. Quantitative Applications. A survey of quantitative research techniques and their application to the study of political phenomena. May be concurrently scheduled with course C102.
Mr. Brown, Mr. Marvick, Mr. Petrocik

211. Political Theory. An analysis of the central problems of political inquiry and their relation to political philosophy.

212. International Relations. An examination of contemporary theories and methodologies in international relations, with applications to contemporary international politics. Mr. Stein

213. American Foreign Policy. An examination of major contemporary problems. Mr. Zoppo

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. Brown, Mr. Marvick, Mr. Petrocik

214B. American Political Institutions.
Mr. Orren, Mr. Skowronek, Mr. Snowiss

215A-215B. Comparative Government. Course 215A or consent of instructor is prerequisite to 215B. Approaches to the study of comparative politics and problems of comparative political analysis.
Mr. Brown, Mr. Cattell, Mr. Rogowski, Mr. Sisson

C216. Public Law. A systematic analysis of the scope and nature of public law, with particular attention given to its materials and methods as illustrated in concepts and doctrines drawn from various of its subject fields. May be concurrently scheduled with course C197E. Mr. Gerstein

C218A. Public Administration and Democratic Government. An analysis of the nature and scope of public administration and its role in modern political systems. May be concurrently scheduled with course C197F. Mr. Engelbert

C218B. Approaches to Organizational Analysis. Analysis of several of the major conceptual alternatives for the study of organizations, with emphasis given to public administrative organizations. Topics include structural-functional and systemic approaches to organization, 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 C197F. Mr. Ries

C218C. 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 is on government organizations and process, as well as types of government intervention and stages of the policy process. Substantive focus is primarily on American public policy and analysis. May be concurrently scheduled with course C197F.

C221. 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. Includes the development and political implications of the market system, banking and finance, corporate enterprise, and organized labor. 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. Ms. Orren, Mr. Skowronek

224D. Group Theories of Politics. Critical appraisal of "group theory" approaches to the study of political decision making, with special attention to empirical research problems and findings. Ms. Orren

C224E. Legislative Behavior. The analysis of the major approaches to the study of representative institutions, with special emphasis upon 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.
Ms. Orren, Mr. Skowronek, Mr. Snowiss

M224G. Political Psychology. (Same as Psychology M228.) Discussion, three hours. Prerequisites: Psychology 220A-220B or consent of instructor. 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. Brown, Mr. Petrocik

C224I. Political Parties. A critical examination of the literature on party systems and organization. Special attention will be given to political functions, electoral campaigns, and party cadres. May be concurrently scheduled with course C197C.
Mr. Marvick, Mr. Petrocik

228A. Personnel and Human Relations. An analysis of the policies, processes, organizations, and interrelationships involved in manning the public services.

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. Hoffenberg, Mr. Ries

228C. Political and Administrative Aspects of Planning. A study of the political constraints on and support for effective planning. Topics include the relationships between planning performance on the one hand, and forms of government, distribution of power, political culture, law, and social structure on the other.
Mr. Engelbert, Mr. Fried

C228D. 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 will be explored. May be concurrently scheduled with course C197F. Mr. Hammond

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

CM229. Urban Government. (Same as Architecture and Urban Planning M205C.) An analysis of the policies, processes, interrelations, and organization of governments in heavily populated areas. May be concurrently scheduled with course C197F.
Mr. Bollens

C230. Comparative Development Administration. Seminar, three hours; discussion, one hour. An analysis of the administration of development programs and the development of administrative institutions, with special attention to ecology. Comparisons are made both between countries and within countries. May be concurrently scheduled with course C197F.
Mr. Nazih Ayubi

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 will be stressed, along with the analysis of policy options. May be concurrently scheduled with course C197B.

C231B. Politics and Strategies of Modern War. Seminar, three hours; discussion, one hour. The course analyzes various national security problems in both their military/technical and political dimensions. It seeks to develop in some depth issues likely to be raised in course 138A (not a prerequisite). May be concurrently scheduled with course C197B.
Mr. Kolkowicz

231C. International Law and Organization. The course emphasizes the role of law and organization in the conduct of contemporary international politics. International organization is considered as an integral process within the contemporary international legal system whose characteristics are explored in depth.

C231D. International Relations Theory. An introduction to contemporary problems in international relations theory. May be concurrently scheduled with course C197B. Mr. Stein, Mr. Wilkinson

232. Seminar on International Political Economy. An intensive examination of various theoretical approaches to issues related to the politics of the world economy and their application to historical and contemporary issues.

235. Selected Topics in Comparative Politics. A critical examination of a major problem in comparative politics.

236A-236B. The Foundations of Representative Government. An analysis of the factors affecting the development and functions of representative institutions in the United States, Europe, and selected political systems of Africa, Asia, and Latin America. Comparative government or politics field credit:

236A. An introduction to the literature on the development of elective institutions and their performance. The course takes an interdisciplinary approach, emphasizing historical as well as contemporary cases and modes of analysis.

236B. Prerequisite: course 236A or consent of instructor. A research seminar devoted to the analysis of particular problems and countries.
Mr. Sisson, Mr. Snowiss

C238A-C238D. Studies in Public Law:

C238A. Evolution of Anglo-American Law Books. Surviving early records. Case reporting, from the year books to the modern reports. Legal treatises from Glanvill to today. Statutes and how to find them. The language of the law. Although emphasis is on American materials, the entire English-speaking world is covered. 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. The focus will be on both judicial and nonjudicial materials. 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. Gerstein, Mr. Welsh

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. Gonzalez

C250B. Russian and Slavic Studies. May be concurrently scheduled with course C197C.
Mr. Cattell, Mr. Kolkowicz, Mr. Korbonski

C250C. Chinese and East Asian Studies. May be concurrently scheduled with course C197D.
Mr. Baum

C250D. Japanese and Western Pacific Studies. May be concurrently scheduled with course C197D.
Mr. Baerwald

C250E. Seminar in African Studies. May be concurrently scheduled with course C197D.
Mr. Coleman, Mr. Lofchie, Mr. Sklar

C250F. Middle Eastern Studies. May be concurrently scheduled with course C197D.

250G. Commonwealth Studies.

C250H. Seminar in 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.

250K. North African Studies.

C250L. South Asian Studies. May be concurrently scheduled with course C197D. Mr. Sisson

C252. Seminar in Public Law. May be concurrently scheduled with course C197E.

C253. Seminar in International Relations. May be concurrently scheduled with course C197B.

C254. Seminar in Public Administration. May be concurrently scheduled with course C197F.

256A-256B. Seminar in Comparative Government. Course 256A is prerequisite to 256B.

257A-257B. Seminar in Political Theory (½ course each). Discussion, three hours. In Progress grading.
Mr. Ashcraft

259. Seminar in Political and Electoral Problems. Prerequisites: two graduate courses in politics.

C262. Seminar in Municipal Government. May be concurrently scheduled with course C197F.
Mr. Bollens

C271. Seminar in Political Change. An interdisciplinary seminar directed toward the analysis of political change. May be concurrently scheduled with course C197D.

280A-280B. Advanced Practicum in Administrative Research. Prerequisites: at least five courses (20 units) at the graduate and upper division level in political science and consent of instructor. An advanced laboratory/seminar in applied research on public agency operational and service delivery problems. The seminar will provide 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 finance performance measures; information systems; evaluation of outcomes; political impact analysis; and related problems in administrative decision making.

375. Teaching Apprentice Practicum (¼ to 1 course). 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 (½ to 2 courses). Prerequisite: consent of UCLA graduate adviser and Graduate Dean and host campus instructor, department Chair, and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

590A. Directed Reading for Ph.D. Dissertation Proposal. Required of all Ph.D. students. Must be taken under the supervision of the research adviser prior to the quarter in which the oral examination is taken. Research for the proposed dissertation topic and submission of a bibliographic essay on that topic. May be repeated by consent of research adviser and graduate adviser.

590B. Directed Research for Ph.D. Dissertation Proposal. Prerequisite: course 590A. Required of all Ph.D. students. Must be taken under the supervision of the research adviser prior to or during the quarter in which the oral examination is taken. Development and writing of the research design for the Ph.D. dissertation. May be repeated by consent of research adviser and gradute adviser.

596. Directed Individual Study or Research (½ to 1 course). May be applied only once toward the minimum course requirement for the M.A. degree. May be repeated.

597. Preparation for M.A. Comprehensive Examination or Ph.D. Qualifying Examination (½ to 3 courses). To be taken (ordinarily) only during the quarter in which the student is examined. S/U grading.

598. Research for and Preparation of M.A. Thesis (½ to 3 courses). This course is rarely taken because students normally receive the M.A. degree under the comprehensive examination plan. S/U grading.

599. Research for and Preparation of Ph.D. Dissertation (½ to 3 courses). May be repeated. S/U grading.

Psychology

1285 Franz Hall, 825-2961

Professors

Bruce L. Baker, Ph.D.
Jackson Beatty, Ph.D.
Peter M. Bentler, Ph.D.
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.
Seymour Feshbach, Ph.D., *Chair*
Morton P. Friedman, Ph.D., *Vice Chair, Undergraduate Affairs*
Rosslyn Gaines, Ph.D., *in Residence*
John Garcia, Ph.D.
Harold B. Gerard, Ph.D.
Michael J.Goldstein, Ph.D.
Patricia M. Greenfield, Ph.D.
Barbara A. Henker, Ph.D.
Nancy M. Henley, Ph.D.
Eric W. Holman, Ph.D.
John P. Houston, Ph.D.
Wendell E. Jeffrey, Ph.D.
Harry J. Jerison, Ph.D., *in Residence*
Harold H. Kelley, Ph.D.
Franklin B. Krasne, Ph.D.
John C. Liebeskind, Ph.D.
O. Ivar Lovaas, Ph.D., Litt.D.
John H. Lyman, Ph.D.
Irving Maltzman, Ph.D.
Albert Mehrabian, Ph.D.
Charles Y. Nakamura, Ph.D.
Donald Novin, Ph.D.
Amado M. Padilla, Ph.D.
Allen Parducci, Ph.D.
Bertram H. Raven, Ph.D.
David O. Sears, Ph.D.
Joseph G. Sheehan, Ph.D.
Edwin S. Shneidman, Ph.D., *in Residence*
Gerald H. Shure, Ph.D.
Stanley Sue, Ph.D.
Shelley E. Taylor, Ph.D.
James P. Thomas, Ph.D.
Bernard Weiner, Ph.D.
J. Arthur Woodward, Ph.D.
Eran Zaidel, Ph.D.

Emeritus Professors

James C. Coleman, Ph.D.
S. Carolyn Fisher, Ph.D.
Joseph A. Gengerelli, Ph.D.
Milton E. Hahn, Ph.D.
F. Nowell Jones, Ph.D.
George F. J. Lehner, Ph.D.
Donald B. Lindsley, Ph.D., Sc.D.
Jessie L. Rhulman, Ed.D.
Eliot H. Rodnick, Ph.D.
John P. Seward, Ph.D.

Associate Professors

Paul R. Abramson, Ph.D.
Howard S. Adelman, Ph.D.
Arthur P. Arnold, Ph.D.
Richard P. Barthol, Ph.D.
Elizabeth L. Bjork, Ph.D.
Andrew Christensen, Ph.D.
Patrice L. French, Ph.D.
Gerald M. Goodman, Ph.D.
Constance L. Hammen, Ph.D.
Donald G. MacKay, Ph.D.
George E. Mount, Ph.D.
Hector F. Myers, Ph.D.
L. Anne Peplau, Ph.D.
Thomas D. Wickens, Ph.D.

Assistant Professors

Felipe Castro, Ph.D.
Christine A. Dunkel-Schetter, Ph.D.
Halford H. Fairchild, Ph.D.
Ralph E. Geiselman, Ph.D.
Carlos V. Grijalva, Ph.D.
William S. Hansen, Ph.D., *in Residence*
Daniel B. Kaye, Ph.D.
Vicki M. Mays, Ph.D.
Marie A. Morell, Ph.D.
D. Dean Richards, Ph.D.

Professors

Marion Jacobs, Ph.D., *Adjunct*
Marvin Spiegelman, Ph.D., *Visiting*

Associate Professors

Jacqueline D. Goodchilds, Ph.D., *Adjunct*
Donald Hiroto, Ph.D., *Adjunct*
Dennis J. McGinty, Ph.D., *Adjunct*
Jill Waterman, Ph.D., *Adjunct*

Assistant Professors

M. Douglas Anglin, Ph.D., *Adjunct*
Jeri A. Doane, Ph.D., *Adjunct*
Sigrid McPherson, Ph.D., *Adjunct*

Lecturers

Darrell C. Dearmore, M.A., *Adjunct*
Pamela C. Freundl, Ph.D., *Adjunct*
Morris K. Holland, Ph.D., *Adjunct*
Ronald Kendis, Ph.D., *Visiting*
Kenneth R. Pfeiffer, Ph.D., *Adjunct*
Kenneth S. Pope, Ph.D., *Adjunct*
Jack E. Sherman, Ph.D., *Adjunct*
Linda L. Taylor, Ph.D., *Adjunct*

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 which uses systematic methods of investigation to understand general principles of human behavior, cognition, and emotion.

The curriculum treats psychology as a biosocial science; man's 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, clinical psychology, and community 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 quantitative psychology 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.

Pre-Psychology Major

While you are completing the lower division preparation courses for one of the majors listed above, you are enrolled as a pre-psychology major. Once you have completed the preparation courses for the major, you must petition to enter that major at the Psychology Undergraduate Office. Lower division preparation courses vary for each of the three majors, as noted below.

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.

Preparation for the Major

The following required courses must be completed for a letter grade with a 2.0 grade-point average: Anthropology 11 or 1 or 2; Biology 2 or 5; Chemistry 2 (if you have completed one year of high school chemistry with a C or better, this requirement will be waived) or 11A; Mathematics 2; Physics 10 or 3A or 6A or 8A; one course from Philosophy 1, 3, 4, 7, 8, 9, 10, or

21; Psychology 10, 42; Psychology 41 (recommended) or Mathematics 50A 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

The following new rules on admission to the major take effect beginning Fall Quarter 1983 for all students with less than 45 units of credit and in Fall Quarter 1984 for all students: (1) a grade of C – or better is required in each of the above "Preparation for the Major" courses; (2) an overall grade-point average of 2.3 is required in the preparation courses; (3) all preparation courses must be completed by the time you reach 135 units. If you have more than 45 units of credit by Fall Quarter 1983, you must have completed the above preparation courses with a 2.0 grade-point average by the time you attain 135 units.

Required: (1) Psychology 110, 115, 120, 125, 135; (2) one course from Psychology 111, 116, 121, 132B, 136A, C136B, 143, M155, 170B, 174, 176, M181A-M181B; (3) an additional four upper division elective courses (16 units) in psychology.

Bachelor of Arts in Quantitative Psychology

This major is an alternative to the psychology major. It provides students with basic training in both quantitative skills and in psychology. Quantitative and computer skills are important in all fields of psychology and are a very positive aspect in preparation for a career in psychology or related fields.

Preparation for the Major

Required: The following courses must be completed for a letter grade with a 2.0 grade-point average: Biology 2 or 5; Chemistry 2 (if you have completed one year of high school chemistry with a C or better, this requirement will be waived) or 11A; Computer Science 10S (recommended) or Engineering 10C or 10F; Mathematics 31A, 31B, 32A, 32B, 33A, 33B; Physics 10 or 3A or 6A or 8A; Psychology 10, 42.

These are minimum requirements in preparing for the major. More advanced courses in science would provide stronger preparation.

The Major

Admission to the major is limited to students who have completed the above preparation courses with a 2.0 grade-point average by the time they attain 135 units.

Required: (1) Mathematics 150A-150B or 152A-152B; (2) Psychology 110, 115, 120, 125, 135; (3) six additional upper division courses in quantitative psychology, mathematics, biostatistics, computer science, and system science (one of these courses must emphasize research methodology in psychology).

Particular courses for the last requirement will depend on your needs and interests. You must consult your faculty adviser for prior approval of courses to meet these requirements.

Bachelor of Science in Psychobiology

This major is an alternative to the psychology major and is designed for students who plan to go on to postgraduate work in psychobiology or the health sciences.

Preparation for the Major

Required: The following courses must be completed for a letter grade with a 2.0 in each course: Biology 5, 7; Chemistry 11A, 11B/11BL, 11C/11CL, 21, 23, 25; Mathematics 3A, 3B, and 3C or 31A, 31B, and 32A; one course from Philosophy 1, 3, 4, 7, 8, 9, 10, or 21; Physics 6A, 6B, and 6C or 3A, 3B, and 3C or 8A, 8B, and 8C; Psychology 10, 42; Psychology 41 (recommended) or Mathematics 50A or Economics 40. Psychology 41 and 42 should be taken early in your career.

The Major

Admission to the major is limited to students who have completed the above preparation courses with a 2.0 GPA in each course.

Required: (1) Biology 129 or Psychology 118A or Anthropology 128A, 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, 115 (no more than one from this group); Psychology 118B, 118C, 118D, 118E, M118F, 119, M153, Biology 102, 105, 110, 111, 120, 122, 124, 131, 135, 137, 138, 139, 144, 145A, 145B, 145C, 153, 154, CM156, 158, 164, 166, 167, 168, 169, 171, 172A, 172B, 173, 177, 179, Kinesiology 140, Chemistry 152.

Honors Program

Departmental honors requires at least two honors-designated courses or honors sections of standard course offerings. In addition, psychology majors who are candidates for departmental honors engage in advanced research and study under the tutorial guidance of a member of the faculty while enrolled in Psychology 190A-190B-190C. This culminates in a formal bachelor's thesis. Students whose theses are judged acceptable by the honors committee are awarded the degree with honors or highest honors in psychology.

Developmental Disabilities Immersion Program

The Developmental Disabilities Immersion Program is cosponsored by the Department of Psychology and the Department of Psychiatry and Biobehavioral Sciences and by the Office of Instructional Development — Field Studies Development. Each year a group of 28 students is selected for the program, which runs during the Winter/Spring Quarters. Students participate in courses and research at Lanterman State Hospital and Developmental Center, a facility for mentally retarded citizens in Pomona, and do related fieldwork while living at the site.

During each quarter of the program up to 20 units of coursework related to developmental disabilities are offered. Most of the courses are in the Psychology/Psychiatry M180-M182 series, but courses from other departments (such as biology) may supplement these offerings. Many of the courses fulfill psychology undergraduate major requirements. Student individualized research projects are also part of the immersion experience.

To supplement their academic activities, students spend ten 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, 50 Dodd Hall.

Preparation for Graduate Study

Although requirements for admission to graduate programs in psychology in most universities will be 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. You should also begin to acquire a reading knowledge of one or two foreign languages which might be required for the Ph.D.

Consult the Psychology Undergraduate Office, 1531 Franz Hall, for more information.

Ph.D. Degree

The graduate program in psychology leads to the granting of 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, you are required to obtain a thorough

background in research methodology and psychological theory. 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 1285 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 by December 30 to be considered for admission the following Fall Quarter:

(1) The departmental Application for Admission to the Doctoral Program, available in 1285 Franz Hall.

(2) Three letters of recommendation.

(3) One official transcript from each college attended.

(4) Scores from the Graduate Record Examination Aptitude Test and the Advanced Test in Psychology (taken within the last three years).

(5) An official score report of the Miller Analogies Test. Foreign students or U.S. students currently overseas are exempt from this requirement.

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 (1) a course in statistics equivalent to 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 will have to take appropriate coursework or examinations. In addition, it is recommended that you have adequate preparation in mathematics, physics, chemistry, and the biological and social sciences, at least to the extent of a quarter's work at the college level in each. Continuation in the Ph.D. program is contingent upon satisfactorily clearing undergraduate deficiencies by the end of the 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 industrial. You may petition for individualized minors or a minor in experimental psychopathology. Training is also available in community psychology.

Foreign Language Requirement

Competence in one of the following foreign languages is required of students in the area of measurement and psychometrics: French, German, Italian, Spanish, or Russian. In other areas, faculty advisers also have the right to require one or more foreign languages. You may petition to substitute a series of three or more quarter courses in another department for one of the languages, provided that these courses impart a relevant research skill.

Course Requirements

General Course Requirements: All students, regardless of area, must fulfill the following requirements:

The core program must be completed within the first four quarters 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).

Requirements for the M.A. degree are nine graduate courses (36 units), including 250A, 250B, 251A-251B (research project must be complete), and three of the four required core courses. 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 chosen from the following: 238, 247A, 249, 252, 253, 254, 255, 256, 257, 258, 259, 287, 299.

During the third year, you must enroll in a minimum of three graduate-level courses, plus one quarter of 596. At least one quarter of 596 or 599 should be taken during the fourth year and each remaining year in the graduate program.

Major Area Course Requirements: Each area requires certain courses of students majoring in that area. Requirements are as follows: *clinical:* 270A-270B-270C, 271A-271B-271C, at least two courses in the 272 series, the area's two-quarter assessment course, and at least two other advanced clinical courses outside the 272 series; *cognitive:* 260A-260B, plus two courses chosen from 261, 262, 263, and 264; *developmental:* 240; one course chosen from 220A, 235, and 286; one course chosen from 200B, 261, 262, 263, 264, or three modules of 205; three courses chosen from 242A, 242B, 242C, 242E, 243A, 243B, or 244 (in addition to the quantitative courses listed under second-year requirements above, developmental majors must take an additional quantitative course selected from the same list); *learning and behavior:* 200A, 200B, plus two courses from 204A, 204B, 208, 210, 281, 293, and Psychiatry 271; *measurement and psychometrics:* 249, 252, 253, 254, 255, and other measurement courses which are regularly offered; *personality:* 232, 233, 235, M239, 278 (personality major may not be taken in combination with a psychopathology minor); *physiological:* 205 (all modules), three quarters of 212, two approved physiological seminars, and Anatomy M206A-M206B; *social:* 220A-220B, C223 or 224, and three social seminars taught by three different faculty members.

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 consists of three separate portions. The first is a standardized examination, administered by the major area, which examines in breadth your knowledge of the major field. The second part is an individualized examination which examines in depth your knowledge of your area of specialization within the major field. The third part is the University Oral Qualifying Examination. All Ph.D. requirements listed above must be completed before this portion can be taken. Upon 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 preinternship practicum (Psychology 401 — 12 to 15 hours per week) are required and are usually taken in the second and third years. A concentrated summer practicum can be used to meet a portion of this requirement.

(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 can be taken in the fourth or fifth year, or after most of the research for the Ph.D. is completed. Contact the department for further information on internship assignments.

Final Oral Examination

The final oral examination is required of all candidates for the Ph.D. degree.

Candidate in Philosophy Degree

You are eligible to receive the C.Phil. degree upon advancement to candidacy for the Ph.D.

Psychology Clinic

The Psychology Clinic in the Department of Psychology is a training and research center in clinical psychology. It has specialized facilities for the investigation, assessment, and treat-

ment of a variety of psychological disabilities and adjustment problems of children, adolescents, and adults.

The clinic provides a broad range of psychological services to clients, including individual, group, and family therapy, behavior modification procedures, and consultation to agencies in the community. There are a number of research programs in the clinic which reflect the current interests of the staff. Such service and research functions are basic to the professional education and training of clinical psychologists.

Fernald Clinic and Laboratory

Established in 1921, this research and training center is one of the oldest ongoing University-based facilities focusing on psychoeducational problems. In pursuing its research and training objectives, Fernald offers a variety of services (e.g., assessment, classroom instruction, psychotherapy, and tutoring). It presently treats both children and adults of average or better intelligence who are experiencing learning and related psychobehavioral problems.

Research activity is directed toward analysis of causal factors and processes mediating intervention efficacy. The facility also provides a general research resource to faculty and students in psychology and other fields. Training opportunities include extensive clinical and research practicum and internship placements, and brief participation and observations scheduled in conjunction with seminars in various departments.

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. Supported by the National Institute of Mental Health, the SSMHRC provides an interdisciplinary research environment for scholars, students, and professionals interested in Hispanic mental health. Research projects currently under way include studies on acculturation and ethnicity, psychological assessment, health, bilingualism, community mental health, social psychology, socialization practices, and the role of the family.

Lower Division Courses

10. Introductory Psychology. A general introduction including topics in cognitive, experimental, personality, developmental, social, and clinical psychology. Students participate in six hours of psychological research.

15. Introductory Psychobiology. Designed for nonmajors. A survey of genetic, evolutionary, physiological, pharmacological, and experiential factors affecting behavior. Using the comparative approach where appropriate, the relevance of biological mechanisms to an understanding of man and his interaction with his environment will be emphasized.

41. Psychological Statistics (¾ course). Prerequisites: 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. (Formerly numbered 100.) Prerequisites: courses 10, 41 with grades of C or better. Students with credit for course 100 will not receive credit for this course. 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.

95. Lower Division Seminars. Prerequisite: course 10. Limited to freshmen and sophomores. Intensive analysis in seminar situations 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 points of view.

110. Fundamentals of Learning. Prerequisite: course 41. Experimental findings on animal and human conditioning; retention and transfer of training; the relation of learning and motivation. The course is 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), and psychology major standing. Laboratory experience with techniques in the study of learning, especially with animals.

112A. Human Learning. Prerequisite: course 110. Acquisition, retention, and transfer of verbal and nonverbal human learning.

112B. Theories of Learning. Prerequisite: course 110. Critical discussion of the major theories in the light of experimental evidence.

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 by 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. Prerequisites for majors: Biology 2, Psychology 41; for nonmajors: Biology 5, 7, and consent of instructor. Integrative activities, receptor and effector processes in relation to neuromuscular 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), and psychology major 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 psychobiology major. May be repeated for credit by 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 is on behavior and pharmacological mechanisms of drug action and drug interaction with neuronal function; drugs as tools to investigate various behavior processes such as mood, aggression, learning, and motivation, experimental studies of addiction.

118C. Psychophysiology of Motivation. Prerequisite: course 115. The basic psychophysiology, including brain 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 will be emphasized.

118D. Experimental Neuropsychology. Prerequisite: course 115. The experimental analysis of higher brain functions. Special emphasis is on attention, memory, perception, and language.

118E. Current Topics in Physiological Psychology. Lecture, three hours. Prerequisite: course 115 or consent of instructor. Advanced topics of current interest in physiological psychology will be presented in depth. The emphasis will be in bringing students to a point where they can appreciate and evaluate current research papers on the topics covered. May be repeated for credit by consent of instructor.

M118F. 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 plasticity and standard training procedures in laboratory animals (in behavioral, neurophysiological, and pharmacological studies) with a broad biological, evolutionary perspective.

M119. Evolution of Intelligence. (Formerly numbered 119.) (Same as Psychiatry M119.) Lecture, two hours; discussion, two hours. Prerequisites: course 15 or 115, an introductory statistics course, junior or senior standing, and consent of department. Intelligence is treated as neural information-processing capacity, and its evolution in vertebrates is correlated with the evolution of enlarged brains. Quantitative approaches in evolutionary biology and the neurosciences are emphasized.

120. Perception. Prerequisite: course 41. Methods and approaches to the study of perception. Experimental results, theoretical interpretations, and demonstrations.

121. Perception Laboratory. Lecture, two hours; laboratory, 90 minutes. Prerequisites: courses 41, 42, 120 (may be taken concurrently), and psychology major standing. Laboratory experience with various topics in perception.

122. Language and Communication. Prerequisite: course 41 or consent of instructor. A survey of language behavior, communication, and speech perception, including acquisition, sequential structure, and semantic aspects. Recent developments in linguistics, theory of information transfer, analysis and synthesis of speech. Social communication. 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 recognition, production, and comprehension; errors in speech perception and production; speech physiology and pathology.

124A. Current Topics in Perception. Prerequisite: course 120. Advanced consideration of special topics in perception. May be repeated for credit by 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 by consent of instructor.

125. Personality. Prerequisite: course 41. 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.

127. Abnormal Psychology. Lecture, three hours. Prerequisite: course 10. Study of the dynamics and prevention of abnormal behavior, including neuroses, psychoses, character disorders, psychosomatic reactions, and other abnormal personality patterns.

129A. Personality Measurement. Prerequisite: course 125. The rationale, 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 125. Detailed conceptual examination of one or two areas of personality in which the main and interactive effects of personality and situational variables have been investigated. Personality as related to the study of psychological processes, particularly motivation. Includes an examination of current research literature.

129C. 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 by consent of instructor.

129E. Human Sexuality. Lecture, three hours. Prerequisite: senior psychology major standing. The course is designed to present an overview of the psychology of human sexuality. Psychological research, assessment, and therapy are described in a format which highlights their significance for understanding human sexual functioning. The ultimate objective is to articulate the psychological mechanisms underlying the expression of human sexuality.

130. Developmental Psychology. Lecture, three hours. Prerequisite: course 10. An elaboration of the developmental aspects of physical, mental, social, and emotional growth from birth to adolescence.

132A. Learning Disabilities (1 or 1¼ courses). Lecture, three hours. Prerequisites: course 10 and upper division standing. Exploration of different orientations to persons with learning problems, emphasizing assessment and intervention approaches and the psychological impact of such approaches. 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. May be taken for four or five units (fifth unit is devoted to practicum experiences involving the Fernald School). All students planning to enroll subsequently in course 132B must take the fifth-unit option. P/NP grading recommended (letter grading is required if course is to be applied toward the psychology major).

132B. Learning Disabilities Laboratory. Laboratory, 90 minutes; activity, seven hours. Prerequisites: courses 10, 41, 42, 132A (five units), psychology major standing, and consent of instructor. Participation in special activities at the Fernald School is made available to University students to further explore by means of a laboratory experience the topics and issues discussed in course 132A. Emphasis is on experiencing and evaluating the psychological and educational impact of research, training, and service programs on learners, teachers, etc. Since a limited number of students can be accommodated, clarification of available alternatives and agreements regarding participation will be worked out during the fifth-unit experience in course 132A. A commitment of eight and one-half hours per week is expected. P/NP grading recommended (letter grading is required if course is to be applied toward the psychology major).

132C. Learning Disabilities Advanced Laboratory. Prerequisites: courses 132A, 132B, and consent of instructor. A personalized laboratory participation experience designed to allow the advanced student to explore relevant topics in depth.

133A. Adolescent Development. Lecture, three hours. Prerequisite: course 130. An examination of the cognitive, social, physical, and physiological development of the adolescent.

M133B. Exceptional Children. (Formerly numbered 133B.) (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.

133E. Current Issues in Developmental Psychology. Prerequisites: course 130 and 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 by consent of instructor.

134. Psychology and Education. Lecture, three hours. Prerequisites: courses 10, 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 education of the disadvantaged.

135. Social Psychology. Prerequisite: course 41. The interrelationships between the individual and his social environment. Social influences upon motivation, perception, and behavior. The development and change of attitudes and opinions. Psychological analysis of small groups, social stratification, and mass phenomena.

136A. Social Psychology Laboratory. Lecture, two hours; laboratory, two hours. Prerequisites: courses 41, 42, 135 (may be taken concurrently), and psychology major standing. Laboratory experience with such topics as small group behavior, attitude measurement, and interpersonal influence.

C136B. Survey Methods in Psychology. Lecture, two hours; laboratory, two hours. Prerequisites: courses 41, 42, and psychology major standing. The nature of attitudes and opinions and their measurement by means of attitude scales and public opinion surveys. Class projects and fieldwork. Concurrently scheduled with course C223.

137A. Group Behavior. Lecture, three hours. Prerequisites: courses 10, 41, 135. Psychology of interdependence, group membership, leadership, and social influence.

137B. Attitude Formation and Change. Lecture, three hours. Prerequisites: courses 10, 41, 135. Effects of propaganda, personal influence, socialization, and social structure on private attitudes and public opinion.

137C. Interpersonal Relations. Lecture, three hours. Prerequisites: courses 10, 41, 135, consent of instructor. A study of the psychological facts, principles, problems, and theories concerned with interactions and relationships between persons. Focus is on such phenomena as interpersonal attraction, exchange, aggression, conflict, control, power relations, and the initiation, development, and dissolution of relationships.

137D. Introduction to Health Psychology. Prerequisite: course 10. The course determines what areas of health, illness, treatment, and delivery of treatment can be elucidated by an understanding of psychological concepts and research, explores the psychological perspective on these problems, and considers how the psychological perspective might be enlarged and extended in the medical area.

M137E. Work Behavior of Women and Men. (Same as Women's Studies M137E.) Prerequisites: course 10 or Women's Studies 100 and junior or senior standing. Examination of work behavior of men and women. Topics include antecedents of career choice, job finding, leadership, performance evaluation, discrimination and evaluation bias, job satisfaction, and interdependence of work and family roles.

137F. Special Topics in Social Psychology. Prerequisite: course 135. Study of selected topics in social psychology. May be repeated for credit by consent of instructor.

M138. Political Psychology. (Same as Political Science M140.) Prerequisite: course 10. Examination of political behavior, political socialization, personality and politics, racial conflict, and the psychological analysis of public opinion on these issues.

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. 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, and psychology major standing. Outline and examination of concepts associated with psychological investigation and the interpretation of results. Readings, discussions, and reports, individual and class projects.

144. Psychological Tests and Evaluation. Prerequisite: course 41. Further study of the principles of measurement, stressing basic concepts. Application to problems of test construction, administration, and interpretation.

147. Elements of Psychology of Sport. The application of psychological theories, principles, and techniques to recreation, games, and sport. Includes current theories of the role of the brain in learning and performance 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 applications of psychology in industrial and other organizations.

150. Mathematical Models in Psychology. Prerequisites: Mathematics 3C or 31B, Engineering 10C or 10F or Computer Science 10S, or consent of instructor. Recommended for quantitative psychology majors. Review of theoretical 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. Prerequisites: Engineering 10C or 10F or Computer Science 10S and consent of instructor. Recommended for quantitative psychology majors. Topics include hardware and software computer problems in the design, control, and analysis of experiments; programming problems arising in the evaluation of models of psychological processes of the various content areas such as learning, perception, social, personality, and clinical.

M153. Principles of Biotechnology. (Same as Engineering M107A.) Prerequisite: third-quarter sophomore or higher standing. The principles of biological science are developed in an engineering context. Emphasis is on how physiological, psychological, and sociological factors affect the integration of man into environmental, informational, and managerial systems by engineering means. (F,W)

M155. A Laboratory for Naturalistic Observations: Developing Skills and Techniques. (Same as Anthropology M136Q and Psychiatry M112.) Prerequisite: consent of instructor. The skill of observing and recording behavior in natural settings will be taught, emphasizing field training and practice in observing behavior. Group and individual projects will be included. Some of the uses of observations and their implications for research in the social sciences will also be discussed. (W)

162. The Psychological Approaches of Henry Murray; The Study of Biography. Prerequisite: consent of instructor. The study of lives and the personality theory of Henry Murray, touching upon autobiographical writings and biographical materials; personality as a dynamic system of growth and change. Creative, proactive, 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 M158.) Prerequisite: junior standing. 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; ways in which ideas of 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 is required if course is to be applied toward the psychology major).

M165. The Psychology of Sex Differences. (Same as Women's Studies M165.) The course considers 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. Prerequisites: courses 41, 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 will be considered 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: courses 41, 42, 170A, psychology major standing, and consent of instructor. Advanced fieldwork in applied behavior theory, especially to problems of retarded and autistic children, adult psychotic disorders, etc. May be repeated once for credit.

M172. The Afro-American Woman in the U.S. (Same as Afro-American Studies M172 and Women's Studies M172.) Prerequisite: upper division standing. The course will focus on the impact of the social, psychological, political, and economic forces which impact upon the interpersonal relationships of Afro-American women as members of a large society and as members of their biological and ethnic group.

174. Interpersonal Process Analysis. Discussion, two hours; laboratory, three hours. Prerequisites: courses 41, 42, 127, psychology major standing. An introduction to the conceptual tools for analyzing interpersonal structures and functions in goal-oriented human interaction such as psychotherapy, persuasion, courtship, etc. Class sessions integrate small group exercises with lecture and discussion (additional laboratory work to be arranged).

175. Community Psychology. Prerequisites: junior or senior psychology major standing and consent of instructor. The application of psychological principles to the understanding and solution of community problems. Topics include community 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, and consent of instructor. Examination and experimental application of concepts drawn 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. The course examines conceptual and empirical foundations of psychological counseling and compares alternative models of counseling processes. Emphasis is 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. Motivation in the classroom will be emphasized, 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, social work, nursing, public health, etc.) and for those who would deliver such health services to ethnic minority peoples.

M180A. Contemporary Problems in Mental Retardation. (Same as Psychiatry M180A.) Prerequisites: courses 10, 41, and 127 or 130. Corequisites: courses M181A-M181B. Limited to Immersion Program students. Presentation of the concepts, issues, and research techniques in the area of mental retardation. Biological, psychological, and community questions concerning the causes and treatment of developmental disabilities, as well as systems for the care and training of retarded individuals, will be explored. Lectures, directed reading, and discussion.

M180B. Contemporary Issues in Mental Retardation. (Same as Psychiatry M180B.) Prerequisite: course M180A. Limited to Immersion Program students. Psychoeducational issues in mental retardation relating literature to ongoing field experiences through lectures, discussions, media, and six student papers.

M181A-M181B. Research in Contemporary Problems in Mental Retardation. (Same as Psychiatry M181A-M181B.) Corequisites: courses M180A-M180B. Research experience. In Progress grading.

M182A. Advanced Statistical Methods in Mental Retardation. (Same as Psychiatry M182A.) Prerequisite: course 41. Limited to Immersion Program students. Introduction of statistical method and design in experimentation principles of statistical inference and appropriate testing methods. An introduction to the use of computers and various software packages is presented.

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 by consent of instructor.

M183. Introduction to Neuroscience. (Same as Psychiatry M183.) Limited to Immersion Program students. Gross anatomy of the human brain and spinal cord.

190A-190B-190C. Honors Course. Prerequisite: psychology honors program standing. Opportunity for the development and analysis of creative ideas through conceptual or experimental research and their implementation by experimental research. Information and applications may be obtained from the Psychology Undergraduate Office.

192. Practicum in the Teaching of Psychology. (Formerly numbered 300.) Prerequisites: upper division psychology major and department consent. Training and supervised practicum for advanced undergraduates in the teaching of psychology. Students will serve as junior teaching assistants and assist in the preparation of materials and the development of innovative programs. The Psychology Undergraduate Office, 1531 Franz Hall, should be consulted for contracts and further information. Only 12 units from courses 192, 193, and 194 may be applied toward the undergraduate degree. May not be applied toward course requirements for any of the psychology majors. P/NP grading.

193. Fieldwork in Psychology. (Formerly numbered 350.) Seminar, two hours; fieldwork (approved community setting), six hours. Prerequisites: sophomore pre-psychology or psychology major standing and 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. (Formerly numbered 351.) Seminar, one hour; internship (approved research setting), seven hours. Prerequisites: sophomore pre-psychology or psychology major standing and 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.

195. Current Issues in Psychology (¾ course). 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 repeated for credit by consent of instructor and may be applied as an elective toward the psychology major. May not be applied as an elective toward the psychobiology major.

199. Directed Individual Research and Study. To be arranged with individual faculty members. Prerequisites: senior psychology major standing or junior psychology major standing with at least a 3.0 grade-point average 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 in psychology may be taken per quarter, only four units may be applied toward the psychology major elective course requirement, and only one 199 course may be taken for a letter grade (additional 199 courses may be taken in the department). May not be applied as an elective toward the psychobiology 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 socially significant problems. Special emphasis is on systematic desensitization of anxiety states, behavior modification programs for schizophrenic children and adults, behavioral pharmacology, control of autonomic behavior, among others.

204A-204B. Seminar in Critical Problems in Learning. (Formerly numbered 204C-204D.) Each course may be taken independently and in any order. Critical problems will be 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 orientating reflex, dominant focus, classical conditioning, and their implications for the psychophysiology of psychopathology and psychotherapy.
Mr. Maltzman

204B. Theories of Learning. Prerequisite: course 200A or equivalent. Critical discussion of the major theories in learning and their current status.

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 pathology of behavior resulting from brain injury. Mr. Beatty

207A-207B-207C. Seminar in Physiological Psychology. Prerequisite: course 115 or equivalent.
Mr. Butcher, Mr. Ellison, Mr. Krasne

208. Seminar in Comparative Psychobiology.
Mr. Arnold

210. Comparative Psychobiology. Prerequisites: course 115 or equivalent and consent of instructor. A survey of the determinants of species-specific behavior, including genetic influences and learning.
Mr. Arnold

212. Evaluation of Research Literature in Physiological Psychology (¼ course). Discussion, 90 minutes. Prerequisite: consent of instructor. Papers of current interest will be presented by members of the seminar and their significance and methodology discussed and criticized in depth. May be repeated for credit.

218A-218B. Advanced Industrial Psychology. Selection and training of employees, factors influencing efficiency of work. Mr. Barthol

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 research and theories on opinions and attitudes. Effects of mass communication, social factors in assimilation of information and influence.
Mr. Gerard

222A-222B. Seminar in Group Behavior. Discussion, three hours. Prerequisites: courses 220A-220B or consent of instructor. Special topics in interpersonal relations and group dynamics. Power control, structure and organization, group functioning.
Mr. Kelley, Mr. Raven

C223. Survey Research in Psychology. A critical review of the theory and practice of large-scale sampling, measurement, and analysis of beliefs, attitudes, and other psychological variables. Concurrently scheduled with course C136B.

224. Experimental Methods in Social Psychology. Lecture, three hours. Prerequisites: courses 220A-220B or consent of instructor. A critical review of laboratory techniques and problems of experimental control and measurement encountered in research on social psychological phenomena. Mr. Collins

225. Seminar: Critical Problems in Social Psychology. Discussion, three hours. Prerequisites: courses 220A-220B or consent of instructor. May be repeated for credit by consent of instructor.

226. Current Literature in Social Psychology (½ course). Recent and current research papers in social psychology will be 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. Explores 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. Mr. Taylor

M228. Seminar in Political Psychology. (Same as Political Science M224G.) Discussion, three hours. Prerequisites: courses 220A-220B or consent of instructor. Examination of political behavior, political socialization, personality and politics, racial conflict, and the analysis of public opinion on these issues.
Mr. Sears

229A. Issues in the Social Development of the Minority Child. Prerequisites: graduate standing and consent of instructor. A critical evaluation and integration of existing research on the social psychological development of the minority child. The seminar will focus 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

M230A-M230B. Seminar in Behavioral Biology. (Same as Anthropology M228A-M228B, Biology M252A-M252B, Education M229A-M229B, Physiology M252A-M252B, and Psychiatry M291A-M291B.) Discussion, six hours. Prerequisite: consent of instructor. Basic seminar for graduates interested in behavioral biology. An interdisciplinary course dealing with behavioral research in anthropology, biology, psychology, and the medical sciences. Proximate causation, development, and evolution in animal behavior. Physiology and the organization of behavior. Vertebrate social organization. Animal communication. The application of natural selection theory to human social behavior. In Progress grading.

232. Human Sexuality. Lecture, three hours. Prerequisite: graduate standing. The course has been designed to teach students how to carry out research on human sexual behavior. The contents include theory construction, scale development, physiological and endocrinological implications, radio-immunoassay (measuring hormones in blood sample), ethical issues, methodological and statistical considerations, the measurement of sexual arousal, fantasy, and sexual dysfunction therapy. The format will be discussion-oriented, with emphasis placed on operationalizing predictions concerning human sexual functioning. Mr. Abramson

233. Seminar in Environmental Psychology. Prerequisites: courses 250A, 250B, and 235. Critical review of work in environmental psychology designed to identify basic dimensions for the analysis of man-environment relationships. The framework of analysis uses human emotional responses to environments as intervening variables linking specific stimulus qualities to a variety of approach-avoidance behaviors. Individual differences and drug-induced states as these relate to the emotional response dimensions are employed to explain within-individual differences in response to the same environment over time or between-individual differences to the same situation. Review of literature relating information rate from environments to arousal and preferences for those environments. Mr. Mehrabian

235. Personality. A survey of cognitive, analytic, and learning theory approaches to the study of personality. Emphasis will be on the intensive exploration of selected concepts and related research.

238. Seminar in Mental Measurements.
Mr. Woodward

M239. Personality, Motivation, and Attribution. (Same as Education M215.) Examines current research and theory relating personality variables (e.g., attributional styles, self-esteem) to motivational concerns such as persistence and intensity of behavior. Perceived causes of outcomes in achievement and affiliative domains also are stressed.

240. Developmental Psychology. A consideration of the special problems of the control and measurement of the behavior of children as well as the young of other organisms, with emphasis on providing basic research relevant to both clinical and research work with children. Ms. Greenfield, Mr. Jeffrey

242A-242E. Seminar in Developmental Psychology. Prerequisites: course 240 or equivalent and consent of instructor. Each course may be taken independently and may be repeated for credit:

242A. Perceptual Development.

242B. Cognitive Development.
Ms. Greenfield, Mr. Jeffrey

242C. Socialization.

242E. Cognitive Factors in Learning Disorder.
Mr. Adelman

243A-243B. Seminar in Practical and Societal Issues in Developmental Psychology. Prerequisites: course 240 or equivalent and 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. Prerequisites: course 240 or equivalent and consent of instructor. The course is concerned with current problems and varies depending upon the interest of the class and instructor. May be repeated for credit by consent of instructor.

M245. Personality Development and Education. (Same as Education M217C.) A review of research and theory of critical content areas in personality development that bear upon school performance: self-concept, aggression, sex differences, empathy, and other social behaviors; review of the status of emotional behavior in personality theory and development. Ms. Feshbach, Ms. Stipek

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

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, social, 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 will undertake a substantial 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 issues, design of evaluative studies, data analysis, and utilization of findings.
Mr. Woodward

250A. Advanced Psychological Statistics. Review of fundamental concepts. Basic statistical techniques as applied to the design and interpretation of experimental and observational research.
Mr. Wickens, Mr. Woodward

250B. Advanced Psychological Statistics. Advanced experimental design and planning of investigations. Mr. Wickens, Mr. Woodward

251A-251B-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 will be 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 multivariate distributions, principal components analysis, multiple regression, canonical correlation, discriminant analysis, and the multivariate analysis of variance. Example applications are drawn 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 exaction and rotation. Applications of computers 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

255. Quantitative Aspects of Assessment. Fundamental assumptions and equations of test theory. Current problems in assessment. Mr. Woodward

256. Seminar in Critical Problems in Psychological Measurement. 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

257. Multivariate Analysis with Latent Variables. 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 structured-means factory analytic models. Structural equation models, including path and simultaneous equation models. Parameter estimation, hypothesis testing, and other statistical issues. Computer implementation. Applications. Mr. Bentler

258. Special Problems in Psychological Statistics. Prerequisites: courses 250A and 250B, or consent of instructor. Special problems in psychological statistics and data analysis will be examined.
Mr. Wickens

259. Quantitative Methods in Cognitive Psychology. Prerequisites: courses 250A and 250B, or consent of instructor. The course will consider a number of nonstatistical mathematical methods and techniques commonly used in cognitive psychology. Topics include Markov chains, other stochastic processes, queueing theory, information theory, frequency analysis, etc. Mr. Wickens

260A-260B. Proseminar in Cognitive Psychology. Presentation of research topics by students, faculty, and visiting scholars. May be repeated for credit. S/U grading.

261. Perception. Lecture, three hours. Prerequisite: consent of instructor. 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 decisions. 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. Central theme is the representation of cognitive structures and higher-level processes. Specific areas include perception, learning and memory, problem solving, and reasoning. Relationships to artificial intelligence are considered.
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-270B-270C. Foundations of Clinical Psychology. Corequisites: courses 271A-271B-271C. Limited to graduate students in clinical psychology:

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.

271A-271B-271C. Clinical Psychological Methods (½ course each). Corequisites: courses 270A-270B-270C. Procedures in clinical psychology as applied in clinical and community settings. The course provides supervised exposure to the psychological attributes of psychopathology and the procedures for psychological assessment, intervention, and research with clinical populations. Experience will be closely coordinated with the content in courses 270A-270B-270C.

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.
Mrs. McPherson

272E. Special Problems.

272F. Advanced Clinical Psychological Methods: Behavior Modification with Adults. Prerequisites: second-year graduate standing in clinical psychology. The course will focus on current cognitive behavior modification principles and techniques. Major conceptual issues will be analyzed, and specific techniques will be demonstrated and practiced by students to cover a range of adult problems such as depression, stress and anxiety, anger management, assertion problems. Ms. Hammen, Ms. Mays

273. Interpersonal Communication Seminar. Prerequisite: course 282 or consent of instructor. Each student will be supported in developing a design for studying help-oriented interchange in community and clinical settings. Initial focus will be measuring interpersonal deficit, response styles, and training effects.
Mr. Goodman

274A-274B. Group Therapy Dynamics.
Mr. Sheehan

M275. Family Process: Psychological and Social Perspectives on the Family. (Same as Social Welfare M275.) The course reviews various theoretical perpectives applicable to the analysis of family structure and dynamics. Critical issues in the application of family constructs to clinical problems will receive particular attention. Mr. Cohen, Mr. Goldstein

276. Clinical Approaches to Children with Learning and Related Behavior Problems. (Formerly numbered 276A-276B.) Lecture, three hours; discussion, one hour. Prerequisite: doctoral standing. The focus is on theoretical and research issues and problems related to purposes of and practices involved in assessment and correction approaches for children with learning and behavior problems. Practicum experiences are offered to illustrate course content and provide opportunities to improve research and clinical competence. Mr. Adelman

277. Advanced Clinical Assessment. The course will cover projective techniques, clinical interpretation, case studies, the psychological test battery, psychopathology, and application of assessment to problems in psychotherapy. Mr. Sheehan

278. Seminar in Motivation, Conflict, and Neurosis. Mr. Feshbach

279. Seminar in Research in Psychopathology.

281. Seminar in Behavior Therapy. Mr. Lovass

282. Interpersonal Forms Analysis of Human Interaction Structures. Conceptual and experimental study of six response modalities common to psychotherapy and everyday interaction; questions, silences, advisement, interpretation, self-disclosure, and reflection. Laboratory work will be performed in conjunction with lecture and seminar sessions.
Mr. Goodman

283. Psychopathology. A survey of the dominant psychological attributes of particular forms of psychopathology, including an analysis of the status of various theories concerned with the etiology and mediating mechanisms of personality, neurotic, schizophrenic spectrum, and affective disturbances.

284. Seminar in Clinical Psychology and Communication. Mr. Sheehan

286. Issues and Concepts of Clinical Psychology. Survey of major issues and alternatives in current practice. Emphasis is on assessment and intervention, with consideration of historical, theoretical, and research bases for current trends. Open to graduate students in majors other than clinical psychology.
Mr. Broen

287. Critical Problems in Clinical Research Methodology. Prerequisites: courses 250A, 250B. Special problems of measurement and design in clinical research will be examined. Mr. Christensen

288. Seminar in Research in Personality (¼ course). Prerequisite: graduate standing in personality. Required of all students majoring in personality. The course covers current research, theory, and professional issues within the area of personality. A brown bag format is utilized to foster intellectual exchange and discussion. Students make at least one presentation per quarter and participate in discussions with faculty and guest lecturers.

290. History of Psychology. Philosophical and historical context of contemporary psychology. Major trends from the 19th century to contemporary issues will be considered. Mr. Maltzman

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 neuropharmacology, principles of behavioral pharmacology, categories of psychopharmacological agents, and pharmacological approaches to the study of drug addiction, schizophrenia, and other behavioral processes, both normal and pathological.
Mr. Butcher

293. Behavioral and Psychophysiological Problems of Alcoholism. Prerequisite: consent of instructor. Behavioral and psychophysiological characteristics of alcoholism will be reviewed, along with theories concerning its etiology and treatment. Experimental approaches will be emphasized.
Mr. Maltzman

298. Special Problems in Psychology. Content depends upon the interests of the particular instructor. May be repeated for credit.

299. Developmental Methodology. Coverage of both theory and methods in measuring age-related changes in behavior. Experimental designs and data-analytic solutions to problems in the measurement of change will be highlighted. Course will include some experience in analysis of actual data sets.
Mr. Kaye

375. Teaching Apprentice Practicum (¼ to 1 course). 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 (1 or 2 courses). Prerequisites: courses 271A-271B-271C. Students on practicum assignments are required to register for this course each quarter (except by consent of clinical program committee).

402. Fieldwork in Speech Pathology (1 or 2 courses). Prerequisite: consent of instructor. Practical work in hospitals and clinics in diagnostic testing and psychotherapy with speech disorders.
Mr. Sheehan

410A-410B-410C. Clinical Teaching and Supervision. Prerequisites: completion of Ph.D. comprehensive examinations, advancement to candidacy or preparation for dissertation research actively underway, and consent of instructor and clinic steering committee. Study and practice of the knowledge, concepts, and theories on teaching and supervision of applied clinical psychology.
Ms. Jacobs, Mr. Nakamura

420A-420B. Health Psychology Practicum (½ course each). Prerequisite: graduate standing. The course determines what areas of health, illness, treatment, and delivery of treatment can be elucidated by an understanding of psychological concepts and research, explores the psychological perspective on these problems, considers how the psychological perspective might be enlarged and extended in the medical area, and through a practical field placement helps the student apply the knowledge acquired in class to research observation and/or clinical work in the field. Ms. Taylor

425. Health Psychology Lecture Series. Clinicians and researchers in health psychology from the Los Angeles area present their research, programs, and/or clinical work as part of a training program in health psychology. May be repeated for credit. S/U grading.
Ms. Taylor

451. Internship in Clinical Psychology (1 or 2 courses). Prerequisite: course 401. Limited to students who have successfully completed departmental qualifying examination. May be repeated for credit.

454. Internship in Industrial Psychology (½ to 1 course). Mr. Barthol

495. Presentation of Psychological Materials. Supervised practicum in undergraduate teaching. Students will serve as discussion section leaders in selected undergraduate courses.

501. Cooperative Program (½ to 2 courses). Prerequisite: consent of UCLA graduate adviser and Graduate Dean and host campus instructor, department Chair, and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596. Directed Individual Research and Study in Psychology (½ to 3 courses). One 596 course is required during the second year of graduate study, and one 596 or 599 course is required during each succeeding year of graduate study. (Terminal M.A. candidates are excused from this requirement.)

597. Individual Studies (½ to 3 courses). Intended primarily as preparation for Ph.D. qualifying examinations. May be required by some area committees as a prerequisite for taking the examinations.

599. Research for Ph.D. Dissertation (½ to 3 courses). Prerequisite: successful completion of qualifying examinations. One 599 course is required during each year following completion of qualifying examinations.

Religion

See Study of Religion

Romance Linguistics and Literature
(Interdepartmental)

359 Royce Hall, 825-0237

Professors

Stephen R. Anderson, Ph.D. *(Linguistics)*
Shirley L. Arora, Ph.D. *(Spanish)*
José R. Barcia, Lic. F. y L. *(Spanish)*
Rubén A. Benítez, Ph.D. *(Spanish)*
Marc Bensimon, Ph.D. *(French)*
Franco Betti, Ph.D. *(Italian)*
Giovanni Cecchetti, Dottore in Lettere *(Italian)*
Fredi Chiappelli, Dottore in Lettere *(Italian)*
Margherita Cottino-Jones, Ph.D., Dottore in Lettere *(Italian)*
Eric Gans, Ph.D. *(French)*
Joaquín Gimeno, Ph.D. *(Spanish)*
Hassan el Nouty, Docteur ès Lettres *(French)*
Claude L. Hulet, Ph.D. *(Spanish and Portuguese)*
Carroll B. Johnson, Ph.D. *(Spanish)*
Bengt T. M. Lofstedt, Ph.D. *(Medieval Latin)*
Gerardo Luzuriaga, Ph.D. *(Spanish)*
C. B. Morris, Litt.D. *(Spanish)*
C. P. Otero, Ph.D. *(Spanish and Romance Linguistics)*
Pier-Maria Pasinetti, Ph.D., Dottore in Lettere *(Italian)*
Stanley L. Robe, Ph.D. *(Spanish)*
Edward F. Tuttle, Ph.D. *(Italian)*

Associate Professors

George D. Bedell, Ph.D. *(Linguistics)*
Patrick Coleman, Ph.D. *(French)*
E. Mayone Dias, Ph.D. *(Portuguese)*
A. Carlos Quícoli, Ph.D. *(Portuguese and Romance Linguistics), Chair*
Richard M. Reeve, Ph.D. *(Spanish)*
Enrique Rodríguez-Cepeda, Ph.D. *(Spanish)*
A. John Skirius, Ph.D. *(Spanish)*
Paul C. Smith, Ph.D. *(Spanish)*
Stephen Werner, Ph.D. *(French)*

Assistant Professors

Mary-Ann Burke, Ph.D. *(French)*
Shushi Kao, Ph.D. *(French)*
Sara Melzer, Ph.D. *(French)*
Susan Plann, Ph.D. *(Spanish)*
James Reid, Ph.D. *(French)*

Scope and Objectives

The Romance Linguistics and Literature program emphasizes modern linguistic and literary theories in the study of Romance languages. Linguistic and literary theories can be pursued independently or jointly; however, the integration of linguistic and literary knowledge is taken to be one of the highest aims of this interdepartmental graduate program.

Master of Arts Degree

Admission

The UCLA Bachelor of Arts degree in French, Italian, Portuguese, or Spanish, or the equivalent, is required. Applicants are expected to have a grade-point average of at least 3.4 in upper division courses, especially in those

judged germane to their proposed program. Three letters of recommendation and the Aptitude Test of the Graduate Record Examination are also required. Students admitted from elsewhere whose preparation is considered deficient in view of their intended specialization are required to take specified upper division courses. Such courses may be taken concurrently with graduate courses, but they may not be applied toward the course requirements for the M.A. degree. Before enrolling for the first quarter in the program, new students must consult the program Chair concerning the formation of their guidance committee. Students who know only the language of their major should prepare in at least one other Romance language during the first graduate year so they can take courses in their minor no later than the second year of graduate study.

Foreign Language Requirement

In addition to the Romance language of major interest and that of minor interest, you are required to have either Latin 3 or the equivalent, or Italian 3 or the equivalent (provided Italian is not your major), whether you specialize in linguistics or in literature. The language requirement must be completed no later than the quarter before you expect to receive your degree.

Course Requirements

Twelve courses are the minimum requirement, of which six courses (at least five of them graduate) must be in your major language, with specialization either in linguistics or in literature. One course in the history or development of the major language is highly recommended. At least three courses would be in the minor language, also with specialization in either linguistics or literature. The remaining three courses should be selected in consultation with the guidance committee so as to be logically supportive of your major field of study. Linguistics 100 is required as a prerequisite of all students majoring in the linguistics field. Up to eight units of course 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 choose 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 3.5 grade-point rating in the examination will be 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, will be 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 will be automatically admitted to 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, Luso-Brazilian Language and Literatures (Portuguese), or Spanish, or the equivalent, is required. Three letters of recommendation and the Graduate Record Examination Aptitude Test are also required.

Entering students whom the Chair determines to have obtained the M.A. with distinction are automatically eligible for admission to the Ph.D. program; those whose M.A. program registers deficiencies in scope or quality will be required to complete three graduate courses from the offerings of the sponsoring departments.

Following the determination of your eligibility, your guidance committee will be formed. You will then meet as soon as possible with your guidance committee to work out your program of courses and set a tentative date for the qualifying examinations. The guidance committee has final authority to prescribe the course of study. Until you have met with this committee and placed yourself under its direction, you are not officially in the Ph.D. program.

Major Fields or Subdisciplines

The program recognizes two fields of specialization: linguistics and literature.

Linguistics: Major fields include (1) the present-day grammar of the Romance language of your major interest and its relation to the grammar of its sister languages and to language in general; (2) the development of the Romance language of your major interest in relation to its sister languages (and possibly other interrelated cultural aspects) from the perspective of historical linguistics; (3) the genetic and typological relationships of the Romance languages to other Indo-European languages and to language in general. The two minors may be other Romance languages, or one other Romance language plus a field of Romance literature.

Literature: Major fields include one of the following in the literatures of at least two Romance languages: (1) early Romance literature and philology; (2) Renaissance and baroque; (3) modern literature, preferably with emphasis in one century. The first minor may be one of the preceding fields not chosen 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 choosing option 2 or 3 in linguistics or option 1 in literature must also take German, whereas those choosing 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) will be distributed as follows: major — five courses, first minor — three courses, second minor — two courses. At least one seminar is required in each of the three fields. In addition to those required for the master's degree (or equivalent) at least 10 other graduate courses (of which no more than two 596 courses may be applied) as well as such courses as the guidance committee may prescribe, are required. Linguistics 100 is required as a prerequisite of all students majoring in the linguistics field.

Teaching Experience

Teaching experience is not required, but is desirable. Consult the Chair regarding the availability of teaching assistantships.

Qualifying Examinations

The qualifying examinations, given by the doctoral committee during the Fall, Winter, and Spring Quarters, consist of (1) a three-hour written examination in the major field; (2) a two-hour examination in the first minor; (3) a one-hour examination in the second minor; and (4) a two-hour University Oral Qualifying Examination in the three fields, at which time your prospectus for the dissertation is also dis-

cussed 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 upon advancement to candidacy for the Ph.D.

Graduate Course

596. Directed Individual Study or Research (1 to 2 courses). Prerequisite: consent of instructor and program Chair. Study or research in areas or on subjects not offered as regular courses. Eight units may be applied toward the M.A. degree requirements. S/U grading.

Romance Linguistics and Literature Course List

In consultation with the appropriate adviser(s), courses should be selected with an eye to the organic relationship between them, preferably among those listed below and/or their prerequisites:

Introductory Courses

Italian 201. Bibliography and Methods of Research

Spanish M200. Bibliography

Linguistics Courses

Grammatical Theory: Linguistics 201A. Phonological Theory: Current Issues

201B. Phonological Theory in the 20th Century

206A. Syntactic Theory: Current Issues in Format Syntax

206B. Syntactic Theory: Current Issues in Functional and Typological Approaches to Syntax

Development of the Romance Languages

Hispano-Romance: Spanish M203A-M203B. The Development of the Portuguese and Spanish Languages

Indo-European: Indo-European Studies 210. Indo-European Linguistics: Advanced Course

280A-280B. Seminar in Indo-European Linguistics

Italic Dialects: Latin 242. Italic Dialects and Latin Historical Grammar

Italo-Romance: Italian 259A. History of the Italian Language

Latin History: Latin 240. History of the Latin Language

Medieval Latin: Latin 231A-231B. Seminar in Medieval Latin

Northern Gallo-Romance: French 204A. Phonology and Morphology from Vulgar Latin to French Classicism

204B. Syntax and Semantics from Vulgar Latin to French Classicism

Paleography: History 219A. Paleography I

219B. Paleography II

Romance Dialectology: Italian 259C. Italian Dialectology

Spanish 209. Dialectology

Romance Linguistics: Linguistics 225G. Linguistic Structures

Southern Gallo-Romance: French 215E. The Medieval Language and Literature: Provencal Poetry

Vulgar Latin: Latin 232. Vulgar Latin

Studies in the History of the Romance Languages

Gallo-Romance: French 215A. The Medieval Language and Literature: Old and Middle French

Hispano-Romance: Spanish M251. Studies in Galegan-Portuguese and Old Spanish

Italo-Romance: Italian 210A. Early Italian Literature: The Origins of Italian Language and Early Texts

259A-259B-259C. Studies in the History of Italian Language

Synchronic Linguistics

Advanced Grammar: French 201A. Theme

201B. Version

201C. La Dissertation Francaise

201D. Problems of French Literarary Composition

206. French Linguistics

Italian 259B. The Structure of Modern Italian

Portuguese 204A-204B. Transformational Grammar

206. Portuguese Linguistics

Spanish 204A-204B. Transformational Grammar

206. Linguistics

Studies in Linguistics and Dialectology: French 261. Studies in French Linguistics

262. Studies in Stylistics

Spanish 256A-256B. Studies in Linguistics and Dialectology

Literature Courses

French Literature: French 205A-205D. The Intellectual Background of French Literature

History of Ideas: French 260A-260B. Studies in the History of Ideas

Literary Criticism: French 203A-203B-203C. French Literary Criticism

258A-258B. Studies in Literary Criticism

Italian 205A-205B. Methods of Literary Criticism

Spanish M201. Literary Criticism

Literary History: History 218. Medieval Latin Literary History

Philosophy and Literature: French 259A-259B. Studies in Philosophy and Literature

Early Romance Literature

Petrarca: Italian 214D. Italian Literature of the 14th Century: Petrarca

251. Seminar on Petrarch

Studies in Early Romance Literature: French 215B-215E. The Medieval Language and Literature

250A-250B. Studies in Medieval Literature

Italian 210B-210C. Early Italian Literature

214A-214G. Italian Literature of the 14th Century

215A-215B-215C. Italian Literature of the 15th Century

250A-250D. Seminar on Dante

252. Seminar on Boccaccio

Portuguese C242A. Medieval Portuguese Literature

Spanish 222. Medieval and Renaissance Poetry

223. Medieval and Renaissance Prose

262A-262B-262C. Studies in Medieval and Renaissance Literature

Modern Romance Literature

Genre Studies: Portuguese 252A-252B-252C. Special Studies in Portuguese Literature

253A-253B-253C. Special Studies in Brazilian Literature

Studies in the 18th Century: French 218A-218D. The 18th Century

254A-254B. Studies in the 18th Century

Italian 218A-218E. Italian Literature of the 18th Century

256A-256B. Seminar on the 18th Century

Portuguese C242C. 18th- and 19th-Century Literature

C243B. Romanticism in Brazil

Spanish 230. Neoclassicism and Romanticism

239. Neoclassic and Romantic Prose and Poetry in Spanish America

277. Studies in Colonial Spanish American Literature

Studies in the 19th Century: French 219A-219K. The 19th Century

255A-255B. Studies in the 19th Century

Italian 219A-219F. Italian Literature of the 19th Century

257A-257B. Seminar on Romanticism

Portuguese C242C. 18th- and 19th-Century Literature

C243C. Naturalism, Realism, and Parnassianism

Spanish 231. The 19th-Century Novel

270A-270B. Studies in 18th- and 19th-Century Spanish Literature

278. Studies in 19th-Century Spanish American Literature

Studies in the 20th Century: French 220A-220P. The 20th Century

221A-221D. French-African Literature

256A-256B. Studies in Contemporary Literature

257A-257B. Studies in French-African Literature

Italian 220A-220B-220C. Italian Literature of the 20th Century

258A-258B. Seminar on Contemporary Italian Literature

Portuguese C242D. Contemporary Portuguese Literature

C243D. Contemporary Brazilian Literature

Spanish 232. The Generation of 1898

233. Contemporary Spanish Drama

234. Contemporary Spanish Poetry

235. Contemporary Spanish Prose

240. The Modernist Movement

243. Contemporary Spanish American Poetry

244. Contemporary Spanish American Novel and Short Story

245. Contemporary Spanish American Essay

272A-272D. Studies in 20th-Century Spanish Literature

280A-280D. Studies in Contemporary Spanish American Literature

Renaissance and Baroque Literature

Cervantes: Spanish 227. Cervantes

Studies in Renaissance and Baroque Literature: French 216A-216H. The Renaissance

217A-217I. The 17th Century

251A-251B. Studies in the Renaissance

252A-252B. Studies in the Baroque

253A-253B. Studies in the 17th Century

Italian 216A-216E. Italian Literature of the 16th Century

217A-217B-217C. Italian Literature of the 17th Century

253A-253B-253C. Seminar on Chivalric Poetry in Italy

255A-255B. Seminar on the Baroque

Portuguese C242B. Renaissance and Baroque Literature

C243A. Colonial Literature
Spanish 224. The Poetry of the Golden Age
225. The Drama of the Golden Age
226. Prose of the Golden Age
237. Chroniclers of the Americas
264A-264D. Studies in the Golden Age

ROTC

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 men and women to qualify for an officer's commission in the Army, Navy, Air Force, or Marine Corps while completing their college education. ROTC courses are offered by three departments within the College of Letters and Science: Aerospace Studies (Air Force), Military Science (Army), and Naval Science (Navy and Marine Corps). They are not considered academic majors, but ROTC courses may be taken as free electives and applied toward the total course requirements of the major. The ROTC program is also available through UCLA Extension.

All three ROTC departments offer four-year programs for incoming freshmen and two-year programs for students entering their junior year of undergraduate study. All have leadership laboratories which help to build management responsibilities.

Scholarships

Students in all three departments are eligible to compete for scholarships based on merit and achievement. Scholarships, available for up to four years of study, normally cover the full cost of tuition, books, fees, and educational expenses, and provide a living allowance of $100 per month during the academic year. For further information, contact the specific department in which you are interested.

Aerospace Studies

251 Dodd Hall, 825-1742

Professor
Kenneth D. Kopke, M.S., Lt. Colonel, *Chair*

Assistant Adjunct Professors
Phillip A. Anderson, M.B.A., Captain
Don Henney, M.A., Captain
Marsha L. Westfall, M.A., Captain
Mark Wilderman, 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, 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 for beginning freshmen consists of an initial two-year General Military Course, or GMC (courses 1A-1B-1C and 20A-20B-20C), followed by a two-year Professional Officer Course (POC) described under "Two-Year Program."

Students who complete GMC and wish to enter POC attend a four-week field training course the summer following GMC completion. At field training, students are provided meals, quarters, clothing, and travel expenses and are paid about $450 to cover incidental expenses. Subjects covered at field training include junior officer training, aircraft and aircrew orientation, career orientation, survival training, base functions, Air Force environment, and physical training.

Two-Year Program

A prerequisite for the two-year program is successful completion of a six-week field training course on an Air Force base during the summer preceding enrollment in the program.

Students interested in this program must apply to the Professor of Aerospace Studies during the Fall Quarter preceding the six-week summer field training course. Students attending the six-week summer field training are provided meals, quarters, and travel expenses and are paid approximately $675. Students enrolled in the POC receive $100 per month retainer fee for 20 consecutive months.

Freshman Year Courses

1A-1B-1C. U.S. Military Forces in the Contemporary World (¼ course each). Course 1A is prerequisite to 1B, which is prerequisite to 1C. This sequence of courses examines the role of the Air Force in the contemporary world by studying the total force structure, strategic offensive and defensive forces, general purpose forces, and aerospace support forces.
Capt. Westfall

Sophomore Year Courses

20A-20B-20C. The Developmental Growth of Air Power (¼ course each). Prerequisites: courses 1A-1B-1C. These courses examine the development of air power over the past sixty years. They trace the development of various concepts of employment of air power and focus upon factors which have prompted research and technological change. Key events and elements in the history of air power are stressed, especially where these provide significant examples of the impact of air power on strategic thought.

Upper Division Courses

130A-130B-130C. Concepts of Air Force Management and Leadership (¾ course 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. Includes problem solving, information systems and models, quantitative methods, and computer systems. Group discussions, case studies, films, and role-playing will be used as teaching devices. Communicative skills will be strengthened through preparation of written reports and oral presentations.
Capt. Anderson

140A. Military Judicial System (¾ course). Seminar. Prerequisite: course 130C. 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 are expected.
Capt. Henney

140B. The Military in American Society (¾ course). Seminar. Prerequisite: course 140A. Examines forces and issues in the social context of the American military. Analyzes the influence of social norms, societal pressures, and cultural factors on the functions and role of the military professional in the United States. Communicative skills are strengthened through extensive classroom presentations.
Capt. Henney

140C. American Defense Policy (¾ course). Seminar. Prerequisite: course 140B. Examines 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 are strengthened, and communication abilities are oriented to Air Force requirements through preparation of papers and classroom presentation and discussion.
Capt. Henney

Military Science

142 Men's Gym, 825-7381

Professor
Claude R. Sasso, Ph.D., Major

Assistant Professors
Bill R. Moore, M.A., Major
Gregory Olson, M.B.A., Major
Roy C. Wentrcek, M.A., Major

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 understanding military history, doctrine, and operating procedures and developing leadership and management potential.

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 nine units of coursework and (2) the Advanced Course, two years of upper division study consisting of 13 units of coursework and a six-week summer camp.

Transfer students and others who were unable to enroll in the Basic Course can receive equivalent credit in several different ways (see "Two-Year Program" below).

Admission to the Advanced Course is limited to selected students who meet all academic and physical requirements. Students in this course receive a subsistence allowance of $100 a month for ten months during each of the two academic years, plus military science books and uniforms. Upon completion of the Advanced Course, students are commissioned as second lieutenants in one of the Army's specialty areas. Insofar as possible, students' desires and academic major will be considered.

Students selected for Advanced ROTC must attend a six-week Advanced Camp between their Military Science III and IV years. Cadets will 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 will 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. Upon 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, and accept a commission if offered.

Two-Year Program

This program is designed for students who receive placement credit for two years of senior ROTC and directly enter the Advanced Course. Placement credit may be given for completing three years of high school Junior ROTC, attending a paid ROTC summer camp, joining the Army Reserve or National Guard (veterans may receive VA benefits concurrently with Advanced Course subsistence allowances), completing two years of college-level Air Force or Navy ROTC, completing an ROTC compression course, or previous military service.

Commissioning

Successful completion of the Advanced Course leads to a commission as a second lieutenant in the Army Reserve, National Guard, or Active Army. Distinguished graduates may qualify for a commission in the Regular Army.

Lower Division Courses

000. Leadership Laboratory (No credit). Laboratory, two hours. Cadets must be concurrently enrolled in a military science course and actively pursuing a commission through the ROTC program. Required of all Army ROTC students each quarter. Designed to allow cadets to apply the leadership techniques and military skills taught in the classroom and to develop the confidence needed to cope with the challenges associated with being an officer. Maj. Wentrcek

11. U.S. Defense Establishment (½ course). A study of the evolution of the U.S. Department of Defense, including a study of the military services, with emphasis on the U.S. Army.

11A. Comparative U.S. and Soviet Defense Systems (¼ course). Comparison of the U.S. and U.S.S.R. defense organizations, with emphasis on current and future trends. Background is provided on civilian organizations controlling the military, budget and manpower resources, armed forces,and nuclear capabilities and trends. Maj. Moore

12. U.S. Defense Establishment (½ course). A study of the military institution and other elements of national power as instruments of national policy and strategy in conditions of peace and war.

13. Theory of Warfare (½ course). Inquiry into the theory, nature, causes, and elements of warfare, with attention also directed to the evolution of weapons and warfare.

13A. Strategic Analysis: Middle East (¼ course). Analysis of the strategic importance of the Middle East to U.S. and Soviet military and political planners. Discussion focuses on current key issues balanced against the historical perspective. Political, economic, strategic, and military issues are discussed. Maj. Moore

14. Leadership and Management Assessment (½ course). Designed to assess student leadership and management potential in twelve behavioral dimensions and to provide the student with a base from which to further develop specific leadership and management skills. Maj. Sasso

15. Russian Military History. Lecture, three hours. The course surveys imperial Russia and Soviet military history in the 19th and 20th centuries. Military developments are considered in the context of economic, geographic, sociological, political, and diplomatic factors or events. The impact of war upon Soviet society and government is also explored. Maj. Sasso

17. War and Morality (½ course). Lecture, one hour; discussion, one hour. The moral/immoral aspects of armed conflict, just and unjust conflict, war and murder. Maj. Olson

21. United States Military History (½ course). A survey of military history beginning with the heritage of classical warfare and extending to the year 1860. American wars are examined in the context of their interrelationship with and impact upon Western society. Economic, political, and diplomatic factors are considered, along with other causes of war, strategy, tactics, and personalities. Maj. Sasso (F)

21A. Modern Strategic Thought (¼ course). The course develops knowledge of defense strategy that may be applied to understanding defense policies and the asserting of national will by the U.S. and U.S.S.R. Background is provided by defining strategy, highlighting important strategists and their concepts, and discussing contemporary strategic thought and six strategic concepts. These concepts then are used as a vehicle for discussion of the effects of the strategy involved in U.S. and Soviet policy decisions. Maj. Moore

22. United States Military History (½ course). A survey of American military history during the period from 1850 to 1930. The course explores the causes of war, strategy, tactics, and technological developments. Economic, political, diplomatic, and social history is woven into the fabric of war, and a special effort is made to reveal the character and personalities of the leading political and military figures of the period. The impact of war upon society is also assessed. Maj. Sasso (W)

23. United States Military History (½ course). Survey of American military history which examines American involvement in World War II, Korea, and Vietnam. Causes of war, strategy, tactics, and technology are set against character studies of leading political and military figures from Patton to Westmoreland. The impact of warfare upon society is also stressed. Maj. Sasso (Sp)

51A. U.S. and Soviet Defense and Foreign Policy (¾ course). Comparison of Soviet and U.S. defense organizations and their relationship to foreign policy goals of the two superpowers. Current capabilities and future trends are examined, along with strategies of both nations and how their defense establishments are employed to secure national objectives. Maj. Moore

Upper Division Courses

111. The Psychology of Leadership I (½ course). Prerequisites for cadets: completion of Basic Course or equivalent; for noncadets: upper division standing. 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 is examined in the areas of motivation, peer pressure/conformity, and group norms to determine how they influence an individual. Maj. Wentrcek (F)

112. The Psychology of Leadership II (¾ course). Prerequisite for cadets: completion of Basic Course or equivalent; for noncadets: upper division standing. Introduction to various individual leadership styles and personalities to assist students in development of their own individual style. Different philosophies of leadership are examined, along with the dimensions of leader behavior. Special consideration is given to counseling, management, and communication techniques that must be mastered to be an effective leader. Maj. Wentrcek (W)

113. Theory of Learning Applied to Teaching (½ course). Prerequisite: for cadets: completion of Basic Course or equivalent; for noncadets: consent of instructor. A study of instructional processes, lesson content planning procedures, techniques of applicatory education, role of testing (including evaluation and analysis). Emphasis is placed on improvement of teaching and group process. Maj. Wentrcek (Sp)

123. Military Legal Systems (½ course). An introduction to the theory and application of military law and legal systems. Course focuses on the Uniform Code of Military Justice and the rights of the accused under the constitution. (F)

125. Decision Making (½ course). 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. Students then cover the various steps which comprise the problem analysis and decision making processes. (W)

126. Military Sociology and Ethics (½ course). Lecture, 90 minutes; discussion 30 minutes. The course is designed to introduce students to the ethical concepts held by America's military institution. Lectures and class discussion expose students to the classification of the militay 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. (Sp)

Naval Science

123 Men's Gym, 825-9075

Professor

William G. Carson, MSME, Captain, U.S. Navy, *Chair*

Assistant Professors

Thomas K. Farrell, M.A., Captain, U.S. Marine Corps
Ronald F. Melampy, M.S., Commander, U.S. Navy, *Vice Chair*

Assistant Professors

Robert M. Dailey, M.B.A., Lieutenant Commander, U.S. Navy, *Adjunct*
Richard N. Daniel, B.S., Lieutenant, U.S. Navy, *Adjunct*

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 utilize their academic 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 a $100 per month stipend in their junior and senior years and complete one summer training cruise after their third year. Upon graduation, students will be 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 April 1 of their sophomore year.

Two-Year Scholarships

This program is open to academically and physically qualified students in their second year of undergraduate study, who have had some background in college physics and calculus. As with the Two-Year Program described above, candidates will attend a summer Naval Science Institute before their junior year. They will receive full tuition, fees, book expense, and $100 per month during their last two years. Applications should be made by April 1, usually in the sophomore year.

NROTC Scholarship Program

This is a nationwide competition open to physically qualified men and women between the ages of 17 and 21. High school seniors and students enrolled in the NROTC College Program are eligible to apply. Successful applicants receive $100 per month for four years, plus full payment for tuition, fees, and book expenses. Three summer training cruises are required. December 1 is the application deadline for Fall Quarter admissions.

Freshman Year Courses

1A. Introduction to Naval Science (¼ course). An introduction to the structure of the Department of the Navy and its legal framework. Relationships in the Department of Defense. Components of the Naval Service. Shipboard organization. Lt. Daniel

1B. Naval Ship Systems I. An introduction to the principles of ship hull and superstructure design. The concepts of ship structural integrity, stability, and buoyancy are examined in detail. Basic thermodynamic principles inherent in ship power generation(s) propulsion and salt water distillation systems are analyzed. Lt. Daniel

Sophomore Year Courses

20A. Seapower and Maritime Affairs (½ course). A conceptual study of seapower, emphasizing the historical development of naval and commercial power. Seapower is examined in relation to economic, political, and cultural strengths, focusing on current abilities of specific nations to utilize the oceans to attain national objectives. Cdr. Melampy

20B. Naval Ship Systems II. A study of naval weapons systems, with emphasis on target designation and acquisition, methods of solving fire control problem and target detection systems. Analysis of transfer and feedback functions inherent in weapon systems. Infra-red, radar, and sonar principles. Lt. Daniel

Junior Year Courses

101A. Navigation I. A study of principles of piloting, rules of the road, shiphandling, and basic concepts of multiple ship formations in ocean transit. Includes in-depth discussion of problems associated with high seas and inland water, applying to small craft and supertankers alike. Lt. Cdr. Dailey

101B. Navigation II. Prerequisite: course 101A or consent of instructor. A detailed study of electronic and celestial navigation employed in the determination of a ship's position at sea, including spherical trigonometry, mathematical analysis, sextant sights, and the use of navigational aids. Lt. Cdr. Dailey

***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 will continue to exert in the age of limited warfare. Capt. Farrell

*Course to be taken by candidates for commissions in the Marine Corps or Marine Corps Reserve in lieu of courses 101A, 101B, 102B, 102C.

Senior Year Courses

102B. Naval Leadership and Management I. An examination of current and classical leadership and management theories and their application to the military environment. Various aspects of the leadership process are examined in detail, including interpersonal communication, counseling theory, moral and professional ethics, conflict resolution, and management of change. The unique leadership problems created by racism, sexism, alcoholism, and drug abuse are also discussed. Capt. Farrell

102C. Naval Leadership and Management II (½ course). Prerequisite: course 102B. Examines current leadership and management utilized by the U.S. Navy. Areas include human resources management, personnel management, material management, and performance and career evaluation. Cdr. Melampy

***104. Amphibious Operations.** A study of the art of amphibious operations, including the historical development of techniques used to project military power from sea to land. The evolution of amphibious doctrine and techniques is examined through study of the U.S. landings during World War II, the Korean Conflict, and the Vietnam War. Capt. Farrell

*Course to be taken by candidates for commissions in the Marine Corps or Marine Corps Reserve in lieu of courses 101A, 101B, 102B, 102C.

Slavic Languages and Literatures

115 Kinsey Hall, 825-2676

Professors

Aleksandar Albijanić, Ph.D. *(South Slavic Languages and Literatures)*
Henrik Birnbaum, Ph.D.
Thomas Eekman, Ph.D. *(Slavic Literatures)*
Michael S. Flier, Ph.D., *Chair*
Marija Gimbutas, Ph.D. *(European Archaeology)*
Kenneth E. Harper, Ph.D. *(Russian Literature)*
Vladimir Markov, Ph.D. *(Russian Literature)*
Alan H. Timberlake, Ph.D. *(Slavic Languages)*
Dean S. Worth, Ph.D. *(Slavic Languages)*

Associate Professors
Michael Heim, Ph.D. *(Czech and Russian Literature)*
Peter Hodgson, Ph.D. *(Russian Literature)*
Rochelle Stone, Ph.D. *(Polish and Russian Literature)*

Lecturer
Edward Denzler, M.A. *(Russian)*

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 will be used to determine the number of courses in Russian literature and/or linguistics that students majoring in Russian civilization or Russian linguistics will be 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 by 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 101- and 111-series requirements in any of the following majors.

Bachelor of Arts in Slavic Languages and Literatures

Preparation for the Major

Required: Slavic 99, Russian 1, 2, 3, 4, 5, 6, 99.

The Major

Required: Russian 101A-101B-101C, 111A-111B-111C, 118, 119, 120, 121, 122, 123; three courses chosen from Russian 130A, 130B, 130C, 134, 140A, 140B, 140C, 140D, M150; one course chosen from Russian 124A through 124F, 126; any two electives chosen from Russian 102A, 102B, 102C (when taken in conjunction with Russian 112A, 112B, 112C), 124A through 124F, 125, 126, 130A, 130B, 130C, 134, 140A, 140B, 140C, 140D, M150, 193, Czech 155A, 155B, Polish 152A, 152B, Serbo-Croatian 154A, 154B. Note: Russian 118, 119, and 120 may be taken in the sophomore year.

Bachelor of Arts in Russian Civilization

Preparation for the Major

Required: Russian 1, 2, 3, 4, 5, 6, 99.

The Major

Required: Russian 101A-101B-101C, 111A-111B-111C, 119, 120, three additional courses in Russian literature, seven courses chosen from Russian M170, Economics 182, Geography 184, History 131A, 131B, 131C, 131D, Political Science 128A, 128B, 156, or special courses in the Departments of Art, Music, Theater Arts, 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

Required: Russian 101A-101B-101C, 111A-111B-111C, 121, 122, 123, Linguistics 100, 103, 110, 120A, 120B, five courses chosen from Russian 102A, 102B, 102C (when taken in conjunction with Russian 112A, 112B, 112C), 130A, 130B, 130C, 134, 140A, 140B, 140C, 140D, M150, Slavic 201, 202, Linguistics 125, 127, M150, 160, 164, C165A, C165B, Psychology 123. Students majoring in Russian linguistics who intend to pursue graduate study in the department are strongly encouraged to take at least three of the Russian literature courses enumerated above.

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 that you will not need more than one year (nine courses) to make up deficiencies. For application to the Ph.D. program, the department requires a UCLA M.A. in Slavic Languages and Literatures or its equivalent. If you do not hold a UCLA M.A. in Slavic Languages and Literatures, you are required to take the M.A. comprehensive examination as a screening examination within your first year and to make up any deficiencies in your background compared with that of a UCLA master's degree recipient.

For all applicants, three letters of recommendation are required from persons capable of judging your academic potential. No admission tests are necessary, but the Graduate Record Examination is required if you are requesting financial assistance.

A department brochure describing the curriculum in some detail (graduate and undergraduate) is available from the graduate adviser.

Major Fields or Subdisciplines

Candidates for the M.A. and Ph.D. degrees choose 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 the 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 course 5 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 take 12 courses (36 units), of which five (20 units) must be graduate courses, including Russsian 211, 212, 213, and one other literature course in the department.

Linguistics students must take 14 courses (40 units), of which eight (28 units) must be graduate courses, including Slavic 202, Russian 221, 222, 225, and two graduate courses in Russian literature.

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, but will be 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 will be admitted to a two-hour oral examination, which is designed to test the fields of major interest and general background. It will be conducted partly in Russian.

Your combined performance in the written and oral examinations is graded high pass, pass, or fail. A grade of high pass or pass is necessary to receive the M.A. degree; the grade of high pass is necessary to enter the Ph.D. program. Examinations may be repeated once, no later than one calendar year after the first attempt.

Ph.D. Degree

Admission

You are formally admitted to the Ph.D. program after (1) passing the UCLA M.A. comprehensive examination with a grade of high pass; (2) passing the reading examination in both French and German (see "Foreign Language Requirement"); (3) taking one year (or the equivalent) of a second Slavic language.

If you are entering UCLA with an M.A. from another institution, the comprehensive examination serves as a screening examination for admission to the doctoral program. 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 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 points on the ETS examination in either French or German. A 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 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 chosen 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 in linguistics are required to submit to the examination committee a serious research paper of publishable quality. The paper must be received and approved no later than one quarter preceding the comprehensive written examination.

All students are expected to have a sound general knowledge of both Slavic philology and Russian literary history equivalent to that required for the M.A. at UCLA. For linguistics students, there is one written three-hour qualifying examination given at the end of each quarter. For literature students, there are two written three-hour qualifying examinations given one week apart at the end of each quarter.

If you receive a grade of pass on the written examination(s), you are admitted to a two-hour University Oral Qualifying Examination, which is designed to test the fields of major interest and general background, and which typically includes discussion of the dissertation topic.

After considering your overall performance in both the oral and written examinations, the committee assigns a cumulative grade. A pass grade entitles you to write a dissertation in order to receive the Ph.D. degree. At the committee's discretion, you may be required to retake any or all portions of the Ph.D. examinations within one calendar year after the first attempt.

Within two quarters (or one quarter and a summer) after passing the qualifying examinations, you must prepare a prospectus of the dissertation.

You are required to deliver a formal lecture in the Slavic colloquium no later than two calendar years after advancement to candidacy.

Final Oral Examination

A final oral examination is required except in case of geographically imposed hardship.

Candidate in Philosophy Degree

The C.Phil. degree is available upon advancement to candidacy for the Ph.D. degree.

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 (½ course). A general survey of the peoples speaking Old Prussian, Lithuanian, and Latvian; their linguistic, historical, and ethnic affiliations. Mrs. Gimbutas

M179. Baltic and Slavic Folklore and Mythology. (Same as Folklore M126.) Lecture, three hours. A general course for students interested in folklore and mythology and for those interested in Indo-European mythic antiquities. Mrs. Gimbutas

199. Special Studies (½ to 2 courses). Prerequisites: senior standing and 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.

202. Introduction to Comparative Slavic Linguistics. Lecture, three hours. Required for the M.A. (linguistics). Introduction to the comparative phonology and grammar of the Slavic languages.

221. Introduction to East Slavic Languages. Lecture, three hours. Prerequisite: course 202. Recommended: Russian 102A-102B-102C or Ukrainian 101A-101B-101C. Required for the Ph.D. (linguistics). Introduction to the structure and history of the East Slavic languages.

222. Introduction to West Slavic Languages. Lecture, three hours. Prerequisite: course 202. Recommended: Czech 102A-102B-102C or Polish 102A-102B-102C. Required for the Ph.D. (linguistics). Introduction to the structure and history of the West Slavic languages.

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.

242. Comparative Slavic Linguistics. Lecture, three hours. Prerequisite: course 202. Selected topics in the development of Common 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, birchbark letters, Glagolitic and Cyrillic texts.

262A-262B. West Slavic Linguistics. Lecture, three hours. Prerequisite: course 222. **262A.** Lekhitic; **262B.** Czechoslovak, Sorbian.

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 by consent of instructor and graduate adviser.

282. Seminar in Structural Analysis. Seminar, three hours. Selected topics. May be repeated for credit by consent of instructor and graduate adviser.

Literature

230A-230B-230C. Comparative Slavic Literature. Lecture, three hours. Recommended prerequisites: upper division courses in Czech, Polish, Russian, and Yugoslav literatures. Two quarters required for the Ph.D. (literature). **230A.** Middle Ages through Baroque; **230B.** Classicism to Romanticism; **230C.** Realism to Modernism.

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 involving more than one Slavic literature or Slavic and Western literatures. May be repeated for credit by consent of instructor and graduate adviser.

295. Seminar in Literary Analysis. Seminar, three hours. Recommended prerequisite: reading knowledge of one Slavic language in addition to Russian. Selected topics from various Slavic literatures or Slavic and Western literatures, with an emphasis on analytic methods. May be repeated for credit by consent of instructor and graduate adviser.

Special Studies

375. Teaching Apprentice Practicum (¼ to 1 course). 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 (½ to 2 courses). Prerequisite: consent of instructor and graduate adviser.

597. Preparation for M.A. Comprehensive Examination or Ph.D. Qualifying Examination (½ to 2 courses). Prerequisite: consent of instructor and graduate adviser.

599. Research for Ph.D. Dissertation (½ to 3 courses).

Bulgarian

Lower Division Course

99. Introduction to Bulgarian Civilization. Lecture, three hours. An introductory survey of the social and cultural institutions of the Bulgarian people and their historical background.

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

280. Seminar in Polish Literature. Seminar, three hours. Selected topics in Polish prose, poetry, and drama. May be repeated for credit by 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, five hours; laboratory, one hour.

5. Intermediate Russian. Recitation, five hours; laboratory, one hour.

6. Intermediate Russian. Recitation, five hours; laboratory, one hour.

10A-10B-10C. Russian Conversation (½ course each). Prerequisite: course 3 or consent of instructor. Russian conversation designed to supplement the grammar and readings of courses 4, 5, 6.

11A-11B-12A-12B-13A-13B. Self-Paced Program in Russian (½ to 3 courses). Basic course in the Russian language. Each two-unit course in the sequence requires one-half hour of laboratory session per week and one-half hour of discussion session per week, plus individual instruction as required by the staff. Courses 11B and higher require the completion or simultaneous enrollment in all courses lower in the sequence.

101A-101B-101C. Advanced Russian (¾ course each). Prerequisite: course 6. Advanced grammar and reading.

102A-102B-102C. Advanced Grammar and Reading (¾ course each). Prerequisite: course 101C or consent of instructor. Required for the M.A. (linguistics, literature). Advanced grammatical analysis; reading of difficult texts.

111A-111B-111C. Conversation and Composition (¼ course each). Recitation, two hours. Prerequisites: courses 6 and 10C, or consent of instructor. Required of majors. Conversation and composition. Conducted in Russian.

112A-112B-112C. Advanced Conversation and Composition (¼ course 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.

Linguistics Courses

121. Russian Phonology. Lecture, three hours. Prerequisite: course 6. Introduction to transliteration and transcription, articulatory phonetics, phonemics.

122. Russian Morphology. Lecture, three hours. Prerequisite: course 121. Introduction to morphophonemics, inflection, derivation.

123. Historical Commentary on Modern Russian. Lecture, three hours. Prerequisites: courses 121, 122. Historical explanation of the phonological and morphological anomalies of modern Russian.

Literature and Civilization Courses

99. Introduction to Russian Civilization. Lecture, three hours. An introductory survey of the social and cultural institutions of the Russian people and their historical background.

100. The Russian Novel in Translation. Lecture, three hours. Designed for nonmajors. A study of major works by the great 19th-century Russian novelists.

118. Survey of Russian Literature to Pushkin. (Formerly numbered 119.) Lecture, three hours. Prerequisite: upper division standing. Slavic majors should take this course during their sophomore year. Lectures and readings in English.

119. Survey of 19th-Century Russian Literature. (Formerly numbered 120A.) 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. (Formerly numbered 120B.) 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 will be alternately discussed: **124A.** Pushkin; **124B.** Gogol; **124C.** Turgenev; **124D.** Dostoevsky; **124E.** Tolstoy; **124F.** Chekhov.

125. The Russian Novel in its European Setting. Lecture, three hours. Prerequisite: upper division standing. Emphasis on 19th- and 20th-century novelists. Lectures and readings in English.

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 Precursors of Symbolism; **130C.** From Late-19th Century through Contemporary Soviet Verse.

134. Pushkin. Lecture, three hours. Prerequisite: course 6. Major poetical works. Lectures and readings in Russian.

140A-140D. Russian Prose. Lecture, three hours. Prerequisite: course 6. Lectures and readings in Russian. **140A.** Major Writers from Karamzin to Turgenev; **140B.** Dostoevsky to Gorky; **140C.** Contemporary Writers; **140D.** Advanced Readings in Russian Prose.

M150. Russian Folk Literature. (Same as Folklore M150.) Lecture, three hours. Lectures and readings in Russian.

M170. 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.

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 will usually be required.

Graduate Courses

Linguistics

203. Higher Course in Russian (½ course). Prerequisite: course 102C. Two quarters per year required for the Ph.D. Reading of advanced texts; advanced composition, conversation; stylistics. May be repeated for credit. S/U grading.

204. Introduction to the History of the Russian Literary Language. Lecture, three hours. Prerequisites: course 123, Slavic 99. Required for M.A. (linguistics, literature). Survey of literary Russian in its cultural and historical setting.

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 (½ course). 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.

222. Advanced Russian Morphology (½ course). Prerequisites: courses 102A-102B-102C, 122 (may be taken concurrently). Required for the M.A. (linguistics). Advanced study and analysis of problems in Russian inflection and derivation.

225. Russian Syntax. Lecture, three hours. Prerequisites or corequisites: courses 102A-102B-102C. Required for the M.A. (linguistics). Survey of Russian syntax and grammatical categories.

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

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.

212. 19th-Century Russian Literature. Lecture, three hours. Required for the M.A. (literature). Lectures and readings in major and secondary writers.

213. 20th-Century Russian Literature. Lecture, three hours. Required for the M.A. (literature). Lectures and readings in major and secondary writers.

251A-251B. Old Russian Literature. Lecture, three hours. **251A.** Required for the Ph.D. (literature). 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.

270. Russian Poetics. Lecture, three hours. Prerequisites: courses 130A-130B-130C. Introduction to the technical study of Russian poetics and versification, with attention to metrics, stanza forms, rhyme, and the development of various verse types from the 18th into the 20th century.

290. Seminar in Russian Poetry. Seminar, three hours. Prerequisites: courses 130A-130B-130C. Recommended: course 270. Detailed study of a single author, period, or work. May be repeated for credit by consent of instructor and graduate adviser.

291A. Seminar in Old Russian Literature. Seminar, three hours. Prerequisite: course 251A. Selected topics from the 11th through the 17th century. May be repeated for credit by consent of instructor and graduate adviser.

291B. Seminar in 18th-Century Russian Literature. Seminar, three hours. Prerequisite: course 211. Selected authors and works from 18th-century poetry, prose, and drama. May be repeated for credit by consent of instructor and graduate adviser.

292. Seminar in 19th-Century Russian Literature. Seminar, three hours. Prerequisite: course 212. Selected authors and works from 19th-century poetry, prose, and drama. May be repeated for credit by consent of instructor and graduate adviser.

293. Seminar in 20th-Century Russian Literature. Seminar, three hours. Prerequisite: course 213. Selected authors and works from 20th-century poetry, prose, and drama. May be repeated for credit by consent of instructor and graduate adviser.

294. Seminar in Russian Literary Criticism. Seminar, three hours. Prerequisites: courses 211, 212, 213. Detailed study of a specific school of literary criticism, a single literary critic, or a period in Russian literary history as reflected in literary criticism. Simultaneous or similar phenomena in literary criticism in the West will be included. May be repeated for credit by consent of instructor and graduate adviser.

Serbo-Croatian

Upper Division Courses

103A-103B-103C. Elementary Serbo-Croatian. Recitation, five hours. Basic course in the Serbo-Croatian language.

103D-103E-103F. Advanced Serbo-Croatian. Recitation, three hours. Prerequisite: course 103C.

113A-113B-113C. Advanced Reading and Composition. Recitation, three hours. Prerequisite: course 103F or consent of instructor. Reading and translation of difficult texts; advanced composition.

154A-154B. Yugoslav Literature. Lecture, three hours. Lectures and readings in English. **154A.** Survey of Yugoslav Literature from the Middle Ages to the Present. **154B.** Selected Topics.

Slovak

Graduate Course

222. The Structure of Slovak. Lecture, three hours. Prerequisite: Slavic 202. Recommended: Slavic 222. Introduction to the phonological and morphological structure of the Slovak language, especially as contrasted with Czech.

Ukrainian

Upper Division Courses

101A-101B-101C. Elementary Ukrainian. Recitation, five hours. Basic course in the Ukrainian language.

152. Ukrainian Literature. Lecture, three hours. A survey of writers, literary trends, and issues in Ukrainian literature from the late 18th century to the present. Special attention to the works of such major figures as I. Kotlyarevsky, T. Shevchenko, I. Franko, L. Ukrainka, and P. Tychyna. Lectures and readings in English.

Non-Slavic Languages of Eastern Europe

Lithuanian

Upper Division Courses

101A-101B-101C. Elementary Lithuanian. Recitation, five hours. Basic course in the Lithuanian language.

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

101A-101B-101C. Elementary Romanian. Recitation, five hours. Basic course in the Romanian language.

152. Survey of Romanian Literature. Lecture, three hours. Lectures and readings in English. A survey of Romanian literature from the Middle Ages to the present.

Graduate Course

201. Romanian as a Romance Language. Lecture, three hours. A survey of the structure and development of the Romanian language, with special emphasis on the relationship of Romanian to other members of the Romance group.

Related Courses in Other Departments

Dance 71P, 142; **Economics** 182; **Geography** 184; **Linguistics** 100, 103, 110, 120A, 120B, M150, as well as several of the graduate courses in linguistics; **Music** 81C, 142A-142B; **Political Science** 128A-128B, 156, 157.

Sociology

264 Haines Hall, 825-1313

Professors
Jeffrey Alexander, Ph.D.
Rodolfo Alvarez, Ph.D.
Judith Blake, Ph.D.
Phillip Bonacich, Ph.D., *Chair*
Lucie Cheng, Ph.D.
Burton R. Clark, Ph.D.
Howard E. Freeman, Ph.D.
Harold Garfinkel, Ph.D.
C. Wayne Gordon, Ph.D.
Oscar Grusky, Ph.D.
Harry H. L. Kitano, Ph.D.
Gene N. Levine, Ph.D.
Ivan H. Light, Ph.D.
Valerie K. Oppenheimer, Ph.D.
Georges Sabagh, Ph.D.
Emanuel A. Schegloff, Ph.D.
Melvin Seeman, Ph.D.
Edwin S. Shneidman, Ph.D., *in Residence*
Gerald H. Shure, Ph.D.
Warren D. TenHouten, Ph.D.
Donald J. Treiman, Ph.D.
Ralph H. Turner, Ph.D.
Maurice Zeitlin, Ph.D.
Ralph L. Beals, Ph.D. *Emeritus*
Leo J. Kuper, Ph.D., *Emeritus*

Associate Professors
Kenneth D. Bailey, Ph.D.
Robert M. Emerson, Ph.D.
Michael S. Goldstein, Ph.D.
John E. Horton, Ph.D.
Jack Katz, Ph.D.
David E. Lopez, Ph.D.
David D. McFarland, Ph.D.
David O'Shea, Ph.D.
Melvin Pollner, Ph.D.
Jerome Rabow, Ph.D.
Samuel J. Surace, Ph.D.
Julia C. Wrigley, Ph.D.
Lynne G. Zucker, Ph.D.

Assistant Professors
Roderick J. Harrison, Ph.D.
Clarence Lo, Ph.D.
Linda B. Nilson, Ph.D.
Melvin Oliver, Ph.D.
Jeffrey Prager, Ph.D.
William G. Roy, Ph.D.

Scope and Objectives

Variety is the special characteristic both of the field of sociology and of the UCLA Department of Sociology, which was judged among the ten best in the nation in a 1982 survey conducted by the Conference Board of the Associated Research Councils.

Sociology will have a particular appeal to those students whose interests are broad and 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 non-university research centers.

Bachelor of Arts Degree

Preparation for the Major

Required: Sociology 1 or 101, 18 (or Mathematics 50A, Psychology 41, Economics 40, or Public Health 100A), two courses from Group A (Mathematics 2, 4A, Philosophy 31, Economics 1, 2, Linguistics 1), two courses from Group B (Anthropology 5, 6, 22, History 1A, 1B, 1C, Philosophy 7, 21, Political Science 1, Psychology 10, Geography 3).

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 course 101. These ten 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 the 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.

Concentrations for the Major

By the end of the junior year and no later than the beginning of the senior year, you are required to declare your specific concentration by filing a statement with the undergraduate counselor. The purpose of the concentration requirement is to expose you to systematic, in-depth work within a specific area of sociology. Completion of a concentration requires four upper division sociology courses. You must take a concentration's required course (if any) before declaring that concentration. You must select one of the following concentrations and meet its course requirements:

(1) *Comparative and Historical Sociology*

Required: 138
Two of the following: 120, 125, 126, 140, 141
One of the following: 130, 131, 132, 133, 134, 136, 137

(2) *Organizations*

Required: 121
Three of the following: 120, 123, 128, 140, 141, 147, 152

(3) *Political Sociology*

Required: 140
Three of the following: 114, 120, 124, 136, M143, 147, 150

(4) *Quantitative Sociology*

Consult the faculty adviser for premajor requirements for this concentration.
Required: 116
Three of the following: 123, 126, 152, 154
Recommended: Mathematics 152A-152B instead of Sociology 18 on the preparation

(5) *Race and Ethnicity*

Required: 124
Two of the following: 120, 123, 125, 151, 155
One of the following: 130, 131, 132, 133, 134, 136, 137

(6) *Social Change and Modern Society*

Required: 120
Two of the following: 123, 140, 150
One of the following: 124, 125, 136, 141

(7) *Social Demography*

Required: 126
Three of the following: 116, 123, 127, 132, 160

(8) *Social Organization and Language, Thought, and Experience*
Four of the following: 144A, 144B, 148, 149, 153, 157, 159

(9) *Social Psychology*

Required: 154
Three of the following: 115, 150, 151, 152, 153, 155, 156

(10) *Social Stratification*

Required: 123
Three of the following: 114, 116, 124, 128, 136, 140, 155, 160

(11) *Social Policies and Social Programs*

Required: 110 and 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.

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 will enroll in Sociology 199HA-199HB-199HC in your senior year. These courses may be applied toward the ten upper division courses required of all sociology majors. Upon completing the program, you will 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, 254B 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 will ordinarily accept 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.).

Note: The graduate program is currently being revised. Contact the department for details on the new program.

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; and (6) for applicants whose native tongue 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 December 31. Application forms and more detailed information are available from the Graduate Affairs Assistant, Department of Sociology, UCLA, Los Angeles, CA 90024.

Major Fields or Subdisciplines

Eleven fields are now prominent or are becoming particularly prominent in the department: comparative and historical (including the study of social change); demography; ethnomethodology (including the organization of language, thought, and experience); mathematical-quantitative sociology; minorities; organizations; political (including Marxist) sociology; social policy and applied sociology (including evaluation research); social psychology; stratification; and theory. The department has developed strong concentrations in each of these areas, involving both instruction and research opportunities. Graduate students, however, are not compelled to select one of the 11 fields for specialization, but may wish to combine fields or to develop their own interests in one of the myriad of subfields in sociology not specifically listed here.

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. A reading knowledge, as demonstrated either by acceptable performance on a standardized test or by completing course 5 of a language (or the equivalent), with at least a grade of C, is required. You may choose from French, German, Italian, Russian, and Spanish. You may also petition the department for approval of some other language that will be more useful in relation to your special interests in sociology.

With the approval of the department, a foreign student may offer English as a foreign language if the native language is other than English. Proficiency in English will be evaluated by performance on the UCLA entrance examination in English for foreign students, together with achievement in graduate work.

A second alternative is to study sources in an allied field such as history, political science, linguistics, psychology, economics, philosophy, or mathematics. You would be permitted to substitute for the language requirement a set of three upper division or graduate courses offered at UCLA and passed with a grade of at least B. Contact the department for further information and guidelines for language substitutions.

Course Requirements

Before the Dossier Review: Nine courses (36 units) are required.

(1) Sociology 210A-210B (a two-quarter statistics course).

Ordinarily the statistics requirement will be met by receiving a grade of C or better in courses 210A-210B. However, if you have mastered the material in these courses, a petition for exemption from the coursework requirement should be filed, and you may be permitted to satisfy the requirement by examination. No course credit will be given for requirements met by examination.

(2) A two-quarter 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.

If you have equivalent methodological training elsewhere, you should file a petition for exemption from the methodology requirement.

(3) Three other 200-level courses in sociology in the series 219 and up (but including, as well, the options of Sociology 201A-201B and 210C. Neither Sociology 292A-292B-292C nor 495 may be included in this group of three courses required as part of the dossier.

(4) Two other graduate (below 500) or upper division courses in sociology or in a cognate department.

After the Dossier Review: Two courses (eight units) are required. An additional methodology sequence (from the series 211A through 218B) must be completed before the awarding of the Ph.D. degree.

Ordinarily, students also enroll in additional courses in preparation for the field examinations.

Courses in the 500 series (596, 597, 599) are normally taken in preparation for the dossier review, the field examinations, and for dissertation research. They may not be applied toward the course requirements for the degree.

Dossier Review

Rather than a comprehensive examination, graduate students must submit an acceptable dossier of two written papers for approval by the general faculty. The papers must demonstrate a general competence in sociological theory, methodology, and selected substantive areas.

The papers must 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 treat research and methodological issues. These papers may seek to meet the above aims separately or in any combination. There need not be a "theory paper" or a "methodology paper," but the papers should demonstrate theoretical and methodological competence. Upon review of the papers, any of the following options may be recommended:

(1) The dossier is passed. You are granted the M.A. and permitted to proceed to the Ph.D.

(2) The dossier is passed conditionally. You are granted the M.A. and permitted to proceed to the Ph.D. upon completion of specified revisions of the dossier.

(3) You are granted a terminal M.A.

(4) The dossier is not acceptable (you may resubmit at a later time or be asked to withdraw).

Contact the department for further details on dossier review.

Field and Qualifying Examinations

Following successful completion of the dossier, a guidance committee is formed to administer and evaluate field examinations and qualifying and final oral examinations, and constitute the departmental members of the doctoral committee when it is formed.

The Ph.D. field examinations cover two fields of specialization chosen from within any of the major recognized areas in sociology which you can justify to the satisfaction of the guidance committee. Under special circumstances, one of the fields may be in a related discipline other than sociology. The emphasis here is on mastery of a specialty and depth of understanding.

If the performance on the field examination is satisfactory and the foreign language requirement has been fulfilled, you may take the University Oral Qualifying Examination. This examination may range over general sociology, your specific fields, and your dissertation plans. It is given by the doctoral committee not later than six months after the completion of the written examination.

Upon successful completion of both written and oral qualifying examinations, you may be advanced to candidacy.

Final Oral Examination

The optional final oral examination for the Ph.D. degree is given by the doctoral committee not 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.

Candidate in Philosophy Degree

The C.Phil. degree is available upon advancement to candidacy for the Ph.D. degree.

Lower Division Courses

1. Introductory Sociology. Students with credit for course 101 will not receive credit for this course. Survey of the characteristics of social life, the processes of social interaction, and the tools of sociological investigation.

18. Interpretation of Quantitative Data. Prerequisite or corequisite: course 1 or 101. Satisfies the statistics requirement for the major in sociology. Reading graphs and tables; statistical description using indices of central tendency, dispersion, and association; simple linear regression. Probability; the binomial, normal, t, and chi-square distributions and hypothesis testing based on them. Examples are drawn from recent issues of *American Sociological Review* or other leading sociological journals.

Upper Division Courses

101. Principles of Sociology. Students with credit for course 1 will not receive credit for this course. Designed for upper division students who have not taken course 1. A more intensive introduction to sociology than is given in course 1. May not be applied toward the major requirements.

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.

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. Harrison, Mr. TenHouten

110. Research Methods in Policy Analysis and Evaluation. Prerequisite: course 129 or consent of instructor. Recommended: course 109. Provides a basic knowledge of approaches for identifying and analyzing social problems and for the assessment of policies and interventions for their control and management. Mr. Freeman, Ms. Zucker

112. Development of Sociological Theory. A comparative survey of basic concepts and theories in sociology from 1850 to 1920; the codification of analytic schemes; a critical analysis of trends in theory construction. Mr. Alexander, Mr. Bailey, Mr. Horton

113. Contemporary Sociological Theory. A critical examination of significant theoretical formulations from 1920 to the present; an analysis of the relation between theoretical development and current research emphasis.
Mr. Alexander, Ms. Cheng, Mr. TenHouten

114. Marxist Sociology. The course will stress the fundamentals of Marxist theory and method and their historical development. Attention will be given to continuing debates within Marxism and to differences between Marxism and other schools of sociological thought. May not be applied toward the theory requirement for the major. Mr. Horton

115. Experimentation and Laboratory Methodology in Sociology. Prerequisites: course 18 or equivalent introductory statistics and introductory social psychology. The course provides opportunities for students to participate as observers, subjects, and experimenters in a variety of laboratory simulations of social and political settings and to use a number of computer-supported techniques as aids in conducting, analyzing, and interpreting their experiences in these settings. Mr. Shure

116. Introduction to Mathematical Sociology. Prerequisites: course 18, Mathematics 2, 4A (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. Lecture, two hours; discussion, one hour. Prerequisites: upper division standing and consent of instructor. Fieldwork and extensive field notes are required. Theory and practice of field research, with particular emphasis on the interrelations 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, the course covers 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. Harrison

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 organization 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. Technological innovations and their effects upon future social systems are discussed.
Mr. Levine

123. Social Strstification. An analysis of American social structure in terms of evaluational 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, Ms. Nilson

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. Kitano, Mr. Prager

125. Urban Sociology. Lecture, three hours. Description and analysis of urbanization and urbanism in the United States and the world.
Mr. Light, Mr. Oliver

126. Social Demography. Studies of past, present, and future trends in population growth. Sociological theories of causes and consequences of population growth and redistribution. Emphasis is on the correlates of fertility, mortality, and migration.
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. The first half of the course deals with American and European historical studies of family socioeconomic and demographic characteristics and behavior. The second half focuses on the U.S. experience since the 1930s. Ms. Oppenheimer

128. Occupations and Professions. Description and analysis of representative occupations and professions, with emphasis upon the contemporary United States.

Mr. Light, Ms. Nilson, Ms. Oppenheimer

129. Social Policies and Social Programs. Lecture, three hours; discussion, one hour. Prerequisites: junior standing, course 1 or 101, or consent of instructor. Analysis of problems of social disorganization with an emphasis on social structural explanations. Provides consideration of social policies and intervention strategies related to control and management of social problems. Mr. Freeman, Ms. Zucker

130. Social Processes in Africa. A course in comparative sociology. A study of selected processes in African societies, primarily in the fields of urban sociology, social structure, and social change, involving an interdisciplinary approach.

131. 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. Lopez, Mr. Zeitlin

132. Population and Society in the Middle East. Prerequisites: upper division standing and consent of instructor. A survey of the Middle Eastern societies; their historic and environmental bases; the contemporary demographic and cultural situation.

Mr. Sabagh

133. Comparative Sociology of the Middle East. Prerequisites: upper division standing and consent of instructor. A review of the unity of Middle Eastern societies in Islam and their diversity exemplified by such nomadic peoples considered throughout.

134. Comparative Social Institutions of East Asia. Analysis of selected social institutions of China, Japan, and Korea. Emphasis will be on continuity and change in East Asian societies. Ms. Cheng

136. American Society. Analysis of major institutions in the U.S. in historical and international perspective. The course will focus on topics such as industrialization, work, the state, politics, community, the family, religion, and American culture. Theories of social change, conflict, and order will be applied to the case of the U.S. Mr. Lo, Mr. Roy, Mr. Zeitlin

137. Comparative Studies of Jewish Communities in the U.S. and Abroad. The history, distribution, structure, and functioning of major Jewish communities are covered, with particular focus upon North America and Israel. Interrelationships and sources of conflict between Jews and Gentiles in Western countries are taken up. More generally, the economic and social integration of Diaspora Jewish communities is treated. Fieldwork may be required.

Mr. Levine

138. Comparative and Historical Sociology. Prerequisite: course 1 or 101. A survey of the central themes of comparative and historical studies in sociology. The various aspects of the development of modern society are covered, including the development of nation-state, the emergence of capitalism, industrialization, and population growth. Variation in contemporary society is viewed from a variety of theoretical perspectives.

Ms. Cheng, Mr. Prager, Mr. Roy

140. Political Sociology. The contributions of sociology to the study of politics, including the analysis of political aspects of social systems, 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 upon principal economic institutions of the United States.

Mr. Light, Mr. Lo, Mr. Zeitlin

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 contemporary society on the family.

M143. Sociology of Education. (Same as Education M108.) Prerequisite: course 1 or 101. Study of social processes and interaction patterns in educational organizations; the relationship of such organizations to aspects of society, social class, and power; social relations within the school, college, and university; formal and informal groups, subcultures in educational systems; roles of teachers, students, and administrators.

Mr. O'Shea, Mr. Rabow, Ms. Wrigley

144A. Conversational Structures I. 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. Mr. Schegloff

144B. Conversational Structures II. Prerequisite: course 144A. A consideration of some of the more expanded sequence structures, story structures, topical sequences, and the overall structural organization of single conversations. Mr. Schegloff

145. Sociology of Deviant Behavior. An examination of the leading sociological approaches to the study of deviation and a general survey of the major types of deviation in American society.

Mr. Freeman, Mr. Horton, Mr. Surace

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. Katz, Mr. Rabow

147. Control of Crime. Theories of punishment; methods of dealing with convicts; social organization of police, courts, prisons, probation, and parole. Fieldwork is a required. Mr. Emerson, Mr. Rabow

148. Normal Environments. Structural interpretation of the concerted production, management, and alteration of perceivedly normal interpersonal environments. Fieldwork is a required.

Mr. Garfinkel, Mr. Pollner

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 problems of analytic sociology. Fieldwork is a required. Mr. Garfinkel, Mr. Pollner

150. Collective Behavior. Prerequisites: courses 1 and 18, or equivalent, and upper division standing. Characteristics of crowds, mobs, publics, social movements, and revolutions; their relation to social unrest and their role in developing and changing social organization.

Mr. Prager, Mr. Seeman, Mr. Turner

151. Culture and Personality. Prerequisites: courses 1 and 18, or equivalent, and upper division standing. Theories of the relation of variations in personality to culture and group life, in primitive and modern societies, and the influence of social role on behavior. Mr. Turner

152. Group Processes. Systematic study of the formation, structure, and functioning of groups; analysis of group processes and group products from a variety of theoretical viewpoints; implications of various research techniques. Mr. Bonacich, Ms. Zucker

153. Process and Socialization in the Family. Prerequisites: courses 1 and 18, or equivalent, and 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.

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 upon majority-minority relations, prejudice, and discrimination. Special attention is given to alternative sociological and psychological theories of prejudice; the effects of minority status upon the individual; and the possibilities for attitude and behavior change. Mr. Oliver, Mr. Seeman

156. Psychoanalytic Sociology. Prerequisites: courses 1 or 101 and 18. Recommended: a course in theory (course 112 or 113) and in social psychology. Designed to review the models of integration between psychoanalysis and sociology. This analytical perspective will be applied to selected substantive areas and social processes. The areas include, but are not limited to, group development, delinquency, and deviance. The processes include socialization, identity and self formation, role taking and role making.

Mr. Rabow

157. Sociology of Mental Illness. Analysis of the major sociological and social psychological models of madness. Study of the social processes involved in the production, recognition, labeling, and treatment of "mental illness."

Mr. Emerson, Mr. Goldstein, Mr. Pollner

M158. Death and Suicide: Psychological and Sociological Aspects. (Same as Psychology M163.) Prerequisite: junior standing. 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; ways in which ideas of 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 is required if course is to be applied toward the psychology major).

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 course includes the study of ways in which bodies of knowledge and cognitive styles are produced, used, and transformed in every day, 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 50A or Psychology 41 or Economics 40 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 them, 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 treatment processes 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; legalization of social relations in modern institutions; social movements toward equal justice; the judicial role; experience of participants in legal processes; common sense conceptions of justice.

Mr. Katz

163. Medical Sociology. Prerequisite: course 1 or 101 or consent of instructor. The course provides majors in sociology and other social sciences, as well as students preparing for health science careers, with an understanding of health-seeking behavior and the interpersonal and organizational relations that are involved in the receipt and delivery of health services. Mr. Freeman, Mr. Goldstein

197. Undergraduate Seminar. (Formerly numbered 181-186.) Prerequisites: upper division standing, major in sociology, and consent of instructor.

199. Special Studies (½ to 2 courses). Prerequisites: senior standing, 3.0 grade-point average in major, courses 1 and 18 or equivalent, consent of instructor and department Chair. A course of independent study designed for graduate or senior undergraduate students who (1) desire a more advanced or specialized treatment of an area covered in the regular course list and who present that course as a prerequisite or (2) desire work in an area of sociological analysis currently not covered by an upper division course. Only eight units are allowed. See undergraduate counselor for course contract.

199HA-199HB-199HC. Special Study for Honors. Prerequisite: honor program standing:

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 will be required.

199HB. Continuation of work initiated in course 199HA. A series of progress reports will be prepared in consultation with instructor.

199HC. Completion of the written report or honors thesis.

Graduate Courses

201A-201B. Proseminar in Sociology. Prerequisite: graduate standing. A comprehensive survey of basic concepts and theories in the major fields of sociology. Designed primarily for graduate students in the first year of residence. Mr. Alexander, Mr. Lopez

210A-210B. Intermediate Quantitative Methods I, II. Prerequisite: course 18 or equivalent. An intermediate-level treatment of fundamentals of statistical theory and procedures: probability theory, basic distributions (normal, binomial, t, chi-square, F, etc.), 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; loglinear models; factor analysis, discriminant function analysis, scaling and measurement; sampling design; nonparametric techniques and measures; matrix algebra if used 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. degrees. The course will cover additional and more advanced multivariate techniques of particular value to sociologists. Mr. Bonacich

211A-211B. Comparative and Historical Methods. In Progress grading:

211A. Strategies of Research and Conceptualization. Prerequisite: consent of instructor. Topics include relationship of theory and fact to the social sciences, the logic of comparative and historical analysis, and substantive paradigms of comparative and historical analysis. Reading involves methodological examination of basic works in representative problem areas.

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, will be discussed.
Mr. Light, Mr. Lo, 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 and mode of production. A critical examination of methodological issues and techniques and practical field researches.
Mr. Horton

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 structure and social change. Mr. Sabagh

214A-214B. The Measurement of Sociological Variables. Prerequisites: courses 210A-210B and 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 and consent of instructor. A course designed to provide students with 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 problem; study design; hypotheses; sampling; measurement; questionnaire and schedule construction; interviewing and data collection; processing and tabulation; analysis and interpretation; presentation of findings; cross-national, replicative, panel, and other complex survey designs. Students participate in survey research project. In Progress grading.
Mr. Levine, Mr. Treiman

217A-217B. Ethnographic Fieldwork. Prerequisite: consent of instructor. Theories and techniques of ethnographic fieldwork. The course will consider the kinds of problems amenable to ethnographic approaches, methods, and techniques for doing fieldwork, and ethnical problems involved in such research. In Progress grading.
Mr. Emerson, Mr. Pollner

218A-218B. Ethnomethodological Methods. Prerequisite: consent of instructor. Examination of techniques used in ethnomethodological research, practice in the critical evaluation of research, and directed experience in the conduct of an extended investigation employing ethnomethodological procedures. In Progress grading. Mr. Garfinkel

219. Theory of Sociological Inquiry. Prerequisites: course 210A and consent of instructor. A general review of procedures followed by social scientists in attempts to achieve valid theoretical knowledge. Focuses on inductive inference and theory testing: control and randomization, experimental and nonexperimental research designs, association and causality, models, measurement theory, sampling theory.
Mr. TenHouten

220. Role Theory. Prerequisites: graduate standing and consent of instructor. A review of theories and research dealing with social roles, with special emphasis on roles in social interaction and in formation of the social self. Mr. Turner

221. Social Ecology. Prerequisites: courses 18 and 126, or equivalent, and graduate standing, or consent of instructor. An examination of the various approaches to both microecology and macroecology, including classical and neoclassical ecology, social area analysis, sociocultural ecology, city-size distributions, effects of population density on animals and humans, proxemics, territoriality, and the effects of the physical environment on humans. Mr. Bailey

224A-224B. Problems in Social Psychology. Prerequisites: course 210A and consent of instructor. The basic course for graduate students intending to specialize in social psychology. **224A** examines systematically major theoretical contributions to the field. **224B** introduces the student to current work being done in the department in several subfields.

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 is (1) an analysis of how demographic factors affect economic and family systems; (2) how these systems, and changes in them, affect demographic variables; and (3) how this two-way process influences the relationship of family and economic systems over time. **225A** is primarily devoted to lectures and readings. **225B** carries students into individual research projects involving a term paper and classroom reports of results. Ms. Oppenheimer

226. Leadership and Comparative Social Structure. A comparative analysis of leadership in different social structures, with particular attention to the development, maintenance, and disintegration of leadership corps and cadres. Mr. Surace

227. The Sociology of Knowledge. Prerequisite: graduate standing or consent of instructor. A survey of theories and research concerning social determinants of systems of knowledge and the role of intellectual and artistic elites in Western societies.
Mr. Horton

229. Processes of Social Control. Prerequisite: graduate standing or consent of instructor. Current theory and research on social control processes. Specific topics include conceptual issues, informal social control mechanisms, the relation between informal and formal control systems, typification and practical concerns in the processing of social control cases, 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 is given to the problems of defining deviance and the articulation of sociological and psychological levels of explanation.
Mr. Emerson, Mr. Rabow, Mr. Surace

M231. The Structure of Occupations. (Same as Education M231.) Lecture, two hours; discussion, two hours. Will explore 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. Foundations of Political Sociology. Lecture, three hours. Prerequisite: graduate standing or consent of instructor. A survey of the field of political sociology, oriented around critical themes in the major theoretical traditions and contemporary exemplars. Special attention is paid to competing perspectives on power, the theory of the state, and the relationship of class structure to politics.
Mr. Lo, Mr. Prager, Mr. Roy

234. Sociology of Community Organization. Prerequisites: graduate standing and consent of instructor. A survey of recent and classical research and literature dealing with predominantly political institutions, the problem of order, and the organization of communal life in the village and the metropolis.

235. Social Structure and Social Movements. Prerequisite: graduate standing or consent of instructor. A survey of some social science theories bearing on the analysis of large-scale social movements and upheavals. The causes, course, and consequences of selected social movements, insurrections, and revolutions will be examined. Mr. Surace

236. Social Change in the Middle East. An analysis of the sources, extent, and types of social change in the Middle East, with an emphasis on the origin and consequences of industrialization and urbanization.
Mr. Sabagh

237. Social Stratification in the Middle East. Modes of social differentiation in traditional Middle Eastern societies, localism and tribalism, the counter influence of 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 and consent of instructor. Designed to supply graduate students with conceptual and methodological skills for studying minority communities. Greater Los Angeles is the laboratory. Both ethnographic and survey research techniques are emphasized. In Progress grading. Mr. Levine

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. McFarland

247. Neurosociology. Prerequisites: graduate standing and consent of instructor. Relations between aspects of social structure and higher cortical functions. Mr. TenHouten

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. TenHouten

M249A. Sociocultural Aspects of Health and Illness: Health Professions. (Formerly numbered M249B.) (Same as Public Health M283F.) Lecture, three hours. Prerequisites: Public Health 182, three courses in psychology, sociology, or anthropology, or equivalent, and consent of instructor. Sociological examination of the concepts "health" and "illness" and role of various health professionals, especially physicians. Attention is given to the meaning of professionalization and professional-client relationships within a range of organization settings. Mr. Goldstein

M249B. Sociocultural Aspects of Health and Illness: Health Behavior. (Formerly numbered M249C.) (Same as Public Health M283G.) Seminar, three hours. Prerequisites: Public Health 182, three courses in psychology, sociology, or anthropology, or equivalent, and consent of instructor. Sociocultural factors affecting differential patterns of health behavior, illness behavior, and sick role behavior. Mr. Berkanovic

250. Methodological Problems. Mr. Bailey, Mr. TenHouten

251. Topics in the Problem of Social Order. Mr. Garfinkel

252. Criminology. Mr. Katz, Mr. Rabow

253. Quantitative Methods in Sociology. Mr. Bailey, Mr. Bonacich, Mr. Freeman

M254A. Sociology of Law. (Same as Law M354.) Prerequisite: consent of instructor. Social control functions of law and legal institutions with particular attention to the contrast between law-ways of stateless and tribal societies and contemporary American legal processes and institutions, primarily those of criminal law. Mr. Prager

254B. Sociology of Law. Social control functions of law and legal institutions, with particular attention to the contrast between law-ways of stateless and tribal societies and contemporary American legal processes and institutions, primarily those of criminal law. Mr. Emerson, Mr. Prager

255A-255B. Selected Issues in Sociological Theory. Seminar. Prerequisite: consent of instructor. Course 255A is not ordinarily prerequisite to 255B. Examination of selected issues and problems in classical or contemporary sociological theory and in the history of the development of sociological theory.

256. Demography. Mr. Bailey, Mr. Sabagh

257. Sociology of the Arts. Mr. Horton

258. Sociology of Religion.

259. Social Structure and Economic Change: Historical and Comparative Perspectives. Ms. Cheng, Mr. Surace, Mr. Zeitlin

260. Industry and Society. Mr. Light, Mr. Surace

261. Ethnic Minorities. Mr. Levine, Mr. Seeman

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

263. Social Stratification. Mr. Treiman

264. Professions in the American Society. Ms. Nilson, Ms. Oppenheimer

265. Problems in Organization Theory. Mr. Grusky, Ms. Zucker

266. Selected Problems in the Analysis of Conversation. Prerequisite: course 144A or consent of instructor. Mr. Schegloff

267. Selected Problems in Communication. Mr. Pollner, Mr. Schegloff

268. Historical and Interpretive Sociology. Mr. Surace

269. Collective Behavior. Mr. Turner

270. Selected Problems in Socialization. Mr. Turner

271. Ethnomethodology. Mr. Garfinkel

272. Topics in Political Sociology. Mr. Roy, Mr. Surace, Mr. Zeitlin

273. Attitudes and Social Structure. Mr. Seeman

274. Selected Problems in the Sociology of Africa. Prerequisites: graduate standing and 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. Seminar in Comparative Social Structure: Developed Societies. The comparison of social structures among developed societies, including the comparative analysis of the main institutional features, social class arrangements, social mobility characteristics, and the like. Comparisons will involve the U.S. and developed countries in Western Europe, Asia, and Oceania. Mr. Treiman

276. Selected Topics in the Sociology of East Asia. Prerequisites: graduate standing and consent of instructor. The seminar will analyze selected problems in China, or in China and Japan comparatively. Possible topics 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. Ms. Cheng

277. Sociology of Science. Mr. TenHouten

279. Sociology of the Theater. Seminar on different movements in the theater, or expressions of the theater (e.g., theater of the absurd, contemporary experimental theater), with emphasis on the theatrical performance as it relates to the environing society, responds to, or reacts against theatrical conventions, socializes the players to the performance, and creates its own social world. Mr. Horton

280. Seminar in Evaluation Research. Prerequisite: graduate standing. The seminar covers both the technical and political aspects of implementing evaluation research studies. The role of evaluation research in social policy development is considered, as well as procedures for undertaking process and impact evaluations. S/U or letter grading. Mr. Freeman

281. Selected Problems in Mathematical Sociology. Prerequisite: Mathematics 4B or consent of instructor. An exploration of some mathematical models of sociological processes. Possible topics include models of small groups, social mobility, kinship relations, organizations, social interaction. Mr. Bonacich, Mr. McFarland

282. Organizations and the Professions.

284. Topics in Mental Health and Illness. Prerequisites: course 157 or equivalent and graduate standing. Mr. Emerson, Mr. Grusky, Mr. Pollner

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, and consent of instructor. Course M287A is prerequisite to M287B. Analysis of research concerning major issues in population policy, with special emphasis on human fertility. Ms. Blake

M287C. Seminar in Population Policy and Fertility. (Same as Public Health M274C.) Seminar, three hours; discussion, one hour. Prerequisites: courses M287A-M287B or equivalent, graduate standing, and 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

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 utopian communities and developmental processes. Mr. Light

292A-292B-292C. Research Development.

375. Teaching Apprentice Practicum (¼ to 1 course). 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 (½ course each). Prerequisite: appointment as a teaching assistant in the Department of Sociology 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 (½ to 2 courses). Prerequisite: consent of UCLA graduate adviser and Graduate Dean and host campus instructor, department Chair, and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596. Directed Individual Study and Research in Sociology (½ to 3 courses).

597. Individual Study for Examinations (1 to 3 courses). Preparation for the dossier for the M.A. degree or the Ph.D. qualifying examination.

599. Research in Sociology for Ph.D. Candidates (1 to 3 courses).

Spanish and Portuguese

5303 Rolfe Hall, 825-1036

Professors

Shirley L. Arora, Ph.D. *(Spanish), Chair*
José R. Barcia, Lic. F. y L. *(Spanish)*
Rubén A. Benítez, Ph.D. *(Spanish)*
Joaquín Gimeno, Ph.D. *(Spanish)*
Claude L. Hulet, Ph.D. *(Spanish and Portuguese)*
Carroll B. Johnson, Ph.D. *(Spanish)*
Gerardo Luzuriaga, Ph.D. *(Spanish)*
C. B. Morris, Litt.D. *(Spanish)*
C. P. Otero, Ph.D. *(Spanish)*
José Miguel Oviedo, Ph.D. *(Spanish)*
Stanley L. Robe, Ph.D. *(Spanish)*
John A. Crow, Ph.D., *Emeritus*
John E. Englekirk, Ph.D., *Emeritus*
Aníbal Sánchez-Reulet, Ph.D., *Emeritus*
Marion A. Zeitlin, Ph.D., *Emeritus*

Associate Professors
E. Mayone Dias, Ph.D. *(Portuguese)*
Susan Plann, Ph.D. *(Spanish)*
A. Carlos Quicoli, Ph.D. *(Portuguese)*
Richard M. Reeve, Ph.D. *(Spanish)*
Enrique Rodríguez-Cepeda, Ph.D. *(Spanish)*
A. John Skirius, Ph.D. *(Spanish)*
Paul C. Smith, Ph.D. *(Spanish)*

Assistant Professor
Guillermo Hernández, Ph.D. *(Spanish)*

Lecturers
José M. Cruz-Salvadores, M.A. *(Spanish)*
George L. Voyt, J.D. *(Spanish)*

Scope and Objectives

The Department of Spanish and Portuguese is dedicated to the study and teaching of the languages, literatures, and cultures of the Hispanic heritage in all areas of the world, particularly on the continents of Europe and America. It maintains a strong commitment to the value of original research and professional instruction at all levels of its activities.

Whether studying for the B.A., M.A., or Ph.D. degree, the student is given careful guidance in the choice of courses and in the preparation of a study program. The richness of Hispanic culture is amply represented in the extensive range of courses in language, linguistics, and literature. Although the literatures of Spain, Portugal, Brazil, and Spanish America predominate, courses are also offered in Chicano and Afro-Caribbean literatures. The breadth of courses offered by the department allows the undergraduate student to pursue many possible interests and enables the graduate student to concentrate in depth on several areas of specialization.

The department's courses are primarily designed to serve the three B.A. programs: the B.A. in Spanish (Plan A), the B.A. in Spanish and Linguistics (Plan B), and the B.A. in Portuguese, as well as to prepare students for its three graduate programs: the M.A. in Spanish, the M.A. in Luso-Brazilian Language and Literatures, and the Ph.D. in Hispanic Languages and Literatures. The courses are also functionally supportive of such extradepartmental programs as the Teaching Credential in Spanish, the B.A. and M.A. programs in Latin American Studies, the M.A. program in Folklore and Mythology, and the M.A. and Ph.D. programs in Comparative Literature and Romance Linguistics and Literature.

Bachelor of Arts in Spanish and in Spanish and Linguistics

Students who have taken Spanish elsewhere and wish to enroll in UCLA Spanish classes for the first time must take the placement test given each quarter during the week before classes begin. Consult the *Schedule of Classes.*

Preparation for the Majors

Required: Spanish 25 or equivalent as determined by the placement test; courses M42 and M44 or equivalent.

Linguistics 100 is prerequisite to Spanish 100 and 103. Spanish majors may take it Passed/Not Passed or for a letter grade. It is applicable toward the breadth requirements as a course in social sciences.

The Major, Plan A (Language and Literature)

Required: Fifteen upper division courses, including Spanish 100, 103, 105 or 109, 115 or M118, 120A, 120B, 121A, 121B, 127, and six elective courses (one in Spanish literature, one in Spanish American literature, and four selected from other departmental offerings not including courses 160A, 160B, 160C).

The Major, Plan B (Spanish and Linguistics)

Required: Completion of six quarters of work in one other foreign language or three quarters in each of two other languages. Portuguese is recommended.

The major consists of thirteen upper division courses distributed as follows: four required courses in Spanish (100, 103, 105 or 109, 119); six required courses in Linguistics (100, 103, 110, 120A, 120B, 140); three electives in Spanish.

Honors Program

To qualify for graduation with departmental honors, you must achieve a 3.0 overall grade-point average, a 3.5 grade-point average in the major, and have completed two of the three senior seminars (170A, 170B, 170C) with appropriate grades.

Bachelor of Arts in Portuguese

Preparation for the Major

Required: Portuguese 3, 25, M42, M44, or equivalent.

The Major

Required: Thirteen upper division courses, including Portuguese 100, 103, M118, 120A, 120B, 121A, 121B. The remaining six courses may consist of six electives in Portuguese, or four electives in Portuguese plus two courses supportive of your program and approved by the department in history, philosophy, linguistics, or another language or literature.

Master of Arts in Spanish

Admission

The UCLA Bachelor of Arts in Spanish or the equivalent is required. Students admitted from elsewhere whose preparation is considered deficient are required to take a specified number of relevant upper division courses which may be taken concurrently with graduate courses, but may not be applied toward the M.A. Three letters of recommendation are also required, preferably from professors with whom you have studied in the major field, who can comment on your potential as a graduate student. In addition, the Graduate Record Examination Aptitude Tests are required. A combined score of 1000 is preferred, although more weight is given to the verbal than to the quantitative aspects.

Foreign Language Requirement

One language besides Spanish is required. Any language which has a written literature is acceptable. Passing the Educational Testing Service (ETS) test fulfills the requirement; in languages for which there is no ETS test, you must pass a departmental examination. You may also complete five quarters of college-level courses in the language with a grade of B or better. If you take Portuguese, one year of study (Portuguese 3) at UCLA is sufficient. The language requirement must be met no later than the quarter in which the final course requirement is completed.

Course Requirements

Required for the comprehensive examination plan are 10 courses with a minimum of seven in the 200 series, of which one must be a seminar (250-299) which may be taken only after the relevant graduate preseminar (200-249). For example, course 224 is prerequisite to course 264A. Three upper division courses in the department may be included in the total of 10 courses. With the consent of the graduate adviser, a maximum of two courses may be taken at the graduate level in closely related fields outside the department. Course 596 may be included once. Courses 597 and 598 may not be applied toward the degree.

Comprehensive Examination Plan

The department favors this plan and will approve the thesis plan only in exceptional circumstances. The examination, which must be taken no later than two quarters after course requirements are completed, is administered by a standing committee of six members of the department, appointed by the Chair. Each of the three fields of study is represented by two professors. You elect one of the three fields as your major, and the other two become the minors. A reading list for each specialty constitutes the basis of the examination. Given in the Fall and Spring Quarters, the examination is entirely written and is of six hours duration. It is graded high pass, mid pass, low pass, or not passed. A grade of low pass results in a terminal M.A. In case of failure, you may retake the failed portions once, when the examination is next regularly offered. Passing the M.A. examination after repeating one or more failed portions results in a terminal M.A.

Thesis Plan

The department strongly favors the comprehensive examination plan and will approve M.A. theses only for exceptionally well-qualified students in exceptional circumstances. For details on this plan, contact the department.

Master of Arts in Luso-Brazilian Language and Literatures

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

Portuguese literature; Brazilian literature; Portuguese linguistics. At the M.A level, you are expected to work in all three fields.

Foreign Language Requirement

One language besides Portuguese is required. Any language which has a written literature is acceptable. For languages in which an Educational Testing Service (ETS) test exists, passing the test fulfills the requirement. In languages where no such test is available, you must pass a departmental examination. You may also complete five quarters of college-level courses in the language with a grade of B or better. The language requirements must be met no later than the quarter in which the final course requirement is completed.

Course Requirements

Nine courses are required, of which a minimum of six must be in the 200 series. Three upper division courses in the department may be included in the total requirement of nine courses. With the adviser's approval, two graduate courses outside the department in closely related fields may also be included. Course 596 may be included twice. Courses 597 and 598 may not be applied toward the degree.

Comprehensive Examination Plan

The department strongly favors this plan and will approve the thesis plan only in exceptional cases. The examination, administered by a committee for Luso-Brazilian language and literatures, is divided into three major parts: (1) a three-hour written examination in Portuguese literature; (2) a three-hour written examination in Brazilizan literature; and (3) a one-hour written examination in the history and structure of the Portuguese language. The examination, given in the Fall, Winter, and Spring Quarters, is graded high pass, mid pass, low pass, or not passed. A grade of low pass results in a terminal M.A. In case of failure, you may retake the failed portions once, when the examination is next regularly offered. Passing the examination after repeating failed portions results in a terminal M.A.

Thesis Plan

The department strongly favors the comprehensive examination plan and will approve M.A. theses only for exceptionally well-qualified students in exceptional circumstances. For details on this plan, contact the department.

Ph.D. in Hispanic Languages and Literatures

Admission

The UCLA Master of Arts in Spanish or Luso-Brazilian Language and Literatures, 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 Aptitude Test is also required. A combined score of 1000 is preferred, and the verbal score is considered more important than the quantitative.

Students who hold the M.A. in Spanish or Luso-Brazilian Language and Literatures from UCLA fall into one of three categories and are so notified upon receipt of the degree. The categories are (1) *low pass* (terminal M.A.) — not eligible for admission into the Ph.D. program; (2) *mid pass* — may continue toward the Ph.D. on a probationary basis; (3) *high pass* — automatically eligible to enter the Ph.D. program.

Major Fields

The department recognizes the following fields of specialization, from which you select one major and four minors: (1) Spanish linguistics and philology: (2) medieval and Renaissance Spanish literature; (3) Golden Age Spanish literature; (4) 18th- and 19th-century Spanish literature; (5) 20th-century Spanish literature; (6) colonial and 19th-century Spanish American literature; (7) 20th-century Spanish American literature; (8) Portuguese linguistics and philology; (9) Portuguese literature; (10) Brazilian literature; (11) Spanish and Luso-Brazilian folklore.

Foreign Language Requirement

A reading knowledge of two foreign languages in addition to both Spanish and Portuguese is required. The languages are chosen in consultation with your guidance committee with a view to their usefulness in your proposed research. For languages in which an Educational Testing Service (ETS) test exists, passing the appropriate test fulfills the requirement. In languages where there is no such test, you must pass a departmental examination. You may also complete at least five quarters of college-level courses in the language with a grade of B or better. Finally, the department will accept evidence of fulfillment of a language requirement in connection with an M.A. obtained elsewhere. The language requirement must be satisfied no later than the quarter before the qualifying examinations are taken.

Course Requirements

After the B.A., 18 graduate courses in the department are required as follows: (1) general requirements: courses M200, M201, M203A; (2) courses in the major — the number to be determined by the guidance committee; (3) courses in the four minor fields — the minimum requirement for a minor is one graduate preseminar (200-249), followed by the appropriate seminar (250-299); the requirements in any minor field may be increased at the discretion of the guidance committee in consideration of your preparation; (4) one additional graduate course in a field not covered in items 1, 2, and 3; (5) three upper division courses in Portuguese and/or Brazilian literatures.

Qualifying Examinations

The qualifying examinations, given during the Fall, Winter, and Spring Quarters, consist of (1) a three-hour written examination in the major field; (2) four one-hour written examinations, one in each minor field; (3) a two-hour University Oral Qualifying Examination on the five fields and at which your prospectus for the dissertation is discussed and approved. Five weeks is normally the maximum time allowed to complete the series of examinations. Failed portions may be retaken once after any remedial preparation the committee may specify. When you pass the entire series of examinations, you are eligible to apply for formal advancement to candidacy for the Ph.D. and may proceed to write the dissertation.

Final Oral Examination

The final oral examination is optional at the committee's discretion.

Candidate in Philosophy Degree

The C.Phil. degree is available upon formal advancement to candidacy.

Spanish

Lower Division Courses

Spanish 1 through 4 use J.R. Barcia's *Lengua y Cultura*. 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 will be 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. The course is equivalent to the first year of high school Spanish. Not open for credit to students who have completed two years of high school Spanish or equivalent with grades of C or better. Students will, however, be credited with four units toward the minimum progress requirement.

1G. Reading Course for Graduate Students (No credit). Discussion, five hours.

2. Elementary Spanish. Discussion, five hours; laboratory, one hour. Prerequisite: course 1 or equivalent as determined by the placement test. Not open for credit to students who have completed two years of high school Spanish or equivalent. Students will, however, be credited with four units toward the minimum progress requirement.

2G. Reading Course for Graduate Students (No credit). Discussion, five hours. Prerequisite: course 1G or equivalent.

3. Elementary Spanish. Discussion, five hours; laboratory, one hour. Prerequisite: course 2 or equivalent as determined by the placement test. The main grammatical topics include relative clauses; direct vs. indirect speech; imperatives; impersonal constructions; subjunctive: present, imperfect; idioms. Vocabulary of about 400 items and idioms dealing with everyday experience and some selected readings of good authors.

4. Intermediate Spanish. Discussion, five hours; laboratory, one hour. Prerequisite: course 3 or equivalent as determined by the placement test. Grammar review. Also, conditional; imperative and conditional; indicative vs. subjunctive; past perfect of subjunctive; infinitive. Vocabulary of about 400 items and idioms dealing with everyday experience and some literary pieces.

5. Intermediate Spanish. Discussion, five hours; laboratory, one hour. Prerequisite: course 4 or equivalent as determined by the placement test.

8A-8B. Spanish Conversation (½ course each). Discussion, three hours. Course 8A is open to students with credit for course 4 or equivalent. Students who have completed course 3 with a grade of B or better may be admitted. (F,W,Sp)

9A-9B. Advanced Conversation (½ course each). Discussion, three hours. Prerequisite: course 8B or equivalent. (F,W,Sp)

25. Advanced Spanish. Prerequisite: course 5 or equivalent. Concentration on the building of vocabulary and the attainment of a high degree of comprehension in preparation for the courses in literature.

26. Composition for Spanish Speakers. Lecture, three hours. Prerequisites: course 5 or equivalent and consent of instructor. Practice in the reading and writing of Spanish for students with oral proficiency in Spanish (in lieu of Spanish 25).

M42. Civilization of Spain and Portugal. (Same as Portuguese M42.) Required of majors. Highlights of the civilization of Spain and Portugal, with emphasis on their artistic, economic, social, and historical development as background for upper division courses. Conducted in English. Mr. Cruz-Salvadores

M44. Civilization of Spanish America and Brazil. (Same as Portuguese M44.) Required of majors. Highlights of the civilization of Spanish America and Brazil, with emphasis on their artistic, economic, social, and historical development as background for upper division courses. Conducted in English.
Mr. Reeve, Mr. Skirius

Upper Division Courses

Prerequisite to all upper division courses except 160A-160B-160C is Spanish 25 or equivalent as determined by the placement test.

100. Phonology and Pronunciation. Lecture, three hours. Prerequisites: course 25, Linguistics 100. Required of Spanish majors (Plans A and B). Analysis of the phonetic and phonemic systems of Spanish, with special emphasis on the correlation between the phonemic and graphemic systems. Interrelation of phonological and morphological phenomena. Exercises and drills directed toward individual needs.
Ms. Plann, Mr. Robe

103. Syntax. Lecture, three hours. Prerequisites: course 25, Linguistics 100. Required of Spanish majors (Plans A and B). A study of sentence types and their variations. The lexicon and its features. Interrelation of syntactic, semantic, and morphological phenomena. Mr. Otero, Ms. Plann

105. Intermediate Composition. Lecture, three hours. Prerequisite: course 103. Paraphrasing, summarizing, and study of idiomatic expressions.

109. Advanced Composition. Lecture, three hours. Prerequisite: course 103. Correction of student's original compositions and analysis of basic stylistic elements.

115. Applied Linguistics. Lecture, three hours. Prerequisite: course 103. Survey of the major linguistic problems faced by the teacher of Spanish.
Ms. Plann, Mr. Robe

117. Spanish of Southern California. Lecture, three hours. Prerequisites: courses 100, 103, 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. Robe

M118. History of the Portuguese and Spanish Languages. (Same as Portuguese M118.) Lecture, three hours. Prerequisite: course 100. Major features of the development of the Portuguese and Spanish languages from their origins in Vulgar Latin to modern times. Contributions of other languages to the formation of Portuguese and Spanish.
Mr. Otero, Mr. Quícoli, Mr. Smith

119. Literary Analysis. Lecture, three hours. Prerequisite: course 25. Strongly recommended as preparation for the required courses in literature. Required of Spanish majors (Plan B). An introduction to the study of literary devices, figures of speech, and the differentiation of literary genres.

120A-120B. Survey of Spanish Literature. Lecture, three hours. Prerequisite for Spanish majors: course M42. Required of Spanish majors (Plan A). An introduction to the principal authors, works, and movements of Spanish literature.
Mr. Gimeno, Mr. Johnson, Mr. Rodríguez-Cepeda

121A-121B. Survey of Spanish American Literature. Lecture, three hours. Prerequisite for Spanish majors: course M44. Required of Spanish majors (Plan A). An introduction to the principal authors, works, and movements of Spanish American literature.
Ms. Arora, Mr. Luzuriaga, Mr. Oviedo, Mr. Reeve

122. Medieval and Renaissance Literature. Lecture, three hours. Recommended prerequisite: course 120A. The main genres of medieval and Renaissance Spanish literature, with emphasis on at least one representative work for each.
Mr. Gimeno

124. The Golden Age. Lecture, three hours. Recommended prerequisite: course 120A. The main genres of the Golden Age, with emphasis on at least one representative work for each.
Mr. Johnson, Mr. Rodríguez-Cepeda

127. Don Quijote. Lecture, three hours. Recommended prerequisite: course 120A. Required of Spanish majors (Plan A). Directed reading and intensive study of the novel.
Mr. Johnson, Mr. Rodríguez-Cepeda

128. Neoclassicism and Romanticism in Spain. Lecture, three hours. Recommended prerequisite: course 120B. The main manifestations of thought and literature from 1700 to 1850, with emphasis on representative works.
Mr. Benítez, Mr. Rodríguez-Cepeda

130. Spanish Literature from 1850 to 1898. Lecture, three hours. Recommended prerequisite: course 120B. The development of post-Romantic literature, with emphasis on representative works.
Mr. Smith

132A. Spanish Literature in the 20th Century: Poetry and Drama. Lecture, three hours. Recommended prerequisite: course 120B. Spanish poetry and theater since 1898, with emphasis on several representative works for each genre. Mr. Morris

132B. Spanish Literature in the 20th Century: Fiction and the Essay. Lecture, three hours. Recommended prerequisite: course 120B. Spanish prose genres since 1898, with emphasis on representative novels, short stories, and essays. Mr. Morris

137. The Literature of Colonial Spanish America. Lecture, three hours. Recommended prerequisite: course 121A. A study of the most important authors and movements in the various regions of Spanish America to 1810. Ms. Arora, Mr. Oviedo

139. 19th-Century Spanish American Literature. Lecture, three hours. Recommended prerequisite: course 121A. A detailed study of the important writers and movements from 1810 to 1860.
Mr. Luzuriaga, Mr. Reeve, Mr. Skirius

141. Mexican Literature. Lecture, three hours. Recommended prerequisites: courses 121A-121B. A study of the major Mexican literary contributions to the development of a national culture.
Mr. Reeve, Mr. Skirius

142A. Spanish American Literature in the 20th Century: Poetry and Drama. Lecture, three hours. Recommended prerequisite: course 121B. A detailed study of the important lyrical and dramatic movements in Spanish America since 1880.
Mr. Luzuriaga, Mr. Skirius

142B. Spanish American Literature in the 20th Century: Fiction and the Essay. Lecture, three hours. Recommended prerequisite: course 121B. Spanish American prose genres since 1880, with representative novels, short stories, and essays.
Mr. Reeve, Mr. Skirius

M145. Introduction to Chicano Literature. (Same as Chicano Studies M145.) Discussion, three hours. Prerequisite: course 25 or 26. Recommended: course 121B. Introduction to texts representative of the Chicano literary heritage. The course seeks to provide a sampling of genres, as well as historical and geographic 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. A number of important scholarly and critical statements pertaining to the characteristics and development of the Chicano literary corpus are read and analyzed. Mr. Hernández

M149. 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, Mr. Robe

160A-160B-160C. Hispanic Literatures in Translation. Lecture, three hours. Class readings and analysis of selected works in translation. Classroom discussion, papers, and examinations will be in English:

160A. Spain and Portugal.

160B. Spanish America and Brazil.

160C. *Don Quijote* in English Translation. Class reading and analysis of Cervantes' *Don Quijote.*
Mr. Johnson

170A. Senior Seminar: Topics in Spanish Literature. Lecture, three hours. Prerequisites: 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 are required for departmental honors. (W)

170B. Senior Seminar: Topics in Spanish American Literature. Lecture, three hours. Prerequisites: 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 are required for departmental honors. (F)

170C. Senior Seminar: Topics in Hispanic Linguistics. Lecture, three hours. Prerequisites: 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 are required for departmental honors. (Sp)

199. Special Studies (½ to 1 course). Prerequisite: consent of adviser and instructor. Eight units may be applied toward the major requirements.

Graduate Courses

M200. Bibliography. (Same as Portuguese M200.) Discussion, three hours. Identification and analysis of bibliographical sources for work by doctoral candidates in their fields of specialization.
Mr. Benítez, Mr. Rodríguez-Cepeda

M201. Literary Criticism. (Same as Portuguese M201.) Discussion, three hours. Definition and discussion of methods of literary criticism.
Mr. Benítez, Mr. Otero

M203A-M203B. The Development of the Portuguese and Spanish Languages. (Same as Portuguese M203A-M203B.) Prerequisites: courses 100, M118, or consent of instructor. Intensive study of the historical development of the Portuguese and Spanish languages from their origin in spoken Latin.
Mr. Otero, Mr. Smith

204A-204B. Transformational Grammar. Discussion, three hours. Prerequisite: consent of instructor. Course 204A or consent of instructor is prerequisite to 204B. A transformational approach to the Spanish language, with some consideration of the bearing of syntax, semiology, and phonology on style, metaphor, and meter.
Mr. Otero

206. Linguistics. Discussion, three hours. Prerequisite: course 115 or equivalent. A study of theoretical synchronic linguistics as applied to Spanish.
Mr. Otero, Ms. Plann

209. Dialectology. Discussion, three hours. Prerequisite: course 100 or 115 or equivalent. The major dialect areas of peninsular and American Spanish, with the distinguishing features of each. Influence and contribution of cultural and historical features, including indigenous languages, to their formation.
Mr. Robe

222. Medieval and Renaissance Poetry. Seminar, three hours. Readings and lectures on Spanish poetry from the beginnings to 1550.
Mr. Gimeno

223. Medieval and Renaissance Prose. Seminar, three hours. Readings and lectures on Spanish prose from the beginnings to 1550.
Mr. Gimeno

224. The Poetry of the Golden Age. Seminar, three hours. Readings and lectures on the main poets and poetic movements of the Golden Age.
Mr. Morris, Mr. Rodríguez-Cepeda

225. The Drama of the Golden Age. Seminar, three hours. Readings and lectures on the "comedia."
Mr. Rodríguez-Cepeda

226. Prose of the Golden Age. Seminar, three hours. Readings and lectures on fictional, didactic, religious, and historial writings.
Mr. Johnson

227. Cervantes. Seminar, three hours. Readings and lectures on the works of Cervantes.
Mr. Johnson

230. Neoclassicism and Romanticism. Seminar, three hours. Readings and lectures on representative works of the period.
Mr. Benítez

231. The 19th-Century Novel. Seminar, three hours. Readings and lectures on the novel of the 19th century.
Mr. Benítez, Mr. Smith

232. The Generation of 1898. Seminar, three hours. Readings and lectures on representative works of the generation.
Mr. Barcia, Mr. Morris

233. Contemporary Spanish Drama. Seminar, three hours. Readings and lectures on the theater since 1898.
Mr. Barcia, Mr. Morris

234. Contemporary Spanish Poetry. Seminar, three hours. Readings and lectures on poetry since 1898.
Mr. Barcia, Mr. Morris

235. Contemporary Spanish Prose. Seminar, three hours. Readings and lectures on the novel, the short story, and the essay since 1898.
Mr. Barcia, Mr. Morris

237. Chroniclers of the Americas. Seminar, three hours. Readings and lectures on the "Cronistas de Indias."
Ms. Arora, Mr. Robe

239. Neoclassic and Romantic Prose and Poetry in Spanish America. Seminar, three hours. Intensive study of neoclassicism and Romanticism in Spanish America.
Mr. Oviedo, Mr. Skirius

240. The Modernist Movement. Seminar, three hours. An intensive study of the important writers of this movement during the period from 1880 to 1916.
Mr. Luzuriaga

243. Contemporary Spanish American Poetry. Seminar, three hours. Intensive study of the important poets of Spanish America since 1916.
Mr. Oviedo

244. Contemporary Spanish American Novel and Short Story. Seminar, three hours. A study of the important novelists and short story writers from modernism to the present.
Mr. Oviedo, Mr. Reeve

245. Contemporary Spanish American Essay. Seminar, three hours. Intensive study of the important essayists of the 20th century.
Mr. Skirius

246. Contemporary Spanish American Theater. Seminar, three hours. A study of the principal dramatists and theater movements in the 20th century.
Mr. Luzuriaga

247. Chicano Literature. Lecture, three hours. Prerequisites: graduate standing, consent of instructor. A study of the major movements and authors of Mexican-American literature.
Mr. Hernández

M249. Hispanic Folk Literature. (Same as Folklore M249 and Portuguese M249.) Seminar, three hours. Prerequisite: graduate standing. An intensive study of folk literature as represented in (1) ballad and poetry, (2) narrative and drama, (3) speech.
Ms. Arora, Mr. Robe

M251. Studies in Galegan-Portuguese and Old Spanish. (Same as Portuguese M251.) Seminar, two hours. Prerequisites: courses M203A-M203B. Problems related to the historical development of Galegan-Portuguese and Old Spanish.
Mr. Otero, Mr. Smith

256A-256B. Studies in Linguistics and Dialectology. Seminar, two hours. Problems in the analysis and description of the contemporary language. Directed toward independent research:

256A. Studies in Linguistics. Prerequisite: course 206.
Mr. Otero

256B. Studies in Dialectology. Prerequisite: course 209.
Mr. Robe

262A-262B-262C. Studies in Medieval and Renaissance Literature. Seminar, two hours:

262A. Lyric Poetry. Prerequisite: course 222.
Mr. Gimeno

262B. Epic Poetry. Prerequisite: course 222.
Mr. Gimeno

262C. Prose Writers. Prerequisite: course 223.
Mr. Gimeno

264A-264D. Studies in the Golden Age. Seminar, two hours:

264A. Poetry. Prerequisite: course 224.
Mr. Johnson, Mr. Morris, Mr. Rodríguez-Cepeda

264B. The "Comedia." Prerequisite: course 225.
Mr. Johnson, Mr. Rodríguez-Cepeda

264C. Studies in Prose of the Golden Age. Prerequisite: course 226.
Mr. Johnson, Mr. Rodríguez-Cepeda

264D. Don Quijote. Prerequisite: course 227.
Mr. Johnson, Mr. Rodríguez-Cepeda

270A-270B. Studies in 18th- and 19th-Century Spanish Literature. Seminar, two hours:

270A. Poetry, Drama, and Prose. Prerequisite: course 230.
Mr. Benítez

270B. The Novel. Prerequisite: course 231.
Mr. Benítez, Mr. Smith

272A-272D. Studies in 20th-Century Spanish Literature. Seminar, two hours:

272A. The Novel. Prerequisite: course 232 or 235.
Mr. Barcia, Mr. Morris

272B. The Theater. Prerequisite: course 233.
Mr. Barcia, Mr. Morris

272C. Poetry. Prerequisite: course 234.
Mr. Barcia, Mr. Morris

272D. The Essay. Prerequisite: course 235.
Mr. Barcia, Mr. Morris

277. Studies in Colonial Spanish American Literature. Seminar, two hours. Prerequisite: course 237.
Ms. Arora

278. Studies in 19th-Century Spanish American Literature. Seminar, two hours. Prerequisite: course 239.
Mr. Oviedo

280A-280D. Studies in Contemporary Spanish American Literature. Seminar, two hours:

280A. Modernist Poetry. Prerequisite: course 240.
Mr. Luzuriaga

280B. Post-Modernist Poetry. Prerequisite: course 243.
Mr. Oviedo

280C. Novel and Short Story. Prerequisite: course 244.
Mr. Reeve

280D. The Essay. Prerequisite: course 245.
Mr. Skirius

M286A-M286B-M286C. Studies in Hispanic Folk Literature. (Same as Folklore M286A-M286B-M286C.) Seminar, two hours:

M286A. The Romancero. Prerequisite: course 222.

M286B. Narrative and Drama. Prerequisite: course M249.
Ms. Arora, Mr. Robe

M286C. Ballad, Poetry, and Speech. Prerequisite: course M249.
Ms. Arora, Mr. Robe

310. The Teaching of Spanish in the Elementary School. Lecture, three hours. Prerequisite: course 115.

370. The Teaching of Spanish in the Secondary School. Lecture, three hours. Prerequisite: course 115.

372. The Language Laboratory (½ course). Lecture, three hours. Preparation of materials. Equipment, techniques, and problems related to the operation of the language laboratory.
Mr. Otero

375. Teaching Apprentice Practicum (¼ to 1 course). 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. Quícoli

495. The Teaching of Spanish in the University. Prerequisite: graduate standing in the department. Basic concepts of modern theories of language and language acquisition which underlie modern methods of second-language teaching. Methods of second-language teaching: pattern drill, "inductive grammar" (de Sauzé, Pucciani and Hamel, Barcia), and others. Teaching practice. Observation and discussion of selected classes. Lesson preparation and execution. Test construction.
Mr. Quícoli

596. Directed Individual Study or Research (1 to 2 courses). 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 (1 to 2 courses). Prerequisites: official acceptance of candidacy by the department and consent of graduate adviser. Individual preparation for the M.A. comprehensive examination or the Ph.D. qualifying examinations. May be taken only once for each degree examination and only in the quarter that comprehensive or qualifying examinations are to be taken. S/U grading.

598. Research for M.A. Thesis (1 to 2 courses). Prerequisite: consent of guidance committee. Research in preparation of the M.A. thesis. S/U grading.

599. Research for Ph.D. Dissertation (1 to 2 courses). Limited to students who have passed the Ph.D. qualifying examinations. Research for and preparation of the Ph.D. dissertation. S/U grading.

Portuguese

Lower Division Courses

No credit will be 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.

8A-8B. Portuguese Conversation (½ course each). Discussion, three hours. Prerequisite: course 3 with a grade of B or better.

25. Advanced Portuguese. Prerequisite: course 3 or equivalent.

M42. Civilization of Spain and Portugal. (Same as Spanish M42.) Required of majors. Highlights of the civilization of Spain and Portugal, with emphasis on their artistic, economic, social, and historical development as background for upper division courses. Conducted in English. Mr. Cruz-Salvadores

M44. Civilization of Spanish America and Brazil. (Same as Spanish M44.) Required of majors. Highlights of the civilization of Spanish America and Brazil, with emphasis on their artistic, economic, social, and historical development as background for upper division courses. Conducted in English.
Mr. Reeve, Mr. Skirius

Upper Division Courses

100. Phonology and Pronunciation. Lecture, three hours. Analysis of the phonetic and phonemic systems of Portuguese, with special emphasis on the correlation between the phonemic and graphemic systems. Exercises and drills directed toward individual needs. Mr. Quícoli

101A. Advanced Reading and Conversation. Lecture, three hours. Reading and discussion of writings by modern Brazilian and Portuguese authors.

101B. Advanced Composition and Style. Lecture, three hours. Correction of student's compositions and analysis of basic stylistic elements.

102A-102B. Intensive Portuguese. Prerequisite: advanced foreign language experience (other than Portuguese) or consent of instructor. An intensive course stressing both speaking and reading skills designed to cover the equivalent of three quarters of the traditional pattern and to meet the peculiar needs of advanced (upper division and graduate) students who are specializing primarily in foreign languages, linguistics, comparative or romance literature.

103. Syntax. Lecture, three hours. A review of the patterns of the Portuguese language: the verb system, syntax of preposition, word pattern, and word distribution. Mr. Quícoli

M118. History of the Portuguese and Spanish Languages. (Same as Spanish M118.) Lecture, three hours. Prerequisite: course 100. Major features of the development of the Portuguese and Spanish languages from their origins in Vulgar Latin to modern times. Contributions of other languages to the formation of Portuguese and Spanish.
Mr. Otero, Mr. Quícoli, Mr. Smith

120A. Survey of Portuguese Literature. Lecture, three hours. First half of an introduction to the principal movements, authors, and works of Portuguese literature. Mr. Dias

120B. Survey of Portuguese Literature. Lecture, three hours. Second half of an introduction to the principal movements, authors, and works of Portuguese literature. Mr. Dias

121A. Survey of Brazilian Literature. Lecture, three hours. First half of an introduction to the principal movements, authors, and works of Brazilian literature. Mr. Hulet

121B. Survey of Brazilian Literature. Lecture, three hours. Second half of an introduction to the principal movements, authors, and works of Brazilian literature. Mr. Hulet

C124. Medieval Portuguese Literature. Lecture, three hours. The main genres of medieval Portuguese and Galician literature, with emphasis on at least one representative work for each. May be concurrently scheduled with course C242A. Mr. Dias

C126. Renaissance and Baroque Portuguese Literature. Lecture, three hours. The main genres of Renaissance and baroque literature, with emphasis on at least one representative work for each. May be concurrently scheduled with course C242B. Mr. Dias

C127. Colonial Brazilian Literature. Lecture, three hours. A study of the most important authors and literary currents to 1830. May be concurrently scheduled with course C243A. Mr. Hulet

C128. 18th- and 19th-Century Portuguese Literature. Lecture, three hours. The main manifestations of thought and literature from 1700 to 1900, with emphasis on representative works. May be concurrently scheduled with course C242C. Mr. Dias

C129. Romanticism in Brazil. Lecture, three hours. A study of representative trends and authors. May be concurrently scheduled with course C243B. Mr. Hulet

C135. Naturalism, Realism, and Parnassianism in Brazil. Lecture, three hours. A study of representative trends and authors. May be concurrently scheduled with course C243C. Mr. Hulet

C136. Contemporary Portuguese Literature. Lecture, three hours. A study of representative trends and authors. May be concurrently scheduled with course C242D. Mr. Dias

C137. Contemporary Brazilian Literature. Lecture, three hours. A study of representative trends and authors. May be concurrently scheduled with course C243D. Mr. Hulet

140A-140B. Luso-Brazilian Literature in Translation. Lecture, three hours:

140A. Portuguese Literature. Class reading and analysis of selected works in translation. Classroom discussion, papers, and examinations will be in English. Mr. Dias

140B. Brazilian Literature. Class reading and analysis of selected works in translation. Classroom discussion, papers, and examinations will be in English. Mr. Hulet

199. Special Studies (½ to 1 course). Prerequisite: consent of adviser and instructor. Eight units may be applied toward the major requirements.

Graduate Courses

M200. Bibliography. (Same as Spanish M200.) Discussion, three hours. Identification and analysis of bibliographical sources for work by doctoral candidates in their fields of specialization.
Mr. Benítez, Mr. Rodríguez-Cepeda

M201. Literary Criticism. (Same as Spanish M201.) Discussion, three hours. Definition and discussion of methods of literary criticism.
Mr. Benítez, Mr. Otero

M203A-M203B. The Development of the Portuguese and Spanish Languages. (Same as Spanish M203A-M203B.) Prerequisites: courses 100, M118, or consent of instructor. Intensive study of the historical development of the Portuguese and Spanish languages from their origin in spoken Latin.
Mr. Otero, Mr. Smith

204A-204B. Transformational Grammar. Prerequisite: consent of instructor. Course 204A or consent of instructor is prerequisite to 204B. A transformational approach to the Portuguese language, focused especially on the syntactic component and its relations with other aspects of grammar. Mr. Quícoli

206. Portuguese Linguistics. Lecture, three hours. Prerequisite: consent of instructor. A study of theoretical synchronic linguistics of Portuguese.
Mr. Quícoli

C242A-C242D. Special Topics in Portuguese Literature. Lecture, two hours. Prerequisite: consent of instructor:

C242A. Medieval Portuguese Literature. May be concurrently scheduled with course C124. Mr. Dias

C242B. Renaissance and Baroque Literature. May be concurrently scheduled with course C126.
Mr. Dias

C242C. 18th- and 19th-Century Literature. May be concurrently scheduled with course C128.
Mr. Dias

C242D. Contemporary Portuguese Literature. May be concurrently scheduled with course C136.
Mr. Dias

C243A-C243D. Special Topics in Brazilian Literature. Lecture, two hours. Prerequisite: consent of instructor:

C243A. Colonial Literature. May be concurrently scheduled with course C127. Mr. Hulet

C243B. Romanticism in Brazil. May be concurrently scheduled with course C129. Mr. Hulet

C243C. Naturalism, Realism, and Parnassianism. May be concurrently scheduled with course C135.
Mr. Hulet

C243D. Contemporary Brazilian Literature. May be concurrently scheduled with course C137.
Mr. Hulet

M249. Hispanic Folk Literature. (Same as Folklore M249 and Spanish M249.) Seminar, three hours. Prerequisite: graduate standing. An intensive study of folk literature as represented in (1) ballad and poetry, (2) narrative and drama, (3) speech.
Ms. Arora, Mr. Robe

M251. Studies in Galegan-Portuguese and Old Spanish. (Same as Spanish M251.) Seminar, two hours. Prerequisites: courses M203A-M203B. Problems related to the historical development of Galegan-Portuguese and Old Spanish.
Mr. Otero, Mr. Smith

252A-252B-252C. Special Studies in Portuguese Literature. Seminar, two hours. Prerequisite: consent of instructor:

252A. Prose Fiction. Mr. Dias

252B. Poetry. Mr. Dias

252C. Theater. Mr. Dias

253A-253B-253C. Special Studies in Brazilian Literature. Seminar, two hours. Prerequisite: consent of instructor:

253A. Prose Fiction. Mr. Hulet

253B. Poetry. Mr. Hulet

253C. Theater. Mr. Hulet

370. The Teaching of Portuguese in the Secondary School. For future teachers in this field. Mr. Hulet

375. Teaching Apprentice Practicum (¼ to 1 course). 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. Quíoli

596. Directed Individual Study or Research (1 to 2 courses). 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.

597. Preparation for Graduate Examinations (1 to 2 courses). Prerequisites: official acceptance of candidacy by the department and consent of graduate adviser. Individual preparation for the M.A. comprehensive examination or the Ph.D. qualifying examinations. May be taken only once for each degree examination and only in the quarter that comprehensive or qualifying examinations are to be taken. S/U grading.

598. Research for M.A. Thesis (1 to 2 courses). Prerequisite: consent of guidance committee. Research in preparation of the M.A. thesis. S/U grading.

599. Research for Ph.D. Dissertation (½ to 2 courses). Limited to students who have passed the Ph.D. qualifying examinations. Research for and preparation of the Ph.D. dissertation. S/U grading.

Speech

232 Royce Hall, 825-3303

Professors

Waldo Woodson Phelps, Ph.D.
Walter Wilcox, Ph.D. *(Journalism), Chair*
Donald E. Hargis, Ph.D., *Emeritus*
Harrison M. Karr, Ph.D., *Emeritus*
Charles W. Lomas, Ph.D., *Emeritus*

Associate Professors

Paul Irwin Rosenthal, Ph.D. *(Communication Studies)*
Ralph Richardson, Ph.D., *Emeritus*

Lecturers

Dale V. Atkins, Ph.D.
Steven A. Doyle
Eugenie Dye, Ph.D.
Marde S. Gregory
Thomas E. Miller
Sonya H. Packer

There is no major in speech; however, the following undergraduate courses are offered for interested students:

Lower Division Courses

1. Principles of Oral Communication. Prerequisite: satisfaction of Subject A requirement. Theory and practice of informal public speaking, including selection of content, organization of ideas, language, and delivery; practice in extemporaneous and manuscript speaking; training in critical analysis through reading and listening to contemporary speeches.

2. Public Speaking and Discussion. Prerequisite: course 1. A continuation of course 1, with special emphasis on group discussions, panels, symposia, debates, and formal public speaking. Critical analysis of speeches in both contemporary and historical settings.

Upper Division Courses

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

170. Rhetoric of Winston Churchill. An intensive study of the speeches of Winston Churchill during the wilderness years, the 1930s, and the wartime years. The background and the impact of these speeches also are examined. Mr. Phelps

171. The Rhetoric of Franklin Roosevelt. An intensive study of major speeches and fireside chats during Roosevelt's presidency. The background and the impact of these speeches also are examined. Mr. Phelps

172. Rhetoric of Harry S. Truman. An intensive study of the major speeches of President Harry S. Truman. The background and the impact of these speeches are examined in relation to the social and political context of the Truman years. Mr. Phelps

175. The Speeches of Abraham Lincoln. Students will be introduced to the full span of Lincoln's speaking career. His methods of preparation, the influence of associates, his style, his delivery, and lastly, his effect upon the nation will be studied. Mr. Richardson

190A-190B. Forensics (½ course each). Prerequisite: consent of instructor. May be repeated once for credit. Mr. Miller

191. Analysis and Briefing (½ course). 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 topic course involving intensive study of discourse associated with a single major issue or personality. Mr. Phelps

199. Special Studies (½ to 1 course). Prerequisites: senior standing and consent of instructor.

Study of Religion
(Interdepartmental)

5387 Bunche Hall, 825-3780

Professors

Marilyn Adams, Ph.D. *(Philosophy)*
Robert Merrihew Adams, Ph.D. *(Philosophy)*
Rogers Albritton, Ph.D. *(Philosophy)*
Amin Banani, Ph.D. *(Persian and History)*
Arnold Band, Ph.D. *(Hebrew)*
Robert L. Benson, Ph.D. *(History)*
Kees W. Bolle, Ph.D. *(History), Chair*
Seeger A. Bonebakker, Ph.D. *(Arabic)*
Giorgio Buccellati, Ph.D. *(History)*
Claus-Peter Clasen, 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 Hovannisian, Ph.D. *(History)*
Daniel W. Howe, Ph.D. *(History)*
Henry Ansgar Kelly, Ph.D. *(English)*
Bengt T. M. Löfstedt, Ph.D. *(Medieval Latin)*
Jacques Maquet, Ph.D. *(Anthropology)*
Afaf Marsot, D.Phil. *(History)*
Ronald J. Mellor, Ph.D. *(History)*
Ismail Poonawala, Ph.D. *(Arabic)*
Merrick Posnansky, Ph.D. *(History and Anthropology)*
Douglass Price-Williams, Ph.D. *(Anthropology and Psychiatry)*
Jaan Puhvel, Ph.D. *(Classics and Indo-European Studies)*
Hartmut E. F. Scharfe, Ph.D. *(Indic Studies)*
Hanns-Peter Schmidt, Ph.D. *(Indo-Iranian)*
Stanislav Segert, Ph.D. *(Northwest Semitics)*
Johannes Wilbert, Ph.D. *(Anthropology)*
Milton V. Anastos, Ph.D., *Emeritus (Classics)*
Ensho Ashikaga, M.Litt., *Emeritus (Oriental Languages)*
Kenneth K.S. Chen, Ph.D., *Emeritus (Oriental Languages)*
Hilda Kuper, Ph.D., *Emeritus (Anthropology)*
Gerhart B. Ladner, Ph.D., *Emeritus (History)*
William A. Lessa, Ph.D., *Emeritus (Anthropology)*

Associate Professors

John Callendar, Ph.D. *(Egyptology)*
William R. LaFleur, Ph.D. *(Oriental Languages)*
Steven Lattimore, Ph.D. *(Classics)*
Michael G. Morony, Ph.D. *(History)*
Philip L. Newman, Ph.D. *(Anthropology)*
Herbert E. Plutschow, Ph.D. *(Oriental Languages)*
Yona Sabar, Ph.D. *(Hebrew)*

Assistant Professors

Edward G. Berenson, Ph.D. *(History)*
Ruth Bloch, Ph.D. *(History)*
Robert A. Hill, M.Sc. *(History)*
Deborah Klimburg-Salter, Ph.D. *(Art History)*
Deborah Lipstadt, Ph.D. *(Jewish Studies)*
Kenneth M. Morrison, Ph.D. *(History)*

Lecturer

David L. Lieber, D.H.L. *(Hebrew)*

Associate Professor

S. Scott Bartchy, Ph.D., *Adjunct (History)*

Scope and Objectives

The UCLA major in the study of religion has a twofold purpose. In the first place it is designed to give students a broad humanistic perspective. It introduces students to several religious traditions and thus to an appreciation of the very nucleus of civilization in various periods of history and various parts of the world, as well as to an understanding of fundamental human orientations. In the second place, the program asks the student to select one particular religious tradition for study in greater depth. Cohesion and integrity in the program are furthered by courses dealing with philosophical problems in religion and with general anthropological reflections.

The program requires one year of language study which should be related to the major tradition of concern. This minimum requirement

will allow every student to develop some idea of the basic problems in understanding religious texts. Students contemplating graduate study will generally do more than fulfill the minimum requirement.

Bachelor of Arts Degree

Preparation for the Major

Required: Anthropology 22; Philosophy 2; History 4; two courses chosen from History 1A, 1B, 1C, 9A, 9B, 9C, 9D, 10A, 10B.

The Major

Required: A minimum of 13 upper division courses and three related courses in foreign language. These must include History 193A or 193E; Anthropology 133R or 156; two courses from Philosophy 175, 177B or 195, 193.

In addition, you must select one of the nine groups below as your main area of study and take three courses in that main area and three related courses in foreign language as indicated. (The language courses may be either upper or lower division. If any requirements have been satisfied prior to admission to the program, they will be honored upon 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 161, 162, 166A, 166B, History 197 (Roman History: Christianity and Imperial Rome); three courses in either Latin or Greek.

Group 4: Israel and Judaism — Three courses from English 108A, History M191A, M191B, 192A, 192B, Hebrew 120, 130, 135, 220, Jewish Studies 110, 150A, 150B, 151A, 151B, 199, Ancient Near East 170, 171; three courses in Hebrew.

Group 5: Christianity — Three courses from Philosophy 105, 106, 107, English 108B, History 116A, 116B, 119, 120, 121A, 121B, 125B, 150A, 150B, 150C, 194A, 194B, Ancient Near East 170, Classics M170A; three courses in either Latin or Greek.

Group 6: Islam—Three courses from Philosophy 104, History 106A, 107A, 107B, Arabic 150A, 150B, Iranian 150A, 150B; three courses in Arabic.

Group 7: South Asia — Three courses from History 188A, 193B, 193C, 197 (South Asian Religions), Oriental Languages 167, Iranian 170; three courses in Sanskrit.

Group 8: Far East—Three courses from History 193C, Oriental Languages 172, 173, 174; three courses in Sanskrit, Chinese, or Japanese.

Group 9: Traditional and Nonliterate Cultures — Three courses from Anthropology 171, 174P, 177, Folklore and Mythology M111, M123A, M125, M129, 130, History 157A, 157B, 157C, Linguistics M150; three courses in a language chosen in consultation with an instructor in these areas.

Honors Program

The honors program provides exceptional students with an opportunity to do independent research under the tutorial guidance of a faculty member. If you are admitted to honors, you should take three 199 courses under the guidance of the sponsoring professor. These courses will be taken in the senior year and will 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 Kees Bolle at the program address.

Teaching Preparation

The College of Letters and Science offers a program of courses through which you may earn 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, 825-4331

Scope and Objectives

Cities and organizations are multifaceted and can usefully be explored from more than one disciplinary perspective. The Special Program in Urban Studies or Organizational Studies brings together students and faculty from the Departments of History, Political Science, Economics, Sociology, Psychology, and Geography who share an interest in the modern city or in modern organizations. The programs give students a solid grounding in the urban or organizational perspectives and methods of at least two departments. Each of the programs must be taken in conjunction with a major in the social sciences or may be considered as an individual major.

Special Undergraduate Programs

You may elect to combine one of these programs with a departmental major and may petition to have the area of specialization recognized with the bachelor's degree.

The option of completing an individual major in urban studies or organizational studies is also open to qualified students. For more information on individual majors, see the beginning of Chapter 5.

If you have a departmental major, you should seek advising in your major department. If you are interested in the individual major, consult a Letters and Science counselor.

Courses within each specialization must be taken for a letter grade. The specializations must be taken in conjunction with a major in the division of social sciences.

Preparation for the Programs

Required: At least five of the following courses appropriate to the courses to be taken in the specialization: Economics 1 and 2; Sociology 18 and 109 or equivalent; Political Science 1; Psychology 10; Sociology 1 or 101; Geography 4.

Urban Studies Specialization

Required: (1) At least three courses outside the major department chosen from Political Science 182A, Sociology 125, Economics 120, Geography 150, Anthropology 167, Psychology 168; (2) a minimum of three courses chosen 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 chosen from Political Science 181, 190, Sociology 121, 141, Management 190; (2) a minimum of three courses chosen from the following suites outside the major department: Political Science 142, 145, 146; 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, Political Science, at the above address.

Women's Studies
(Interdepartmental)

240 Kinsey Hall, 206-8101

Scope and Objectives

The Women's Studies Program, established in 1975, is an interdisciplinary academic program offering an undergraduate specialization. Students completing a bachelor's degree may petition to receive a Women's Studies Specialization in addition to a major in their chosen discipline.

The program spans departments, disciplines, and ideologies. It integrates the study of women — their social contributions and cultural experiences — into traditional academic fields, drawing on new research and theories. Women's studies offers tools for personal growth, new knowledge about women and men, and new perspectives for understanding the past and present and influencing the future.

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 research in women's studies and has established a Student Association for Women's Studies. A library of information related to women's issues 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.

Special Undergraduate Program

Admission

A women's studies committee composed of the director, faculty members, and a student representative sets program policies and curricula. To be admitted to the specialization, you must have a grade-point average of 2.0 or higher and must formally register with the program. You are encouraged to declare your specialization in women's studies as early as possible and to discuss your proposed course of study with the director or undergraduate adviser.

Requirements for the Specialization

Students participating in this program are required to complete both a departmental major and the women's studies specialization. There are no lower division prerequisites. You must take two core courses (Women's Studies 100 and M197), plus six upper division courses from the "Supporting Courses" list. At least two of the six courses must be taken in departments other than the major department, and two may be experimental courses offered by the Council on Educational Development (CED).

You are encouraged to draw on the University's diverse resources in creating your specialization program. You may pursue traditional and/or innovative subjects in fields ranging from the humanities and fine arts to the social and life sciences. You may petition to have diverse courses accepted, including courses outside the College of Letters and Science, independent studies, or field study courses.

All courses applied to the specialization must be taken for a letter grade, and you must have a GPA of 2.5 or higher in women's studies courses to receive credit for completing the program. Courses in which you receive a grade below C may not be applied toward the specialization.

Upper Division Core Courses

100. Introduction to Women's Studies. Lecture, three hours. Intended for sophomores and first-quarter juniors, the course is required of students who wish to graduate with a Specialization in Women's Studies. Introduces students to the interdisciplinary and cross-cultural study of women in preparation for further investigation within traditional disciplines. Ms. Henley

185. Special Topics in Women's Studies. Prerequisites: upper division standing and one prior course in women's studies. Designed to allow specialized or advanced study in an area within women's studies.

M197. Senior Seminar in Women's Studies. (Formerly numbered 197.) (Same as Education M197.) Discussion, three hours; laboratory, one hour. Prerequisites: course 100 plus two other women's studies courses; for seniors and juniors: consent of instructor. Designed for students completing work in women's studies. Each student pursues research on a specific topic concerning women, explores frameworks for understanding female experience (biological, economic, historical, and psychological), and refines methods for research. Fulfills social science or humanities breadth requirement. Ms. Astin, Ms. Henley

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. Ms. Henley and the Staff

Supporting Upper Division Courses

M107. Women in Literature. (Same as English M107.) Prerequisite: satisfaction of Subject A requirement. A survey of literary works by and about women, the course examines 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. Rowe, Ms. Yeazell

M137E. Work Behavior of Women and Men. (Same as Psychology M137E.) Prerequisites: course 100 or Psychology 10 and junior or senior standing. Examination of work behavior of men and women. Topics include antecedents of career choice, job finding, leadership, performance evaluation, discrimination and evaluation bias, job satisfaction, and interdependence of work and family roles.

M148. Women in Higher Education. (Same as Education M148.) Prerequisite: upper division standing. The course examines the education and career development of women in higher education. Specifically, it focuses 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

M158. Women in Italy. (Same as Italian M158.) The course is designed with the intent of examining the role that women have played in Italian society. It will concentrate 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 will be presented and discussed, together with other data derived from literature and art. Mrs. Cottino-Jones

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. Levine

M165. The Psychology of Sex Differences. (Same as Psychology M165.) The course considers 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.

M172. The Afro-American Woman in the U.S. (Same as Afro-American Studies M172 and Psychology M172.) Prerequisite: upper division standing. The course will focus on the impact of the social, psychological, political, and economic forces which impact upon the interpersonal relationships of Afro-American women as members of a large society and as members of their biological and ethnic group.

Supporting Courses in Other Departments

Anthropology 151. Marriage, Family, and Kinship

Asian American Studies 197. Topics in Asian American Studies: 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

English 180X. Specialized Studies in Literature

French 158. The Woman in French Literature

History 136J. Topics in European History: Women

156C-156D-156E. Social History of American Women

197. Undergraduate Seminar

Philosophy 192. Philosophical Analysis of Issues in Women's Liberation

Political Science 149A-149Z. Special Studies in Politics: Women and the Political Process

C197A-C197F. Seminars for Majors

Psychology 137C. Interpersonal Relations

Public Health 176. Human Sexuality and Sexual Health

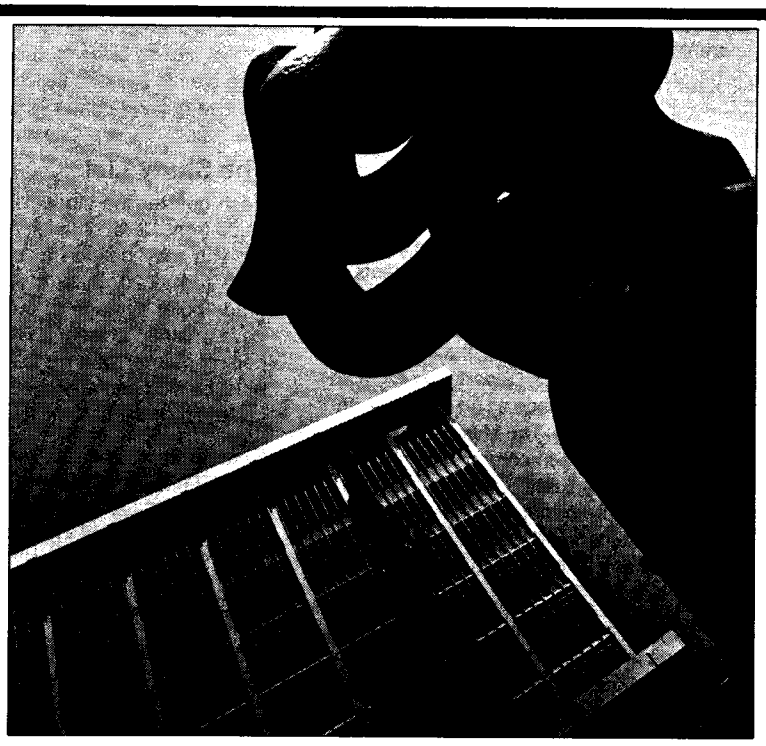
Sociology 102A-102Z. Special Topics in Sociology: Sociology of Women

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

197. Undergraduate Seminar

College of Fine Arts

Robert H. Gray, Dean



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 Arts. 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.

College of Fine Arts

A265 Murphy Hall, 206-6465

The four departments of the College of Fine Arts both borrow from and add to the rich and varied cultural life of the campus. Students in the Department of Art, Design, and Art History are taught to understand and become interested in the broad panorama of the visual arts, while those in the Dance Department have an opportunity to study dance as an art form within an academic setting. The Music Department offers specializations in composition and theory, music education, ethnomusicology, history and literature, performance, and systematic musicology. Students in the Theater Arts Department major in either theater or motion picture/television.

An informative brochure on the UCLA College of Fine Arts is published annually. To obtain a free copy, contact the Student Services Office, A239 Murphy Hall, UCLA, Los Angeles, CA 90024.

Majors and Degrees Offered

Art	B.A., M.A., M.F.A.
Art History	B.A., M.A., Ph.D.
Dance	B.A., M.A.
Design	B.A., M.A., M.F.A.
Ethnic Arts: Interdisciplinary Studies	B.A.
Motion Picture/Television	B.A., M.A., M.F.A., Ph.D.
Music	B.A., M.A., M.F.A., Ph.D.
Theater	B.A., M.A., M.F.A., Ph.D.

If you are interested in obtaining teaching credentials for California elementary and secondary schools, consult the Graduate School of Education.

Bachelor of Arts Degree

Admission

In addition to the University of California Undergraduate Application, some departments in the College of Fine Arts may require auditions, portfolios, or evidence of creativity. Detailed information on departmental requirements will be mailed to you upon receipt of the application. Deadline date for applications is November 30, 1983, for admission in Fall Quarter 1984.

The Study List

Each quarter the student Study List must include from 12 to 17 units. After your first quarter, you may petition to carry more than 17 units (up to 20 units) 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 no failures. The petitions must be filed and approved by the Dean of the college by the end of the fourth week of instruction.

If you have not filed your Study List by the end of the second week of classes, you must secure 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 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.

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. A course may be used to satisfy only one requirement (e.g., University or college or major requirement). These requirements are as follows.

University Requirements

For information on the Subject A: English Composition and American History and Institutions requirements, see "Undergraduate Degree Requirements" in Chapter 2 of this catalog.

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 will 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 1983-84.

English Grammar 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.

English Composition and Literature (4 Units)

English 4 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)

(1) Three quarters of one college language other than high school language or (2) level three (four units) of the same language taken in high school are required, with the other eight units made up from courses below in science, social science, or humanities. Foreign 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 another natural science or in mathematics are required.

Physical and Biological Science Courses: Astronomy; atmospheric sciences; biology (except 10, 11, 21, 30); chemistry (except 2 for students with high school chemistry); earth and space sciences (except 8, 20); honors collegium, Module III; Kinesiology 12, 13, 14 only; microbiology; physics (except 10).

Other Natural Science and Mathematics Courses: Anthropology 1, 2, 11, 124 only; Biology 10; Earth and Space Sciences 8, 20; Geography 1, 2, 5 only; mathematics (no remedial, historical, or statistical); Physics 10; Psychology 15, 115, 116 only.

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.

Other Social Science Courses: Anthropology (except 1, 2, 11, 124, 156); economics (principles, history, and theory only); geography (except 1, 2, 5); history (except medical or geological); honors collegium (four units from Module I or four units from Module II); near Eastern languages (Ancient Near East 163A-163B, Jewish Studies 140A-140B, 141, 142); political science (except courses dealing with civil rights and law); psychology (except 15, 115, 116, education, counseling, family life, or child care); sociology (except mass communications, civil rights, education, law, criminology, marriage, family life, or child care). Note: Survey courses in history which cover "antiquity to present" may be applied only on history after 1600 or on other social science courses.

Humanities (12 Units)

One course in the arts, one course in literature, and one course in philosophy and/or religion are required. Performance, studio, or movie/film courses do not meet this requirement. Courses in your major department may not be applied toward this requirement.

The Arts Courses: Architecture 189, 191; Art 50 series or 101A to 122; Classics 151B, 151C, 151D (except art history majors); Dance 140A-146, 151A, 151B; Folklore and Mythology 118, 124; Music 2A-2B, 113A-113B, 130-135C, 138-148, 151A-153C, 157-159, 188A-188F, 189; Theater Arts 5A, 5B, 5C, 102A-105, 189.

Literature Courses: Selected courses in English, ethnic, American, or foreign literature, including works in translation; Classics 10, 20; Folklore and Mythology 15, 101, 108; Germanic languages (Old Norse Studies 40); honors collegium (four units from Module V); humanities, except those that are cross-listed (C courses); near Eastern languages (Iranian 140, Jewish Studies 150A-150B, 151A-151B); Oriental Languages 129.

Philosophy/Religion Courses: Anthropology 156; Classics 166A, 166B; near Eastern languages (Iranian 170, Islamics 110); Oriental Languages 139, 172-174, 183, 184; philosophy (all lower division and selected upper division courses).

A few course areas that may NOT be applied toward the general college requirements are 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, and 199 courses or field studies (400 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 100-199). One course (four units) of physical education activities may be applied toward the degree. 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 1-199, 200, 300, 400, or 800 series may not be applied toward the degree.

Credit earned through the CEEB Advanced Placement Tests may be applied on 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 will be 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 these 35 units may be completed in UCLA Summer Session.

Courses in University Extension (either class or correspondence) may not be used to fulfill 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 as "Preparation for the Major" (lower division) must be completed before upper division major work is undertaken.

You must complete your major with a scholarship average of at least a 2.0 (C) in all courses in order to remain in the major and must be recommended by the chair of your major department. All courses in your major department must be taken for a letter grade.

As changes in major requirements occur, you are expected to satisfy the new requirements insofar as possible. Hardship cases should be discussed with the departmental adviser, and petitions for adjustment should be submitted to the Dean of the college when necessary.

Any department offering a major in the College of Fine Arts may require a general 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 three consecutive quarters in residence, and you will be placed on probation if you fail to pass these units. You will be subject to dismissal if you fail at least 32 units in three consecutive regular quarters in residence.

Ethnic Arts: Interdisciplinary Studies

An intercollege, interdepartmental major in ethnic arts is 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 breadth requirements of that college. Counseling is available in the department of your concentration. For details on this major, see the "Ethnic Arts" section later in this chapter.

Honors

To receive **Dean's Honors** in the College of Fine Arts, you must have at least 12 graded units per quarter with a grade-point average of 3.8 for less than 16 units of work (3.7 GPA for 16 or more units). The honor will be posted to your transcript for the appropriate quarter.

Honors with the Bachelor's Degree are awarded to students with superior grade-point averages. To be eligible, you must have completed 80 or more units for a letter grade at the University of California. The levels of honors and the requirements for each level are: *Cum laude*, an overall average of 3.55; *Magna cum laude*, 3.65; *Summa cum laude*, 3.8.

Counseling and Program Planning

The College of Fine Arts offers services in preadmission advising, program planning in the major and general degree requirements, and individual meetings with departmental counselors and faculty, including a yearly de-

gree check sent to each student. Prior to registration and enrollment in classes, each new student is assigned to a counselor in the major department. For further counseling information, contact the Student Services Office, College of Fine Arts, A239 Murphy Hall (825-9705).

Graduate Study

The advanced degree programs offered in the College of Fine Arts provide graduate students with unique research opportunities when combined with special resources, such as the Film, TV, and Radio Archives, the University Research Library, the special collections of the Art, Music, and Theater Arts Libraries, and the University's exhibition and performance halls.

The College of Fine Arts cooperates with UCLA's Graduate School of Management in offering a Master of Business Administration (M.B.A.) in Arts Management. Participating students serve quarter-long internships with such professional arts organizations as the Los Angeles County Museum of Art, the Mark Taper Forum, and the Los Angeles Philharmonic Orchestra.

The Producers Program is a new M.F.A. management program being introduced in the Department of Theater Arts, 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 a foreign institution, each department in the college has limitations and additional requirements. In general, samples of your work (dance audition, art portfolio, playwriting sample, etc.) are required. Detailed information can be found in the departmental listings which follow.

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, 825-3281

Professors

Samuel Amato, B.F.A. *(Art)*
Albert Boime, Ph.D. *(Art History)*
William J. Brice *(Art)*
Raymond B. Brown, M.A. *(Art), Chair*
Jack B. Carter, M.A. *(Design)*
Susan B. Downey, Ph.D. *(Art History)*
Elliot J. Elgart, M.F.A. *(Art)*
Robert F. Heinecken, M.A. *(Art)*
Thomas Jennings, M.A. *(Design)*
J. Bernard Kester, M.A. *(Design)*
David M. Kunzle, Ph.D. *(Art History)*
Velizar Mihich (Vasa), *(Design)*
Lee Mullican *(Art)*
John A. Neuhart *(Design)*
Carlo Pedretti, M.A. *(Art History)*
Jan Stussy, M.F.A. *(Art)*
Otto-Karl Werckmeister, Ph.D. *(Art History)*

Emeritus Professors

Laura F. Andreson, M.A.
Alexander Badawy, D.I.A., Ph.D.
E. Maurice Bloch, Ph.D.
Archine V. Fetty, M.A.
Lester D. Longman, Ph.D., L.H.D., D.F.A.
Gordon M. Nunes, M.A.
Katharina Otto-Dorn, Ph.D.
Josephine P. Reps, M.A.
Frederick S. Wight, M.A.

Associate Professors

William C. Brown, M.A. *(Design)*
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 Saxe, B.F.A. *(Design)*
Nathan Shapira, Dottore in Architettura *(Design)*

Assistant Professors

James W. Bassler, M.A. *(Design)*
Irene A. Bierman, Ph.D. *(Art History)*
Cornelia K. Breitenbach, M.F.A. *(Design)*
Ioli Kalavrezou-Maxeiner, Ph.D. *(Art History)*
Deborah Klimburg-Salter, Ph.D. *(Art History)*
Alice M. McCloskey, M.A. *(Design)*
Martin J. Powers, Ph.D. *(Art History)*
Madeleine Sunkees, B.Ed., *Emeritus*

Assistant Professor

Edith A. Tonelli, Ph.D., *Adjunct (Art History)*

Visiting Lecturer

Jean S. Weisz, 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 and a Ph.D. in Art History.

Art courses include painting and drawing, sculpture, printmaking, photography, and new forms and concepts (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.

Design courses teach skills and organizational concepts necessary to application of art in contemporary life, including studies in visual communication (graphics, video, electronic imagery), costume, ceramics, glass, textiles, fiber, landscape, industrial, product, and interior space design.

Art history courses survey Western and non-Western art from earliest human history to the present. Students learn to treat artistic monuments and trends from a historical point of view, analytically rather than subjectively. This curriculum prepares students for careers in which a broad knowledge of art is important and provides students preparing for graduate study with a foundation for research requiring independent critical judgment.

Bachelor of Arts in Art

Preparation for the Major

Required: Courses 5A, 5B, 5C, 15, 21, 22, and one course selected from 50, 51, 54, 55, 56, 57.

The Major

Required: A minimum of 14 upper division courses, including 130, 133, 137, 140, 145, 147, 148, and 149, one course selected from 101A through 122, and five courses of art electives. It is recommended that students have each quarter's program approved by a departmental adviser.

Bachelor of Arts in Art History

Preparation for the Major

Required: Courses 50, 51, 54, 55, 56, 57.

The Major

Required: Twelve courses of upper division art history as follows:

(1) A total of nine courses from the following nine areas (at least three courses in one area for the concentration, at least one course each in four of the remaining areas, and two additional courses from any of the nine areas):

(a) 101A, 101B, 101C, 102
(b) 103A, 103B, 103C, 103D, 103E
(c) 104B, 104C, 104D
(d) 105A, 105B, 105C, 105D, 105E
(e) 106A, 106B, 106C, 108A, 108B, 109A, 109B, 109C, 109D, 120A, 121A

(f) 110A, 110B, 110C, 110D, 110E, 120B, 120C, 121B
(g) 112A, 112B, 112C
(h) 114A, 114B, 114C, 114D, C115A, C115B, C115C
(i) C117A, C117B, C117C, 118A, 118B, 118C, 118D, C119A, C119B

(2) Three courses of art history electives which may include Classics 151B, 151C, 151D, Art 125, 197, 199 (design or studio courses do not apply as electives).

In addition to the 12 courses (48 units) of upper division art history, three upper division courses from other departments related to the area of concentration are to be selected.

(3) Two quarters of one foreign language or equivalent. The language should be related to the concentration area and is in addition to the college foreign language requirements.

(4) It is recommended that students have each quarter's program approved by a departmental adviser.

Bachelor of Arts in Design

Preparation for the Major

Required: Courses 30A, 30B, 31A, 31B, 32A, 32B, four courses selected from 33A, 33B, 33C, 33D, 33E, 33F, and one course selected from 50, 51, 54, 55, 56, 57.

The Major

Required: A minimum of 12 upper division courses, including eight courses from 161A through 172B and four courses of art electives.

It is recommended that students 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

Design Specialty

Admission

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. Formal design area faculty review of graduate applicant portfolios takes place toward the end of the Fall and Winter Quarters.

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, costume, ceramics, glass, fiber structures, textiles, landscape design, industrial design, exhibition design.

Course Requirements

A minimum of 36 quarter units in the department (or non-departmental courses with the graduate adviser's consent) in courses numbered 100 to 299 (and possibly 596) is required, with a B average. These must include a minimum of 20 quarter units of design courses numbered above 200, of which at least eight units must be from Art 290A-290B-290C and of which at least eight units must be devoted to a comprehensive project in your area of study. In addition, eight quarter units of art history are required (if you have a B.A. or B.F.A. in Art which includes a background in the history of art, you may substitute eight units in other courses that are germane to your graduate pursuit).

No more than two 596 courses (eight units) may be applied toward the 36 units required for the degree.

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.

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).

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 limits to the variations, extent, or value of these designations is intended.

Course Requirements

A minimum of 36 quarter units in the department in courses numbered 100 to 299 is required, with a B average or better.

Within those 36 units, a minimum of 20 quarter units in the 200 series must be taken in the field of specialization.

An additional 36 quarter units of art history, theory, and criticism in undergraduate and/or graduate study are required (for students with little or no art history in undergraduate work, some or all of these units may be taken as electives beyond the 20 units of graduate coursework required). Subjects related to your special interest may be substituted by petition.

A maximum of two 596 courses (eight units) may be applied toward the 36 units required for the degree.

Comprehensive Examination Plan

Each degree is granted on the basis of the quality of your 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.

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 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 (grade of B or better and not including studio courses), with at least two courses in each group noted below. Specific areas may not be offered in satisfaction of more than one requirement.

Group A: (1) Egyptian, (2) ancient Near East, (3) classical, (4) medieval, (5) Renaissance, (6) baroque, (7) modern, and (8) American.

Group B: (1) African, (2) oceanic, (3) Native North American, (4) pre-Columbian, (5) Islamic, (6) Indian, (7) Chinese, and (8) Japanese.

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

of 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 Affairs Assistant, Department of Art, Design, and Art History 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, Indian) or in pre-Columbian art history. Students majoring in Chinese or Japanese art history must substitute either Chinese or Japanese respectively for either French or German. Those majoring in Indian art history must substitute, for either French or German, an appropriate classical research language of India. 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 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 ETS examination with a minimum score of 600, (3) by enrolling in and completing with a minimum grade of B, UCLA's French 5, German 6, and/or Spanish 25. One of these language requirements must be satisfied by the end of the second quarter of residence and the other by the end of the fifth. Students majoring in an Asian art history area must satisfy their European language requirement by the end of the fifth quarter of residence and may do so in any of the three ways listed above. Their Asian 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, and no more than two may be 596 courses. You must take course 201, four courses in the major, and two courses in each minor.

Thesis Plan

The thesis committee is established upon completion of all course requirements. At the same time, you select a thesis topic in your major field. This 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

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 usually 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, costume, ceramics, glass, fiber structures, textiles, landscape design, industrial design, exhibition design.

Course Requirements

A minimum of 72 quarter units of design courses numbered 100 to 299 is required, of which at least eight units must be from Art 290A-290B-290C and of which at least 12 units must be devoted to a comprehensive project in your area of study. A minimum of 40 quarter units of art history in undergraduate or graduate study is also required. For students with little or no art history in undergraduate work, some or all of these units may be taken as electives beyond the 40 units of graduate coursework required. You may substitute a maximum of 12 units in other courses that are germane to your graduate pursuit, with the faculty adviser's consent.

No more than three 596 courses may be applied toward the 72 units required for the degree.

Comprehensive Examination Plan

Same as the plan offered for the Master of Arts degree in Art (Design Specialty), as noted above.

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. will 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 limits to the variations, extent, or value of these designations is intended.

Course Requirements

A minimum of 72 quarter units in the department in courses numbered 100 to 299 is required, with a B average or better.

Within those 72 units, a minimum of 40 quarter units in the 200 series must be taken in the field of specialization.

An additional 40 quarter units of art history, theory, and criticism in undergraduate and/or graduate study are required (for students with little or no art history in undergraduate work, some or all of these units may be taken as electives beyond the 40 units of graduate coursework required). Subjects related to your special interest may be substituted by petition.

Comprehensive Examination Plan

Same as the plan offered for the Master of Arts degree in Art (Art Specialty), as noted above.

Ph.D. in Art History

Admission

The M.A. in Art History is required for admission to the Ph.D. degree program. An M.A. in Art History from another institution may be accepted as equivalent to that from UCLA or the holder may be accepted into the program at a stage determined by the graduate review committee. All incoming Ph.D. students must have taken and passed with a grade of B or better at least two courses (upper division and/or graduate) in areas not related to the proposed major (as outlined in M.A. in Art History course requirements). Deficiencies must be made up during the first two quarters of 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 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, of which one must be a detailed letter of assessment and endorsement from your major adviser for the M.A.

(4) A written statement from the intended Ph.D. major adviser of willingness to supervise your Ph.D. work.

(5) Evidence of reading fluency in two appropriate foreign languages.

Students applying directly to the Ph.D. program from the M.A. in Art History program at UCLA follow a slightly modified procedure. For details, see the graduate affairs assistant.

A reading knowledge of French and German is requisite for admission at the Ph.D. level for those majoring in all areas except Asian and pre-Columbian. You may demonstrate this knowledge by submitting an ETS score of 600 or better, taking and passing the relevant department language examination(s), or completing UCLA's German 6 and/or French 5 with a grade of B or better.

Students intending to major in an Asian art history area must demonstrate, by the means outlined above, reading fluency in either French or German. In addition, they must complete with a grade of B or better six consecutive quarter courses (or equivalent) in an appropriate Asian language. Determination of the appropriate language and acceptable equivalencies should be worked out in advance with the intended major adviser.

Students intending to major in pre-Columbian art history must demonstrate, by the means outlined above, reading fluency in German and Spanish. In the latter case, UCLA's Spanish 25, passed with a grade of B or better, fulfills the requirement.

Students who have passed a required foreign language at another institution should consult the chair of the department's language committee to determine if their previous examination is acceptable.

Prospective students may contact the Graduate Affairs Assistant, Department of Art, Design, and Art History, 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

Upon 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 of residence. No further repetition will be allowed.

Upon passing the written comprehensive examination, you select a dissertation topic; the members of your doctoral committee are then nominated, and the committee is appointed by the Dean of the Graduate Division.

After having submitted a dissertation proposal, you then take the University Oral Qualifying Examination, given by your doctoral committee. Assuming there is no more than one no pass vote, you may initiate the procedure to become advanced 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.

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.

15. Intermediate Art. Studio, eight hours; five hours arranged. Prerequisites: courses 5A, 5B, 5C. Continuation of courses 5A, 5B, 5C, with increased emphasis on individual creative development.

21. Analysis and Criticism. Prerequisites: courses 5A, 5B, 5C, 15. Analysis and criticism of individual creative work and ideas.

22. Art and Artists/History and Theory. Lecture/discussion, three hours. Discussion and analysis of artists and art, historical and contemporary.

30A. Nature of Design. Lecture, three hours; discussion, one hour. Open to nonmajors; not open for credit to students with credit for former course 30A. Understanding the design process, with emphasis on development of a visual language; a study of historic, scientific, technological, economic, and cultural factors influencing design in our physical environment.

30B. Design Resources. Lecture/discussion, three hours. Prerequisite: course 30A. Investigation of resources for creativity as an introduction to research.

31A. Fundamentals of Design: Color. 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. 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. Demonstration, discussion, and laboratory, eight hours. Course 31A may be taken concurrently. Not open for credit to students with credit for former course 32A. Translation of perception through delineation, drawing, and other descriptive media. Mr. Vasa in charge

32B. Visual Presentation. Demonstration, discussion, and laboratory, eight hours. Prerequisite: course 32A. Course 31B may be taken concurrently. Translation of perception through delineation, drawing, and other descriptive media. Mr. Vasa in charge

33A. Materials and Processes: Ceramics (½ course). Demonstration, discussion, and laboratory, four hours. Introduction to processes and media in design. Forming and processing techniques in traditional and contemporary ceramics. May be repeated once. Mr. Saxe in charge

33B. Materials and Processes: Visual Representation (½ course). Demonstration, discussion, and laboratory, four hours. Introduction to processes and media in design. Use of drafting instruments. Measuring and construction methods. Orthographic and isometric projection. Information analysis and visualization necessary to support the design task. May be repeated once.

33C. Materials and Processes: Graphic Processes (½ course). Demonstration, discussion, and laboratory, four hours. Introduction to processes and media in design. Photography as a means of depicting and recording design concepts. Introduction to photomechanical techniques and photographic generation of images; introduction to graphic presentation production. May be repeated once.
Mr. Neuhart in charge

33D. Materials and Processes: Production Processes (½ course). Demonstration, discussion, and laboratory, four hours. Introduction to media and processes in design. Introduction to the use of industrial technology. Processes covering the methods of production and handforming. Emphasis on finishing with industrial materials and systems, including plastics, metal, woods, cardboards, and other materials. May be repeated once. Mr. Shapira in charge

33E. Materials and Processes: Glass (½ course). Demonstration, discussion, and laboratory, four hours. Introduction to media and processes in design. Forming and processing techniques in traditional and contemporary glass. May be repeated once.
Mr. Marquis in charge

33F. Materials and Processes: Textiles (½ course). Demonstration, discussion, and laboratory, four hours. Introduction to media and processes in design. Fundamental methods of textile structure and design. May be repeated once.
Mr. Kester in charge

34A-34B. History of Design. Lecture, three hours; discussion, one hour. Course 34A is prerequisite to 34B. Analysis of significant concepts of form in relation to social, technological, and historical developments.

50. Ancient Art. Lecture, three hours; quiz, one hour. Open to freshmen and students who do not have credit for former course 1A or 100A. Prehistoric, Egyptian, Mesopotamian, Aegean, Greek, Hellenistic, and Roman art and architecture. Ms. Downey

51. Medieval Art. Lecture, three hours; quiz, one hour. Open to freshmen and students who do not have credit for former course 1B or 100B. Early Christian, Byzantine, Islamic, Carolingian, Ottomian, Romanesque, and Gothic art and architecture.
Ms. Kalavrezou-Maxeiner, Mr. Werckmeister

54. Modern Art. Lecture, three hours; quiz, one hour. Open to freshmen and students who do not have credit for former course 1C or 100C. Art and architecture from 1800 to the present in Europe and the United States. Mr. Boime, Mr. Kunzle

55. Africa, Oceania, and Native America. Lecture, three hours; quiz, one hour. Comparative approach, emphasizing economic, cultural, and historical aspects of selected artistic traditions which developed outside the spheres of influence of the major European and Asiatic civilizations. Ms. Klein, Mr. Rubin

56. Asian Art. Lecture, three hours; discussion, one hour. A survey of the major artistic monuments of the Indo-Iranian, Southeast and Central Asian, and the East Asian cultures, concentrating upon formal and iconographical problems, as well as the social and political conditions under which artworks were patronized and produced.
Ms. Klimburg-Salter, Mr. Powers

57. Renaissance and Baroque Art. Lecture, three hours; discussion, one hour. Not open for credit to students with credit for former courses 52 and 53. History of art and architecture in Western Europe from 1400 to 1750. Ms. Weisz

Upper Division Courses

History and Theory of Art

101A. Egyptian Art and Archaeology. Lecture, three hours. A study of architecture, sculpture, painting, and minor arts during the Predynastic period and Old Kingdom.

101B. Egyptian Art and Archaeology. Lecture, three hours. A study of architecture, sculpture, painting, and minor arts during the First Intermediate period, Middle Kingdom, and Second Intermediate period.

101C. Egyptian Art and Archaeology. Lecture, three hours. A study of architecture, sculpture, painting, and minor arts during the Empire (or New Kingdom).

102. Art of the Ancient Near East. Not open to students with credit for former course 101D. A study of architecture, sculpture, painting, and minor arts in Mesopotamia, Asia Minor, North Syria, Phoenicia, Palestine, Persia, and Cyprus from the origins to the 5th century B.C.

103A. Greek Art. Lecture, three hours. Prerequisite: course 50. A survey of the art and architecture of Greece from the Archaic period through the 5th century B.C. Ms. Downey

103B. Hellenistic Art. Lecture, three hours. Prerequisites: courses 50, 103A. The art and architecture of the Greek world from the 4th through the 1st century B.C., including the transmittal of Greek art forms to the Roman world. Ms. Downey

103C. Roman Art. 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. 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. Lecture, three hours. Prerequisites: courses 50, 103C. The art of the Roman Empire from the 2nd through the 4th century (A.D.).
Ms. Downey, Ms. Kalavrezou-Maxeiner

104B-104C-104D. Architecture and the Minor Arts of Islam in the Middle Ages. Lecture, three hours. Course 104B is prerequisite to 104C, which is prerequisite to 104D.

105A. Early Christian Art. Lecture, three hours. Prerequisite: course 51 or consent of instructor. Not open to students with credit for former course 105A. The origins and development of the architecture, sculpture, and painting of early Christianity to the iconoclastic controversy. Ms. Kalavrezou-Maxeiner

105B. Early Medieval Art. 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. Werckmeister

105C. Romanesque Art. Prerequisite: course 51. Art and architecture of Western Europe in the 11th and 12th centuries. Mr. Werckmeister

105D. Gothic Art. Lecture, three hours. Prerequisite: course 51. Art and architecture of Europe in the 13th century. Mr. Werckmeister

105E. Byzantine Art. Lecture, three hours. Prerequisite: course 51 or consent of instructor. Not open to students with credit for course 105A prior to Spring Quarter 1972. 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. Lecture, three hours. Prerequisite: course 57 or consent of instructor. Art and architecture of the 14th century.

106B. Italian Art of the Quattrocento. Lecture, three hours. Prerequisite: course 57. Art and architecture of the 15th century.
Mr. Pedretti, Ms. Weisz

106C. Italian Art of the Cinquecento. Lecture, three hours. Prerequisite: course 57. Art and architecture of the 16th century. Mr. Pedretti, Ms. Weisz

108A. Northern Renaissance Art. Lecture, three hours. Prerequisite: course 57. Painting and sculpture in the Northern Renaissance.

108B. Northern Renaissance Art. Lecture, three hours. Prerequisite: course 108A. Painting and sculpture in the Northern Renaissance.

109A. Baroque Art. Lecture, three hours. Prerequisite: course 57. Art and architecture of Italy and Spain, 16th to late 17th century.
Mr. Pedretti, Ms. Weisz

109B. Baroque Art. Lecture, three hours. Prerequisite: course 109A. Art and architecture of Northern Europe, 16th to late 17th century. Mr. Kunzle

109C. European Art of the 18th Century. Lecture, three hours. Prerequisite: course 57. Painting, architecture, and sculpture of the 18th century will be examined in the light of political and intellectual developments. Special emphasis will be given to the effect of the rise of democratic institutions, especially the French Revolution. Mr. Kunzle

109D. Art and Architecture of Georgian England. Lecture, three hours.

110A. European Art of the 19th Century. Lecture, three hours. Prerequisite: course 54. Neoclassicism and Romanticism, with emphasis upon France — the development and influence of David, Ingres, and Delacroix. Mr. Kunzle

110B. European Art of the 19th Century: Realism and Impressionism. 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. Kunzle

110C. European Art of the 19th and 20th Centuries: Postimpressionism to Surrealism. 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. Boime, Mr. Kunzle

110D. Contemporary Art. Lecture, three hours. Prerequisite: course 54. European and American art since World War II. Mr. Kunzle

110E. Political Perspectives on Contemporary Art (Post-World War II). Prerequisite: course 54. Includes vanguard painting in the U.S. (Picasso, abstract expressionism, and pop art, etc.), and the popular media of posters, comic strips, and murals, all of which will be analyzed according to the dominant values under capitalism: alienation, consumerism, racism, imperialism, and sexism. Antidotal emphasis is on protest art and women's art in the U.S. and the art of the socialist cultures of Cuba since 1959 and Chile from 1970 to 1973. Mr. Kunzle

112A. American Art. Lecture, three hours. Architecture in the United States from the Colonial period to the 19th century.

112B. American Art. Lecture, three hours. Painting and sculpture in the United States from the Colonial period to the 19th century.

112C. American Art. Lecture, three hours. Art and architecture in the United States in the 20th century.

114A. The Early Art of India. Lecture, three hours. Not open to freshmen. Survey of Indian art from the Indus Valley cultures to the 10th century. Emphasis will be given to the Buddhist and Hindu backgrounds of the arts. Ms. Klimburg-Salter

114B. Chinese Art. Lecture, three hours. Not open to freshmen. Survey of the arts of China from the Neolithic times to the 18th century. The various arts will be related to the developing historical background of the country. Mr. Powers

114C. Japanese Art. Lecture, three hours. Not open to freshmen. Japanese art from its beginning in prehistory through the 19th century. Emphasis will be placed on the development of Buddhist art and its relationship with the culture. Mr. McCallum

114D. The Later Art of India. 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. Ms. Klimburg-Salter

C115A. Advanced Indian Art. (Formerly numbered 115A.) Lecture, three hours. Prerequisite: course 114A. Study in Indian sculpture and architecture. Concurrently scheduled with course C257.
Ms. Klimburg-Salter

C115B. Advanced Chinese Art. (Formerly numbered 115B.) Lecture, three hours. Prerequisite: course 114B. Study in Chinese painting and sculpture. Concurrently scheduled with course C258.
Mr. Powers

C115C. Advanced Japanese Art. (Formerly numbered 115C.) Lecture, three hours. Prerequisite: course 114C. Study in Japanese painting and sculpture. Concurrently scheduled with course C259.
Mr. McCallum

C117A. Advanced Studies in Pre-Columbian Art: Mexico. (Formerly numbered 117A.) Lecture, three hours. Prerequisite: course 118B or consent of instructor. A study of the art of selected cultures of northern Mesoamerica from ca. 1200 B.C. to the Conquest, with an emphasis on historical and iconographic problems. Concurrently scheduled with course C218A. Ms. Klein

C117B. Advanced Studies in Pre-Columbian Art: Central America. (Formerly numbered 117B.) Lecture, three hours. Prerequisite: course 118B or consent of instructor. A study of the art of selected cultures of southern Mesoamerica and the remainder of Central America from ca. 2000 B.C. to the Conquest, with particular emphasis on the history and iconography of the art of the Maya. Concurrently scheduled with course C218B. Ms. Klein

C117C. Advanced Studies in Pre-Columbian Art: The Andes. (Formerly numbered 117C.) Lecture, three hours. Prerequisite: course 118B 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 C218C. Ms. Klein

118A. The Arts of Oceania. Lecture, three hours. Prerequisite: course 55 or consent of instructor. Survey of the arts of the major island groupings of the Pacific, emphasizing style-regions and broad historical relationships. Ms. Klein, Mr. Rubin

118B. The Arts of Pre-Columbian America. Lecture, three hours. Prerequisite: course 55 or consent of instructor. Survey of the sequence of cultures which developed in the area between (and including) Mexico and Peru from ca. 1000 B.C. to the Conquest. Ms. Klein

118C. The Arts of Sub-Saharan Africa. Lecture, three hours. Prerequisite: course 55 or consent of instructor. The early arts of Nigeria and a selection of other traditions, emphasizing sculpture. Mr. Rubin

118D. The Arts of Native North America. Lecture, three hours. Prerequisite: course 55 or consent of instructor. Survey of painting, sculpture, and other arts from the Eskimo to the peoples of the Caribbean and the Southwestern United States. Ms. Klein, Mr. Rubin

C119A. Advanced Studies in African Art: Western Africa. (Formerly numbered 119A.) Lecture, three hours. Prerequisite: course 118C or consent of instructor. Consideration of the network of stylistic, historical, and cultural relationships existing among the peoples of the upper Niger River Valley and adjacent portions of the Western Guinea Coast. Concurrently scheduled with course C216A. Mr. Rubin

C119B. Advanced Studies in African Art: Central Africa. (Formerly numbered 119B.) Lecture, three hours. Prerequisite: course 118C or consent of instructor. Northern and Eastern Nigeria, Cameroun, and the Ogowe River Basin. Concurrently scheduled with course C216B. Mr. Rubin

120A. History of Prints. Lecture, three hours. Development of style and techniques of expression in the graphic arts from the 15th to the early 16th century.

120B. History of Prints. Lecture, three hours. Development of style and techniques of expression in the graphic arts from the 16th to the early 19th century.

120C. History of Prints. Lecture, three hours. Development of style and techniques of expression in the graphic arts of the latter 19th and 20th centuries.

121A. Critical and Historical Studies in Drawing. Lecture, three hours. Development of style and means of expression in drawing from late Middle Ages to the early Renaissance.

121B. Critical and Historical Studies in Drawing. Lecture, three hours. Development of style and means of expression in drawing from late Renaissance to the present.

122. History of Style and Ornament. Lecture, three hours. Development of stylistic ideas and motifs in the Western world and their expression in design media from the Renaissance to 1900. A study in connoisseurship.

125. Tutorial Conferences. Discussion, two hours. Prerequisites: courses 50, 51, 54, 57. 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/NP grading.

Art

130. Drawing. Studio, eight hours; five hours arranged. Prerequisites: courses 5A, 5B, 5C, 15, 21, or consent of instructor. Varied media and subject; drawing as an intrinsically expressive mode. May be repeated for a maximum of sixteen units. Mr. Mullican, Mr. Stussy

133. Painting. Studio, eight hours; five hours arranged. Prerequisites: courses 5A, 5B, 5C, 15, 21, or consent of instructor. Varied media, purposes, subjects, structures, presentation, meaning. May be repeated for a maximum of sixteen units.

137. New Forms and Concepts. Studio, eight hours; five hours arranged. Prerequisites: courses 5A, 5B, 5C, 15, 21, or consent of instructor. Varied purposes, forms, processes, post-concept, other approaches to art and non-art, objects, events, installations, and non-studio pieces, film, and video. May be repeated for a maximum of sixteen units. Mr. Burden and the Staff

140. Printmaking. Studio, eight hours; five hours arranged. Prerequisites: courses 5A, 5B, 5C, 15, 21, or consent of instructor. Selected studies in fine printmaking, historical and contemporary: woodcut, etching and engraving, lithography, silk-screen, mixed media. May be repeated for a maximum of sixteen units. Mr. R. Brown and the Staff

145. Sculpture. Studio, eight hours; five hours arranged. Prerequisites: courses 5A, 5B, 5C, 15, 21, 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 sixteen units. Mr. Ray

147. Photography. Studio, eight hours; five hours arranged. Prerequisites: courses 5A, 5B, 5C, 15, 21, or consent of instructor. Selected studies in photography, historical and contemporary: documentation, non-silver methods, extended forms, color, mixed media. Photography as a medium of artistic expression. May be repeated for a maximum of sixteen units. Mr. Heinecken and the Staff

148. Advanced Analysis and Criticism. Discussion, four hours; studio, nine hours arranged. Prerequisites: courses 5A, 5B, 5C, 15, 21, or consent of instructor. Analysis and criticism of individual creative work and ideas. May be repeated for a maximum of sixteen units.

149. Advanced Art and Artists/History and Theory. Lecture/discussion, three hours. Prerequisite: consent of instructor. Discussion and analysis of artists and art, historical and contemporary. May be repeated twice for credit.

Design

(I) Comparative Studies in Design

161A. Ceramics. Lecture, three hours; laboratory, to be arranged. The evolution of ceramic form through geographic, social, and technological influences. Mr. Saxe

161B. World Costume. Lecture, three hours; laboratory, to be arranged. Not open to students with credit for former course 161B. Costume and body ornamentation; symbolic significance and evolving forms within their social, cultural, and geographic context. Ms. McCloskey

161C. Graphics. Lecture, three hours; laboratory, to be arranged. Symbols, signs, and images, within social, cultural, and historical contexts. Mr. W. Brown, Mr. Jennings, Mr. Neuhart

161D. Glass. Lecture, three hours; laboratory, to be arranged. The evolution of glass form and technology through geographic and sociological influences.

161E. Industrialization. Lecture, three hours; laboratory, to be arranged. Industry, design, and society: their evolution and changing relationships.

161F. Landscape. Lecture, three hours; laboratory, to be arranged. The evolution and analysis of concepts affecting the aesthetic and ecological quality of the landscape. Mr. Roberts

161G. Shelter. Lecture, three hours; laboratory, to be arranged. The development of interior spaces in relation to structure, visual quality, function, human needs, and behavior.

161H. Textiles. Lecture, three hours. The development of textile forms through geographic, cultural, stylistic, and technological influences. Mr. Kester

161J. Video Imagery. Lecture, three hours; laboratory, to be arranged. Analysis of videographic form. Mr. Kataoka, Mr. Neuhart

161K. Historic Fashions. Lecture, three hours; discussion, two hours. Fashions and stylistic changes in Western dress from the late medieval period to the present time, studied in relationship to the social and cultural background of each era. Ms. McCloskey

(II) Concept and Form in Design

162A. Ceramics. Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, or equivalent. Creative development of ceramic materials and processes, with emphasis on handbuilding methods; investigation and analysis of formal and expressive content. May be repeated once. Mr. Saxe

162B. Ceramics. Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, 162A, or equivalent. Emphasis on wheel-forming methods and materials science as sources of aesthetic content. May be repeated once. Mr. Saxe

163A. Costume. Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, or equivalent. Not open to students with credit for former course 163A. Introduction to the creative process in designing contemporary costume. May be repeated once. Ms. McCloskey

163B. Costume. Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, 163A, or equivalent. Not open to students with credit for former course 163B. Further development of the design process, with emphasis on the symbolic aspect of contemporary costume. May be repeated once. Ms. McCloskey

164A. Fiber Structure. Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, or equivalent. Design and construction of woven forms. May be repeated once. Mr. Bassler, Mr. Kester

164B. Fiber Structure. Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, or equivalent. The derivation of non-loom methods of fabric construction using pliable elements. May be repeated once. Mr. Bassler, Mr. Kester

165A. Graphics. Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, or equivalent. The development of letterforms, typography, and reproduction technology. May be repeated once. Mr. W. Brown, Mr. Neuhart

165B. Graphics. Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, 165A, or equivalent. Empiric and systematic graphic concepts, including methods, symbols, and media technology. May be repeated once. Mr. W. Brown, Mr. Neuhart

166A-166B. Glass. Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, or equivalent. Course 166A is prerequisite to 166B. The development of forms in glass; methods including blowing, molding, and coldworking. Each course may be repeated once. Mr. Marquis

167A-167B. Form in Industrialized Materials. Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, or equivalent. Course 167A is prerequisite to 167B. Theories and applications of technological materials. Each course may be repeated once.

168A. Landscape. Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, or equivalent. The modification, conservation, and utilization of natural land elements. May be repeated once.

168B. Landscape. Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, 168A, or equivalent. The specific relationship of modified natural elements to human requirements. May be repeated once.

169A-169B. Product. Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, or equivalent. Course 169A is prerequisite to 169B. Product development in industry; function, aesthetics, and material properties as they relate to human needs. Each course may be repeated once. Mr. Shapira

170A-170B. Interior Spaces. Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, or equivalent. Course 170A is prerequisite to 170B. Not open to students with credit for former courses 170A and 170B. The definition of structure and space in relation to human needs. Each course may be repeated once. Mr. Shapira

171A. Textiles. Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, or equivalent. Systems of fabric surface organization, including the study of color, pattern, and methods of printing. May be repeated once. Ms. Breitenbach

171B. Textiles. Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, or equivalent. Dye systems and theories, including methods of application to fabrics. May be repeated once. Mr. Bassler, Ms. Breitenbach

172A. Video Imagery. Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, or equivalent. Introduction to electronic image making; videotape and "live" representation. May be repeated once. Mr. W. Brown, Mr. Kataoka, Mr. Neuhart

172B. Video Imagery. Lecture, two hours; laboratory, four hours. Prerequisites: courses 30A, 30B, 31A, 31B, 32A, 32B, 172A, or equivalent. Electronic audiographic recording explored for its sensory potential; videotape as record of process and content levels. May be repeated once. Mr. W. Brown, Mr. Kataoka, Mr. Neuhart

(III) Proseminars in Design

189. Topics in Design. Lecture/discussion, three hours; laboratory, to be arranged. Prerequisite: consent of adviser and instructor. Faculty members examine specific problems relevant to design theory and performance. Topics are announced in advance. May be repeated for a maximum of sixteen units.

193. Proseminar in Design: Senior Studies. Proseminar, three hours. Prerequisite: consent of adviser. Open to senior and advanced students through design faculty advisers. Faculty members examine specific problems relevant to design theory and performance. Topics are announced in advance. May be repeated twice.

Special Studies

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 (½ to 2 courses). Hours to be arranged. Prerequisites: 3.0 GPA in major, consent of instructor, senior standing. Individual studies for majors. May be repeated 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) upon recommendation of the adviser; they are not open to undergraduate students.

201. Historiography of Art History. Seminar, two hours. A critical study of the various approaches to art history through the centuries. The course may concentrate on one time period, on the work of one or more authors, or on a particular methodology.

202. Methodology of Art History (½ to 2 courses). 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. Seminar, two hours. Course will focus on various aspects of museum activities: concepts and historical evolution of art museums and collecting; methodology of exhibitions; problems involved in acquisition and evaluation of works of art.

204. Restoration, Preservation, and Conservation. Seminar, two hours. May not be repeated.

205. Studies in Prints. Seminar, two hours. Critical studies in 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.

206. Studies in Drawings. Seminar, two hours. Critical studies in the history and connoisseurship of draughtsmanship in the Western world. Individual studies emphasize professional presentation. Group studies may culminate in exhibitions sponsored by the Grunwald Center for the Graphic Arts.

210. Egyptian Art. Seminar, two hours. Prerequisites: courses 101A, 101B, 101C, 102. A course designed to cover art in Egypt during the Late period and the Graeco-Roman period. Students should be ready to prepare for every meeting a briefing of a topic from archaeological memoirs, not to exceed ten minutes. There will be some lectures.

213. Problems in Islamic Art. Seminar, two hours. The art and architecture of the Islamic world (Spain to Iran) from the 7th to the 17th century. The seminar will deal with either monuments or theoretical problems relating to Islamic culture and artistic production.

C216A. Advanced Studies in African Art: Western Africa. Lecture, three hours. Prerequisite: course 118C or consent of instructor. Consideration of the network of stylistic, historical, and cultural relationships existing among the peoples of the upper Niger River Valley and adjacent portions of the Western Guinea Coast. Concurrently scheduled with course C119A. Mr. Rubin

C216B. Advanced Studies in African Art: Central Africa. Lecture, three hours. Prerequisite: course 118C or consent of instructor. Northern and Eastern Nigeria, Cameroun, and the Ogowe River Basin. Concurrently scheduled with course C119B. Mr. Rubin

C218A. Advanced Studies in Pre-Columbian Art: Mexico. Lecture, three hours. Prerequisite: course 118B or consent of instructor. A study of the art of selected cultures of northern Mesoamerica from ca. 1200 B.C. to the Conquest, with an emphasis on historical and iconographic problems. Concurrently scheduled with course C117A. Ms. Klein

C218B. Advanced Studies in Pre-Columbian Art: Central America. Lecture, three hours. Prerequisite: course 118B or consent of instructor. A study of the art of selected cultures of southern Mesoamerica and the remainder of Central America from ca. 2000 B.C. to the Conquest, with particular emphasis on the history and iconography of the art of the Maya. Concurrently scheduled with course C117B. Ms. Klein

C218C. Advanced Studies in Pre-Columbian Art: The Andes. Lecture, three hours. Prerequisite: course 118B 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 C117C. Ms. Klein

220. The Arts of Africa, Oceania, and Pre-Columbian America. Seminar, two hours. Typically dealing with some aspect of art in Africa, Oceania, or Native America, or cross-cultural and comparative topics. Interdisciplinary approaches and historical, cultural, social, and economic issues are emphasized. Twenty-minute oral presentation and paper (12-15 pages) are required. Ms. Klein, Mr. Rubin

221. Topics in Classical Art. Lecture, two to three hours. Studies in Parthian art. A site-by-site survey of the Near East (Afghanistan, Iran, Iraq, Syria) during the period of Greek and Parthian control. Ms. Downey

223. Classical Art. Seminar, two hours. Studies in Graeco-Roman art and archaeology. Studies of specific periods, sites, or artistic media. Ms. Downey

225. Medieval Art. Seminar, two hours. Studies in selected topics in Byzantine and European medieval art. Ms. Kalavrezou-Maxeiner, Mr. Werckmeister

226A-226B. Medieval Art and Architecture. Studies in selected topics in Byzantine and European medieval art. Seminar extends over two consecutive quarters. Ms. Kalavrezou-Maxeiner, Mr. Werckmeister

229. Renaissance and Baroque Paleography. Seminar. Prerequisites: Italian and working knowledge of Latin. A workshop approach to documents pertaining to artistic commissions from the 15th to the 17th century in Italy to study various aspects of handwriting in official and private deeds, correspondence, treatises, and inscriptions. Mr. Pedretti

230. Italian Renaissance Art. 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. Weisz

231. Leonardo and Renaissance Theory of Art. Seminar, two hours. Prerequisite: knowledge of Italian. A study of various aspects of Leonardos theoretical approach to art in terms of sources and the impact on followers. Mr. Pedretti

235. Northern Renaissance Art. Seminar, two hours. Prerequisite: knowledge of German. The seminar will focus on a selected topic (e.g., a particular artist, trend, or problem). Research papers and oral reports are required.

240. Baroque Art. Seminar, two hours. The seminar will focus on a selected topic (e.g., a particular artist, trend, or problem). Research papers and oral reports are required. Language requirements depend on area of focus.

244. Topics in European Art from 1700 to 1900. Lecture, two to three hours.

245. European Art from 1700 to 1900. Seminar, two hours.

246. Art and Architecture of Georgian England. Seminar, two hours. Ms. Bennett

253. Modern Art. Seminar, two hours. Changing topics in modern art (including illustration and other popular forms) which reflect the interests of particular faculty members. Political and economic factors affecting the arts of France and Germany at various times are emphasized. Mr. Boime, Mr. Kunzle, Ms. Tonelli, Mr. Werckmeister

255. American Art. Seminar, two hours. Advanced studies in the evolution of American art, chiefly architecture and painting from the 18th to the early 20th century. Criticism and evaluation of scholarship in the field with innovative research directed toward professional presentation. Ms. Tonelli

C257. Advanced Indian Art. Lecture, three hours. Prerequisite: course 114A. Study in Indian sculpture and architecture. Concurrently scheduled with course C115A. Ms. Klimburg-Salter

C258. Advanced Chinese Art. Lecture, three hours. Prerequisite: course 114B. Study in Chinese painting and sculpture. Concurrently scheduled with course C115B. Mr. Powers

C259. Advanced Japanese Art. (Formerly numbered 259.) Lecture, three hours. Prerequisite: course 114C. Study in Japanese painting and sculpture. Concurrently scheduled with course C115C. Mr. McCallum

260. Asian Art. 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.
Ms. Klimburg-Salter, Mr. McCallum, Mr. Powers

265. Fieldwork in Archaeology (½ to 2 courses). Participation in archaeological excavations or other archaeological research under supervision of the staff.

271. Graduate Painting (½ to 2 courses). Hours to be arranged. Tutorial studies in traditional and new forms and concepts media, as well as in our media specializations. Independent development and original research are fundamental objectives of this course.

272. Graduate Printmaking (½ to 2 courses). Tutorial studies in traditional and experimental printmaking. Selected studies in intaglio, lithograph, woodcut, silkscreen, photo printmaking, and mixed media. Mr. Brown

273. Graduate Sculpture (½ to 2 courses). Tutorial studies with specific attention given to the ongoing nature, specificity, and approach to the student's particular discipline. Individual studio visits and consultation. Mr. Ray

274. Graduate Photography (½ to 2 courses). A tutorial or tutorial/seminar course concerned with the particular artistic development of each student's personal photographic artwork. Emphasis is on the expressive, original, humanistic values of individual art. Adjacent projects in the history and theory of the photographic medium. Mr. Heinecken

279. Seminar in Art. Aspects of current and historic art. Being an artist. Sources, ideas, processes, development, individualization, evaluation. Art and non-art. Art in society. Content, formal and aesthetic issues. Language, perception, reference structures, media.

280. Communication Imagery (½ to 2 courses). Laboratory, two to four hours. Exploration of graphic processes in visual systems. Design theory and procedures related to typography, letter form, photography, and the graphic film as they communicate visually (i.e., poster, brochure, book, film, and exhibition). Mr. Neuhart

281. Image Transfer (½ to 2 courses). Laboratory, two to four hours. Advanced experimental work in print processes. Employment of the fixed image, such as offset lithography, offset or letter press, screen printing, and emulsion printing, through photo/mechanical means. Mr. Jennings

282. Electronic Imagery (½ to 2 courses). Laboratory, two to four hours. Development of expressive and design applications in video and computer-generated forms. The manipulation of visual, time, motion, and aural characteristics of electronic imagery is developed with video cameras, VTR, and electronic synthesizers experienced and viewed on television monitors or print forms; images are stored on videotapes for later analysis. Mr. Kataoka

283. Costume (½ to 2 courses). Seminar, two hours; laboratory, two hours. Advanced formulation and development of design ideas for contemporary fashion, dance, drama, or ritual. Research on the evolution of style and modes of expression in historical and modern costumes. Ms. McCloskey

284. Ceramics (½ to 2 courses). Seminar, two hours; laboratory, two hours. Advanced research and application of ceramic theory and methodology. Emphasis on the development of a responsible personal aesthetic. Includes, but is not limited to, investigations of clay and glaze design technology, design for industry, clay as medium, and the historical importance of ceramics as a socially responsible discipline. Mr. Saxe

285. Glass (½ to 2 courses). Laboratory, two to four hours. Exploration and intensive investigation of processes and attitudes toward glass as a tool of personal expression and creative discipline. Mr. Marquis

287. Design and Structure (½ to 2 courses). Laboratory, two to four hours. Emphasis on developing methods of critical evaluation. Work will be of a subjective and expressive nature in areas of fiber, ceramics, graphics, and visual presentation. Exploration of form with emphasis on experimentation with materials and processes. Mr. Vasa

288. Fiber Structures (½ to 2 courses). Laboratory, two to four hours. Advanced formative work in traditional and experimental processes of fabric construction utilizing fiber media. Mr. Bassler, Mr. Kester

289. Textiles (½ to 2 courses). Laboratory, two to four hours. Advanced experimental work with the elements of fabric design, including surface manipulation and methods of fabrication, which may include but are not limited to dye and printing processes. Ms. Breitenbach

290A-290B-290C. Design Seminar: A Collaborative View. Seminar, three hours:

290A. Formalization Processes. Critical examination of theoretical concepts underlying the design process, including the initiation of an idea, its interpretation, and execution by the designer.

290B. Design Programming. Critical examination of idea development into model or procedural form for execution and/or production by others.

290C. Visual Communication. Critical examination of imagery in its social context.

291. Landscape Design (½ to 2 courses). Laboratory, two to four hours. Articulation of landscape elements, including conservation and planning.

292. Shelter (½ to 2 courses). Development of individual projects to investigate concepts of shelter. Exploration of traditional and contemporary forms, methods, and materials. Mr. Shapira

293. Interior Space Design (½ to 2 courses). 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 (½ to 2 courses). 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 (½ to 2 courses). 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 (¼ to 1 course). 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 (½ to 2 courses). Prerequisite: consent of instructor.

597. Preparation for Master's Comprehensive Examination or Ph.D. Qualifying Examination (½ to 2 courses). Prerequisite: consent of instructor. S/U grading.

598. Research for and Preparation of Master's Thesis (½ to 2 courses). Prerequisite: consent of instructor. S/U grading.

599. Research for and Preparation of Ph.D. Dissertation (½ to 2 courses). Prerequisite: consent of instructor. S/U grading.

Related Courses in Another Department

Classics 251A. Seminar in Classical Archaeology: The Aegean Bronze Age

251B. Seminar in Classical Archaeology: Graeco-Roman Architecture

251C. Seminar in Classical Archaeology: Graeco-Roman Sculpture

251D. Seminar in Classical Archaeology: Graeco-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

205 Women's Gym, 825-3951

Professors

Elsie Dunin, M.A.
Pia Gilbert
Carol Scothorn, M.A., *Chair*
Marion Scott
Doris Siegel
Allegra Snyder, M.A.
Emma Lewis Thomas, Ph.D.
Alma M. Hawkins, Ed.D., *Emeritus*

Associate Professors

Erma Dosamantes-Alperson, Ph.D.
Judy Mitoma Susilo, M.A.

Assistant Professors

Angelia Fisher, M.A.
Katherine Howard, M.A.

Lecturer

Suenobu Togi

Assistant Professor

Ilene Serlin, M.S., *(Acting)*

Visiting Lecturers

Charlotte Adair
Charles Berliner, M.F.A.
Gloria Bowen
Mary Coros, M.A.
William De Young, M.F.A.
Gary Faltico, Ph.D.
Judithe Gantz, M.A.
Martha Kalman, M.A.
Margalit Oved Marshall
Barbara Mattingly
Emilio Pulido-Huizar, B.A.C.
Mia Slavenska
Melinda Williams, M.A.
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 is 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 professional 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. The therapy program is approved by the American Dance Therapy Association.

Bachelor of Arts Degree

The dance major offered in the College of Fine Arts leads to the Bachelor of Arts degree. Students who wish to confer with the departmental counselor regarding program planning and major requirements should see Wendy Urfrig in the department office.

Preparation for the Major

Required: 26 units of lower division coursework, including Dance 30A, 30B, 35, 36A-36B-36C, 37A-37B-37C, 38A-38B, 70, 92.

The Major

Required: A total of 58 units of upper division coursework, including Dance 111A-111B, 150A-150B-150C, 151A, 151B, 152A, 152B, 153A-153B-153C, C154, 158A-158B, 192, 193, and two courses (eight units) chosen from upper division dance electives.

Admission to the upper division major is determined by a screening and evaluation conducted during Spring Quarter of the sophomore year. All entering transfer students are auditioned for placement in technique and choreography classes.

Master of Arts Degree

Admission

A baccalaureate 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 Graduate Admissions); three letters of recommendation and an audition are also required.

The audition will look 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, the sense of form and forming. Because the department recognizes the importance of diversity and specialization at the graduate level, you will be evaluated according to your primary focus (i.e., performance-choreography, education, therapy, or ethnology).

Prospective students may write to the Department of Dance, 205 Women's Gym, University of California, Los Angeles, CA 90024, for departmental brochures which give additional information on the graduate program.

Foreign Language Requirement

There is no foreign language requirement. If you specialize in dance ethnology, however, and will do fieldwork, it is recommended that, during your graduate study or before, you gain a working knowledge of the language of the area where you will do your research.

Course Requirements

Nine courses (or more depending on your specialty) are required, distributed as follows: (1) Dance 202; (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 and ethnic performance classes.

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.

These requirements are to be partially fulfilled by one of the following patterns: (1) Dance 127, 204A-204F (choreography/performance); (2) Dance 127, 204A-204C, 227A-227B (dance education); (3) Dance 226A-226B-226C, 226E (dance ethnology); (4) Dance 165A-165B-165C, 251A-251B-251C, 252A-252B-252C, 497A-497B-497C, 596A, 596R (dance therapy).

The following upper division courses may be applied toward the M.A. degree: Dance 111C, 116, 127, 128, 140A-140B-140C, 142, 143, 144, 145, 146, 152C, 155, 159, 160, 165A-165F, 190, 191, 197A-197B.

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 an undergraduate course in abnormal psychology is required for the dance therapy specialization, other courses in psychology (developmental, personality, and group dynamics) are highly recommended. 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.

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 choose the thesis plan, you will prepare a report of the results of your original research or creative work. Before beginning work on the thesis, you must obtain approval of the subject and general plan from the graduate faculty committee. If the thesis plan is accepted, a thesis committee will be formed. Conditions for reexamination in case you fail the first presentation are based on the support of several faculty members.

Comprehensive Examination Plan

Under the comprehensive examination plan the course requirements are the same as those for the thesis with the addition of one course. This plan would include an independent study project and a final examination.

Lower Division Courses

10A-10B-10C. Fundamentals of Creative Dance (½ course each). Designed for non-dance majors. Courses must be taken in sequence. Basic modern dance skills, with emphasis on body awareness, alignment, movement range, rhythmic coordination, and the exploration of the concepts of space, time, and energy in dance improvisation and composition. Ms. Williams (F,W,Sp)

11A-11B-11C. Creative Dance (½ course each). Prerequisite: course 10C or consent of instructor. Designed for non-dance majors. Continuation of modern dance skills, with increased emphasis on principles of structure and form in dance composition. Ms. Williams (F,W,Sp)

30AF-30AW-30AS. Fundamentals of Ballet (½ course per year). Prerequisite: dance major or consent of instructor. Students are admitted in Fall Quarter only. Study of ballet techniques and principles, including dance terminology. In Progress grading (credit to be given only upon completion of course 30AS). Ms. Bowen (F,W,Sp)

30BF-30BW-30BS. Fundamentals of Ballet (½ course per year). Prerequisite: dance major or consent of instructor. Students are admitted in Fall Quarter only. Study of ballet techniques and principles, including dance terminology. In Progress grading (credit to be given only upon completion of course 30BS). Ms. Bowen (F,W,Sp)

35. Music Analysis for Dance (½ course). Study of the elements of music, music structures, and their relationship to dance, with emphasis on rhythmic analysis, dance accompaniment, and teacher-accompanist roles. Mrs. Gilbert (F,Sp)

36A-36B-36C. Fundamentals of Creative Dance (½ course each). Limited to dance majors. Study of dance through varied experience emphasizing the increasing ability to develop a skilled body-instrument, to respond to movement creatively, and to understand structure and form in beginning dance composition. Principles and elements of dance and their relationship to other art forms. Ms. Kalman

37A-37B-37C. Creative Dance (½ course each). Prerequisite: course 36C. A continuing study of dance, with emphasis on movement principles and choreography. Ms. Howard

38A-38B. Dance Notation (½ course each). Study of Labanotation, with experience in recording and interpreting dance scores (emphasis on reading skills). Ms. Fisher (F,W,Sp)

46A-46B. Fundamentals of Movement (½ course each). Prerequisite: consent of instructor. Study of the fundamentals of movement, with emphasis on experiencing body awareness, exploring movement potential, and structuring of dance forms. Consideration of cultural influences on expressive forms. Ms. Susilo (W,Sp)

50. Introduction to Dance (½ course). An introduction to the many and varied theoretical aspects of dance as a discipline. Mrs. Snyder, Ms. Susilo (F)

52. Introduction to Dance Theatre (½ course). Prerequisite: course 36A or consent of instructor. Study of the interaction of the aesthetic components of dance theater. Mrs. Siegel (W)

70. Introduction to Performance in Ethnic Dance (½ course). Study of basic movement in ethnic dance forms. Mrs. Dunin (F,Sp)

71A-71Q. Performance Courses in Ethnic Dance (½ course each). May not be repeated for credit. **71A.** Dance of Bali; **71B.** Dance of Africa; **71E.** Dance of India; **71F.** Dance of Israel; **71G.** Dance of Japan; **71H.** Dance of Java; **71J.** Dance of Mexico; **71M.** Dance of Spain; **71P.** Dance of Yugoslavia; **71Q.** Dance of Korea. (F,W,Sp)

92. Laboratory in Dance Production (¼ course). Laboratory, two hours. Realization of concepts of lighting, sound, costume, scene design, and stage practices in departmental dance productions. Must be repeated once. P/NP grading. (Sp)

Upper Division Courses

111A-111B. Analysis of Human Movement. Course 111A is prerequisite to 111B. A study of the biological and physical principles of movement and the effects of movement upon the structure and function of the human body. Ms. Gantz (F,W,Sp)

111C. Analysis of Human Movement. Prerequisites: courses 111A-111B. In-depth study of selected topics introduced in courses 111A and 111B. Ms. Gantz (Sp)

112A-112B-112C. Intermediate Modern Dance Technique (½ course each). (Formerly numbered 112A-112F.) Lecture, two hours; laboratory, two hours. Prerequisite: course 150C or consent of instructor. Synthesis of previous dance experience, intermediate technique. Each course may be repeated once.

Ms. Fisher, Ms. Howard, Ms. Kalman (F,W,Sp)

114A-114B-114C. Advanced Contemporary Dance (½ course each). (Formerly numbered 114A-114F.) Lecture, one hour; laboratory, five hours. Prerequisite: course 153C or consent of instructor. Advanced technique in contemporary dance, with emphasis on performing skills. Each course may be repeated once.

Mr. DeYoung, Ms. Howard, Ms. Kalman (F,W,Sp)

116. Improvisation in Dance (½ course). Prerequisite: dance major or consent of instructor. Practical study of the art of improvisation, with emphasis on centering, spontaneity, and the generation of new movement materials and forms as soloist and within the group. Ms. Kalman (Sp)

127. Foundation of Dance Education. Prerequisite: dance major or consent of instructor. Analysis and application of principles of movement and choreography in the teaching of modern dance in junior colleges and higher education. Ms. Fisher (F,W)

128. Dance as Culture in Education. Prerequisite: course 70 or consent of instructor. Analysis of theoretical and practical aspects of ethnic dance forms, with special reference to teaching in higher education. Mrs. Dunin

131A-131B-131C. Intermediate Ballet (½ course each). Prerequisite: course 30B or consent of instructor. Limited to dance majors. Courses must be taken in sequence. Study of advanced techniques and principles of classical ballet, including phrasing, combinations, and repertory works.

Ms. Bowen, Ms. Slavenska (F,W,Sp)

132A-132B-132C. Advanced Ballet (½ course each). (Formerly numbered 132A-132F.) Lecture, two hours; laboratory, six hours. Prerequisite: course 131C. Advanced technique in classical ballet, with emphasis on performing skills. Each course may be repeated once. Ms. Slavenska (F,W,Sp)

140A-140B-140C. Dance Cultures of the World. A survey of dance in selected cultures, the role of dance in society; consideration of style, rhythmic structure, historical background, and related folklore. Lectures illustrated with demonstrations, film, slides, and recordings. **140A.** Africa (folk and tribal traditions); **140B.** Asia (art, tribal, and folk traditions); **140C.** North American Indians (tribal and folk traditions).

Mrs. Snyder (F,Sp), Ms. Susilo (W)

141A-141B. Dance Forms. Prerequisites: courses 46A-46B or consent of instructor. Not open to students with credit for former courses 47A-47B-47C. A study that considers the physical environmental and cultural influences upon ritual and social dance forms while preparing students for basic observational and recording techniques. Includes the learning and application of beginning skills in Labanotation.

Mrs. Dunin (W,Sp)

142. Dance in the Balkans. Prerequisite: course 71P. An introduction to the dance of the Balkans, factors influencing its development and social functions, consideration of relationship of dance to other art forms. Mrs. Dunin

143. Dance in India. Prerequisite: course 71E. An introduction to the dance of India, factors influencing its development and social functions, consideration of relationship of dance to other art forms.

Ms. Yodh

144. Dance in Indonesia. Prerequisite: course 71A or 71H. An introduction to the dance of Indonesia, factors influencing its development and social functions, consideration of relationship of dance to other art forms. Ms. Susilo

145. Dance in Japan. Prerequisite: course 71G. An introduction to the dance of Japan, factors influencing its development and social functions, consideration of relationship of dance to other art forms.

146. Dance in Latin America. Prerequisite: course 71J. An introduction to the dance of Latin America, factors influencing its development and social functions, consideration of relationship of dance to other art forms.

150A-150B-150C. Advanced Dance. Prerequisite: course 37C. Choreography with emphasis on the use of composed music, the group composition, and the theatrical environment; synthesis of previous dance experience, theories and technique of outstanding dance artists; principles of human movement to dance. Mrs. Scothorn

151A. History of Dance in Western Culture, Origins to 1600. Trends in the evolution of dance in Western civilization are studied from their origins in the Middle East through the European Renaissance period. Mrs. Thomas (F)

151B. History of Dance in Western Culture, Early Baroque to the Present. The evolvement of dance as an art form in historical context, with particular emphasis on the development of style in any given period. The shift from European court entertainment to American theatrical presentation is studied chronologically from the early 1600s on.

Mrs. Thomas (Sp)

152A. Lighting Design for Dance Theater (½ course). Prerequisite: course 36C or consent of instructor. Study of aesthetics, principles, and technical elements of lighting for dance. Mrs. Siegel (F,Sp)

152B. Costume and Scenic Design Concepts for Dance Theater (½ course). Lecture, two hours; laboratory, two hours. Prerequisite: course 37C 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 are explored. Mr. Berliner (Sp)

152C. Advanced Studies in Dance Theater Lighting (½ to 1 course). Lecture, four hours; laboratory, four or more hours. Prerequisite: course 152A or consent of instructor. Analysis of diverse dance theater lighting problems at an advanced level and individual development of creative solutions.

Mrs. Siegel (Sp)

153A-153B-153C. Choreography and Repertory (½ course each). Prerequisite: course 150C. Independent work in solo and group choreography. Exploration of various styles and forms. Performance in repertory works. Mr. DeYoung

C154. Music as Dance Accompaniment. Prerequisite: course 35 or consent of instructor. Piano and percussion improvisation for dance. Choreographer-composer relationships. History of music for the dance, with emphasis on contemporary trends. Music for the dance performance. May be concurrently scheduled with course C254. Mrs. Gilbert (F,W)

155. Form and Structure in Choreography. Prerequisite: dance major or consent of instructor. A study of the craft of choreography as taught by selected artists, including Louis Horst, Doris Humphrey, and Helen Tamaris. Attention will be given to their concepts of form and structure, as well as philosophic bases on which these approaches were formed.

Ms. Scott (Sp)

158A-158B. Philosophical Bases and Trends in Dance (1½ courses). Course 158A is prerequisite to 158B. 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.

Mrs. Gilbert (W,Sp)

159. Advanced Dance Notation. Prerequisites: courses 38A-38B. Intermediate and advanced Labanotation. Reconstruction and score preparation in ballet, modern, and ethnic dance. Mrs. Scothorn

160. Creative Dance for Children. Laboratory with children. Prerequisite: dance major or consent of instructor. Approaches to teaching dance as an expressive medium for children, with emphasis on concepts and principles. Ms. Williams (Sp)

165A-165F. Movement Dynamics and Personality Growth (½ course each). (Formerly numbered 165A-165B-165C.) Prerequisite: course 150C or consent of instructor. This two-year sequential course focuses on group processes and dynamics, both at the nonverbal (movement) and verbal modes of experience. The course works toward achieving a significant level of psychological insight by the student, to assist in functioning professionally as an effective dance/movement therapist. Ms. Serlin

171A-171P. Performance Courses in Ethnic Dance (½ course each). Each course may be repeated once by consent of instructor. Prerequisite: corresponding course in 71A-71P series (i.e., 71A is prerequisite to 171A, 71B is prerequisite to 171B, etc.). **171A.** Dance of Bali; **171B.** Dance of Ghana; **171E.** Dance of India; **171F.** Dance of Israel; **171G.** Dance of Japan; **171H.** Dance of Java; **171J.** Dance of Mexico; **171L.** Dance of Scotland; **171M.** Dance of Spain; **171P.** Dance of Yugoslavia.

190. Advanced Dance Performance (½ course). (Formerly numbered 190A-190B-190C.) Lecture, one hour; laboratory, three hours. The study and performance of major choreography. May be repeated twice. (F,W,Sp)

191. Repertory Dance Tour (½ to 1 course). 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. Howard (F)

192. Advanced Laboratory in Dance Production (¼ course). Laboratory, two hours. Prerequisites: courses 152A and 152B (may be taken concurrently) or consent of instructor. Further development and application of concepts of lighting, sound, costume, scene design, and stage practices in departmental dance productions. May be repeated once. P/NP grading. (Sp)

193. Dance Performance Practicum (¼ course). Laboratory, four hours. Creative participation as a dancer in selected choreography in public performance. P/NP grading. (Sp)

197A-197B. Proseminar: Dance Perspectives (½ course each). Prerequisite: upper division standing or consent of instructor. Consideration of the aesthetics evolving from the work of the great artists of our time.

199. Special Studies in Dance (½, 1, or 2 courses). Prerequisites: senior standing and consent of instructor.

Graduate Courses

200. Dance Notation (½ course). Prerequisite: course 159. Advanced study of dance notation.
Mrs. Scothorn

202. Research Methods and Bibliography in Dance. Mr. Faltico (Sp), Mrs. Thomas (F)

204A-204B-204C. Advanced Choreography. Prerequisite: course 153C or equivalent. Theoretical and creative aspects of advanced choreography.
Ms. Howard, Ms. Scott (F,W,Sp)

204D-204E-204F. Advanced Choreography. Prerequisites: courses 204A-204B-204C and consent of instructor. Theoretical aspects of advanced choreography for the student who has reached the level of self-initiation of substantial creative works. The course will focus on refinement and realistic self-evaluation, as well as critical counsel by acknowledged choreographers.
Mrs. Scothorn, Ms. Scott (F,W,Sp)

206. Music for Dance. Prerequisite: course C154. Theory of the aesthetic and functional relationship of music to dance. Mrs. Gilbert (Sp)

208. Principles of Dance Theater. Prerequisites: courses 152A, 152B. Principles which serve the presentation of dance. Mrs. Scothorn (W)

210. Aesthetics of Dance. Prerequisite: course 158B. A critical analysis of aesthetic concepts related to dance. Mrs. Thomas

211A. Kinesiology for Dance. Prerequisite: consent of instructor. The scientific basis for movement for dance. A study of the anatomical, kinesiological, and physical principles and demands of dance.
Ms. Gantz (F)

220. Dance in the 20th Century. Prerequisites: courses 151A, 151B. Concepts, styles, and forms of dance in the 20th century. Mrs. Thomas

221. The History of Ballet. Prerequisites: courses 151A, 151B. The development of ballet in its various stages (Renaissance, baroque, Romantic period); stylistic differences in Italy, France, Spain, and England; influence of the other arts and problems of ballet as an art form. Mrs. Thomas

223. Renaissance Dance. Prerequisites: courses 151A and 151B, or consent of instructor. The evolution of the dance suite traced from its earliest records (Domenico da Placenza, 1430) to codification in words of Arbeau, Carose, Negri (1580-1610). Style will be studied through reconstruction of steps, costumes, music, and presentational form.
Mrs. Thomas (W)

226A-226E. Dance Expression in Selected Cultures. Prerequisite: course 140A, 140B, or 140C, or consent of instructor. Dance is viewed as an aspect of culture and human behavior. **226A.** Survey of literature. **226B.** Concepts of fieldwork. **226C.** Objectives and goals of the discipline in relation to anthropology and behavioral sciences. **226D.** Methodologies and training in techniques for fieldwork. **226E.** Ethics and problems, field projects.
Mrs. Dunin, Mrs. Snyder (F,W,Sp)

227A-227B. Advanced Studies in Dance Education. Prerequisite: consent of instructor. Course 227A is prerequisite to 227B. **227A.** Theory in the areas of movement, creativity, and learning applied to the development of a framework for teaching dance as an art form. **227B.** Establishment of dance in higher education, with consideration for the body of knowledge, curriculum development, and administration.
Ms. Fisher (F,Sp)

251A-251B-251C. Dance Movement Therapy: Theory and Practice. Lecture, two hours; laboratory, two hours. Prerequisite: consent of instructor. A one-year sequential course which encompasses the interdisciplinary theoretical foundations and methodology of dance-movement therapy; special emphasis is given to adult clinical populations.
Mrs. Dosamantes-Alperson (F,W,Sp)

252A-252B-252C. Seminar in Movement Therapy. Lecture, two hours; laboratory, two hours. Prerequisites: courses 251A-251B-251C, 596R. A one-year sequential course which extends the conceptual and methodological foundations of dance-movement therapy to special clinical populations (children, adolescents, and families).
Mrs. Dosamantes-Alperson (F,W,Sp)

C254. Music as Dance Accompaniment. Prerequisite: course 35 or consent of instructor. May be concurrently scheduled with course C154. Piano and percussion improvisation for dance. Choreographer-composer relationships. History of music for the dance, with emphasis on contemporary trends. Music for the dance performance. Graduate students must complete two additional assignments. May not be applied toward the M.A. degree requirements.
Mrs. Gilbert (F,W)

258A-258B. Philosophical Bases and Trends in Dance (1 course, ½ course). (Formerly numbered 258.) Prerequisite: course 150C. 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 will be based on extended reading list and term papers. May be applied toward the M.A. degree requirements.
Mrs. Gilbert (F,Sp)

375. Teaching Apprentice Practicum (¼ to 1 course). 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. Williams (F,W,Sp)

495. Preparation for the Teaching of Dance in Higher Education (½ course). Prerequisites: graduate standing and consent of instructor. Study of problems and methodologies in teaching dance, which includes seminars, workshops, and apprentice teaching. May be repeated once for credit. S/U grading.
Ms. Williams (F,W,Sp)

496. Directed Field Study in Dance Education (½ to 2 courses). Seminar, one hour; field study, two hours minimum. Prerequisites: graduate standing and consent of instructor. Directed field study to provide teaching experience in a community school or other approved site. No more than four units may be applied toward the M.A. degree requirements. S/U grading. Ms. Williams (F,W,Sp)

497A-497F. Clinical Practicum in Supervision (½ course each). Lecture, one hour; discussion, two hours. Must be taken concurrently with courses 251A or 252 and 596R. This practicum in group supervision focuses on clinical concerns directly related to the graduate student's clinical internship. Issues relevant to therapeutic goals, the psychotherapeutic process, and the clinical environment are discussed, particularly as they relate to supervision of group and individual patients. S/U grading. Ms. Serlin (F,W,Sp)

596A. Directed Individual Study or Research (½ to 2 courses).

596R. Directed Study or Research in a Hospital or Clinic (½ to 2 courses). S/U grading.

597. Preparation for M.A. Comprehensive Examination (No credit).

598. Research for and Preparation of M.A. Thesis (½ to 2 courses). S/U grading.

Related Courses in Other Departments

Anthropology 133R. Aesthetic Anthropology

Art 5A, 5B, 5C. Introduction to Art
50. Ancient Art
51. Medieval Art
54. Modern Art
55. Africa, Oceania, and Native America
56. Asian Art
57. Renaissance and Baroque Art
110A, 110B, 110C. European Art
110D, 110E. Contemporary Art
161J. Video Imagery

English 80. Major American Authors
85. The American Novel
90. Shakespeare
100A. Introduction to Poetry
100B. Introduction to Drama
101C. Recent American Fiction
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, 1842 to the Present

Humanities 1A, 1B, 1C. World Literature

Music 2A-2B. Introduction to the Literature of Music
132A-132B. Development of Jazz
135A-135B-135C. History of the Opera
140A-140B-140C. Musical Cultures of the World

Theater Arts 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

Ethnic Arts
(Interdepartmental)

205 Women's Gym, 825-3951

Professors
Elsie Dunin, M.A. *(Dance)*
Robert A. Georges, Ph.D. *(English)*
Melvyn B. Helstien, Ph.D. *(Theater Arts)*
William R. Hutchinson, Ph.D. *(Music)*
Michael O. Jones, Ph.D. *(History)*
Jacques Maquet, Ph.D. *(Anthropology)*
Allegra Snyder, M.A. *(Dance)*

Associate Professors
Philip L. Newman, Ph.D. *(Anthropology)*
Arnold Rubin, Ph.D. *(Art, Design, and Art History)*
Judy Mitoma Susilo, M.A. *(Dance), Coordinator*

Assistant Professors
David E. Draper, Ph.D. *(Music)*
Patricia M. Harter, M.A. *(Theater Arts)*
Joseph Nagy, Ph.D. *(English)*
Beverly J. Robinson, M.A. *(Theater Arts)*
Carol J. Sorgenfrei, Ph.D. *(Theater Arts)*

Scope and Objectives

The interdisciplinary major in ethnic arts is available to students in both the College of Fine Arts and the College of Letters and Science. It facilitates the cultural and cross-cultural investigation of man's artistic expression by focusing on six disciplines: anthropology, art, dance, folklore and mythology, music, and theater arts.

The flexibility of the program allows students to focus on a particular medium of expressive behavior after having been exposed to general problems and perspectives in the study of art forms of peoples throughout the world. The program leads to a Bachelor of Arts degree in Ethnic Arts.

Bachelor of Arts Degree

The major includes a core of seven courses (28 units) from anthropology, art, dance, folklore and mythology, music, and theater arts; a concentration consisting of 36 units in one of these six disciplines; a senior colloquium; and three upper division elective courses (12 units).

Foreign Language Requirement

At least three quarters (one year) in one foreign language at the college level are required. All courses in foreign language, except foreign literature in English translation, may be applied toward this requirement.

If you plan to take a concentration in music, you are advised to select French, German, or Italian.

General College Requirements

You must satisfy the general college requirements (other than foreign language) of your college (Fine Arts or Letters and Science) regardless of the department in which your concentration is located.

If you wish to confer with a counselor regarding program planning and major requirements, contact Wendy Urfrig in the program office.

The Major

The following courses are required:

(1) A core of seven interdepartmental courses (28 units): Dance 46A-46B, 70, Folklore 101, Music 5A-5B-5C, Theater Arts 102E, Anthropology 5, and Art 55 or 56.

(2) A concentration of nine courses in one of the following areas (you must declare a concentration by the beginning of the junior year):

Anthropology: 6, 133R, 135Q, 185, and any five upper division anthropology courses from 110 through 186B, including one area course from 171-177.

Art: One course from 50, 51, 54, 55, 56, 57; eight courses from 102, 103A through 103E, 114A, 114B, 114C, 114D, C115A, C115B, C115C, C117A, C117B, C117C, 118A, 118B, 118C, 118D, C119A, C119B.

Dance: 38B, 141A-141B, 151A, 151B; two courses from 140A, 140B, 140C; one course from 142, 143, 144, 145, 146; three half-courses from 171A-171P (including one course each from Western and non-Western cultures; please note that 71A-71P are prerequisites for 171A-171P).

Folklore and Mythology: One course from 108, M111, 118, M180; two courses from CM106, M123B, 124, M181, Classics 161, 168; six courses from M112, M121, M122, M123A, M125, M126, M127, M128, M129, 130, 131, M149, M150, 190, German 134.

Music: 17A-17B-17C, 26A-26B-26C, 140A-140B-140C (non-sequential).

Theater Arts: Four courses from 20, 118A, 118B, 140A, 140B, 141A, 141B, 142A, 142B, 160, 170; three courses from 5A, 5B, 5C, 103A, 103B; two courses from 10, 102A, 103A, 103B, 104D, 104E, 104F, 106C, 110A, 110B, 117, 119A, Classics 142, English 90, 104, 167, Scandinavian C144, C145, Humanities C111.

(3) Ethnic Arts 190A-190B.

(4) Three elective courses which may be chosen 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 chosen to meet this requirement must be upper division courses from three areas outside the area of concentration.

Upper Division Courses

190A-190B. Senior Colloquium. Limited to senior ethnic arts majors. Studies of a comparative and integrative nature in the ethnic arts.

Upper Division Electives

Anthropology 118A, 118B. Museum Studies
133R. Aesthetic Anthropology
135Q. The Individual in Culture
137. Enthnography on Film
154. Principles of Social Structure
185. History of Social Anthropology
Art 101A, 101B, 101C. Egyptian Art and Archaeology
102. Art of the Ancient Near East
103A. Greek Art
103B. Hellenistic Art
103C. Roman Art
103D. Etruscan Art
103E. Late Roman Art
104B-104C-104D. Architecture and the Minor Arts of Islam in the Middle Ages
114A. The Early Art of India
114B. Chinese Art
114C. Japanese Art
114D. The Later Art of India
C115A. Advanced Indian Art
C115B. Advanced Chinese Art
C115C. Advanced Japanese Art
C117A, C117B, C117C. Advanced Studies in Pre-Columbian Art
118A. The Arts of Oceania
118B. The Arts of Pre-Columbian America
118C. The Arts of Sub-Saharan Africa
118D. The Arts of Native North America
C119A. Advanced Studies in African Art: Western Africa
C119B. Advanced Studies in African Art: Central Africa
Classics 161. Introduction to Classical Mythology
168. Introduction to Comparative Mythology
Dance 111A-111B, 111C. Analysis of Human Movement
128. Dance as Culture in Education
140A-140B-140C. Dance Cultures of the World
141A-141B. Dance Forms
142. Dance in the Balkans
143. Dance in India
144. Dance in Indonesia
145. Dance in Japan
146. Dance in Latin America
151A. History of Dance in Western Culture, Origins to 1600
151B. History of Dance in Western Culture, Early Baroque to the Present
158A-158B. Philosophical Bases and Trends in Dance
159. Advanced Dance Notation
171A-171P. Performance Courses in Ethnic Dance: A-Bali; B-Ghana; E-India; F-Israel; G-Japan; H-Java; J-Mexico; L-Scotland; M-Spain; P-Yugoslavia (courses 71A-71P are prerequisites for 171A-171P)
English 104. Afro-American Literature
Folklore and Mythology CM106. Anglo-American Folk Song
108. Afro-American Folklore and Culture
M111. The Literature of Myth and Oral Tradition
M112. Survey of Medieval Celtic Literature
118. Folk Art and Technology
M121. British Folklore and Mythology
M122. Celtic Mythology
M123A. Finnish Folklore and Mythology
M123B. Finnish Folk Song and Ballad
124. Finnish Folk Art and Technology
M125. Folklore and Mythology of the Lapps
M126. Baltic and Slavic Folklore and Mythology
M127. Celtic Folklore
M128. Hungarian Folklore and Mythology

M129. Folklore and Mythology of the Ugric Peoples
130. North American Indian Folklore and Mythology Studies
131. Folklore of India
M149. Folk Literature of the Hispanic World
M150. Russian Folk Literature
M154A-M154B. The Afro-American Musical Heritage
M180. Analytical Approaches to Folk Music
M181. Folk Music of Western Europe
190. Selected Topics in Folklore and Mythology Studies
199. Special Studies in Folklore
German (Germanic Languages) 134. German Folklore
Music 108. Acoustics
130. Music of the United States
131A-131B. Music of Hispanic America
132A-132B. Development of Jazz
133. Bach
134. Beethoven
135A-135B-135C. History of the Opera
137A-137B. Psychology of Music
138. Aesthetics of Music
139. History and Literature of Church Music
140A-140B-140C. Musical Cultures of the World
141. Survey of Music in Japan
142A-142B. Folk Music of Eastern Europe and the Mediterranean
143A-143B. Music of Africa
144. American Popular Music
145. History of Chinese Opera
146A-146B-146C. Studies in Chinese Instrumental Music
147A-147B. Music of China
148. Folk Music of South Asia
149. The Anthropology of Music
152. Survey of Music in India
153A-153B-153C. Music of the American Indians
M154A-M154B. The Afro-American Musical Heritage
157. Music of Brazil
158. New Orleans Jazz
M180. Analytical Approaches to Folk Music
M181. Folk Music of Western Europe
187. Problems in Musical Aesthetics
Oriental Languages 135. Buddhist Themes in Asian Literature
140A-140B-140C. Chinese Literature in Translation
141A-141B. Japanese Literature in Translation
170A-170B. Archaeology in Early and Modern China
172. Introduction to Buddhism
173. Chinese Buddhism
174. Japanese Buddhism
183. Introduction to Chinese Thought
184. Introduction to Japanese Thought
189. Chinese Brush Painting
Theater Arts 102A, 102B. Selected Topics on the History of the European Theater
103A, 103B. Black Peoples' Theater in America
104D, 104E, 104F. History of the American Theater
106C. History of African, Asian, and Latin American Film
110A. History of Broadcasting
117. The Puppet Theater
118A. Creative Dramatics
119A. Theater for the Child Audience: Theory and Criticism
119B. Theater for the Child Audience: Performance
121. Acting Workshop
122. Makeup for the Stage
140A. Scenic Techniques for the Stage
140B. Advanced Scenery for the Stage
141A. Lighting Techniques for the Stage
141B. Advanced Lighting for the Stage
142A. Theater Costuming Techniques
142B. Advanced Costuming for the Stage
143. Scenic Design for the Theater
144A. Theater Sound Techniques
144B. Advanced Theater Sound
146. Scene Painting Techniques
149A. Basic Drafting Techniques for the Stage
160. Fundamentals of Play Direction
190B. The Role of Management in the Educational and Community Theater

Motion Picture/ Television

See Theater Arts

Music

2539 Schoenberg Hall Annex, 825-4761

Professors

Alden Ashforth, Ph.D.
Elaine R. Barkin, Ph.D.
Murray C. Bradshaw, Ph.D.
Malcolm S. Cole, Ph.D.
Frank A. D'Accone, Ph.D.
Paul E. Des Marais, M.A.
Marie Louise Göllner, Ph.D.
Frederick F. Hammond, Ph.D.
Thomas F. Harmon, Ph.D.
Richard A. Hudson, Ph.D.
William R. Hutchinson, Ph.D.
Nazir A. Jairazbhoy, Ph.D.
Henri Lazarof, M.F.A.
David Morton, Ph.D.
James W. Porter, M.A.
Paul V. Reale, Ph.D.
Gilbert Reaney, M.A.
Abraham A. Schwadron, Mus. A.D., *Chair*
Robert M. Stevenson, Ph.D.
Roy E. Travis, M.A.
D. K. Wilgus, Ph.D. *(Anglo-American Folksong)*

Emeritus Professors

Peter C. Crossley-Holland, M.A.
Maurice Gerow, Ph.D.
Edwin H. Hanley, Ph.D.
Mantle L. Hood, Ph.D.
Boris A. Kremenliev, Ph.D.
W. Thomas Marrocco, Ph.D.
Robert U. Nelson, Ph.D.
H. Jan Popper, Ph.D.
Robert L. Tusler, Ph.D.

Associate Professors

Charlotte A. Heth, Ph.D.
James E. Westbrook, D.M.A.
Robert S. Winter, Ph.D.

Assistant Professors

Jacqueline C. DjeDje, Ph.D.
David E. Draper, Ph.D.
Kathleen R. Murray, Ph.D.
A. Jihad Racy, Ph.D.

Lecturers

Gary G. Gray, M.M.
John L. Hall, M.M.
Johana Harris
William Hatcher, M.M.
Maureen D. Hooper, Ed.D.
Bess Karp, M.A.
Samuel Krachmalnick, *Senior*
Tsun Y. Lui
Barbara R. Patton, *Senior*
Peggy Ann Sheffield, M.M.
Sheridon W. Stokes
Suenobu Togi
Aube Tzerko, B.M., *Senior*
Donn E. Weiss, M.M., *Senior*

Assistant Professors

Mario Carta, *Adjunct*
Warren Pinckney, M.F.A., *Acting*

Lecturers

Gerald E. Anderson, M.S., *Visiting*
Salome R. Arkatov, M.A., *Visiting*
Lon Bussell, B.M., *Visiting*
Jeffrey Goodman, M.A., *Visiting*
Robyn Graham, B.M., *Visiting*
Mario Guarneri, M.S., *Visiting*
John A. Guarnieri, *Visiting*
Sybil D. Hast, M.A., *Visiting*
Nina Hinson, M.M., *Visiting*
John T. Johnson, B.M., *Visiting*
Yukiko Kamei, *Visiting*
Myra Kestenbaum, *Visiting*
Kobla Ladzekpo, B.F.A., *Visiting*
Danny Lee, *Visiting*
James R. Low, B.M., *Visiting*
Shirley L. Marcus, B.M., *Visiting*
Kenneth Munday, Cert. of Fine Arts, *Visiting*
Lou Anne Neill, M.A., *Visiting*
Theodore Norman, *Visiting*
Nils Oliver, M.M., *Visiting*
Mitchell T. Peters, M.M., *Visiting*
David Raksin, B.M., *Visiting*
Mark Richman, M.M., *Visiting*
Lois Rosow, Ph.D., *Visiting*
Donald J. Staples, B.A., *Visiting*
Alexander Treger, *Visiting*
Ikuko Yuge, *Visiting*
Paul Zibits, M.M., *Visiting*

Scope and Objectives

The four-year Bachelor of Arts curriculum in music is a balanced program of practical, theoretical, and historical studies. The program is classically oriented, with related studies in non-Western music traditions. The major, designed for students who combine good musicianship with academic excellence, is based on a core curriculum combining theory, history, analysis, applied studies, and the performance organizations. It provides a foundation for an academic or professional career, affords a valuable cultural background, and is given in the context of a liberal education.

At the graduate level, the degrees of Master of Arts and Doctor of Philosophy are offered in the fields of composition, ethnomusicology, historical musicology, music education, and

systematic musicology; the Master of Fine Arts (performance practices) is 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 11A, 12A, and 14A. 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 11A-11B-11C). The test must be passed by the end of course 11C or the first year as a music major, whichever comes first. Students with exceptional ability and achievement are placed into Music 11A-11F, 12A-12B, and/or 14A-14D. Further information may be obtained from the Student Services Office in the Department of Music.

General Requirements

All music majors must enroll in one performance organization (courses 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 Music 90A-90H or 91A-91Z.

Preparation for the Major

Required: Music 11A-11F, 12A-12B, 14A-14D, 26A-26B-26C, two courses from 60A-65. Music majors must take French, German, Italian, or Spanish to fulfill the college language requirement. If you plan to specialize in history and literature or systematic musicology, you are encouraged to take six quarters (or the equivalent) of German.

The Major

Required: A minimum of 10 courses in upper division, including Music 105 or 107A, 126A-126B-126C, five courses selected from one of the specializations listed below, and one free elective course for all areas except music education.

(1) *Composition and Theory:* Music 106A-106B, 107B-107C, and one elective course (four units) from 101, 103A, 103B, 104A, 104B, 108, 109A, 109B, 109C, 110A, 110B, 111A, 111B, 140A-149, 156A, C156B, and 199. Undergraduate composition specialists must have an original work completed and ready for rehearsal and performance on campus during their senior year.

(2) *History and Literature:* One course from C127A, C127B, C127C, one course from C127D, C127E, C127F, one course from 140A, 140B, 140C, and two electives from 104A, 104B, 108, C127A-C127F, 130, 131A, 131B, 133, 134, 135A, 135B, 135C, 151A, 151B, 156A, C156B, 157, 187, 188A-188F, and 199 (four units only).

(3) *Ethnomusicology:* Music 140A-140B-140C and two courses selected from 108, C127A-C127F, 131A, 131B, 141, 142A, 142B, 143A, 143B, 145-149, 152, 153A, 153B, 153C, 157, C190A, C190B, and 199.

(4) *Performance:* Twelve units in performance instruction courses 160A-165 (including junior and senior recital requirements), four units of chamber ensembles (175), and four units of electives from 101, 106A, 106B, 108, 110A, 110B, 111A, 111B, 112A, 112B, C127A-C127F, 130-135, 139, 140A, 140B, 140C, 151A, 151B, 187, and 199.

(5) *Music Education:* Music 100A-100B-100C, 110A, 111A, 193, 195, eight units from 115A-115E, and two units of electives selected under advisement from 110B, 111B, 112A, 112B, 140A, 140B, 140C, C185, 187, and 199. All students considering a music education specialization are urged to meet with a music education adviser during their freshman year.

(6) *Systematic Musicology:* Music 140A or 140B or 140C and four courses chosen from 103A, 103B, 108, 137B, 149, 184, 187, 199, Anthropology 133R.

Graduate Study

Admission

Application for admission/fellowship is due ..... December 30

Supplementary application materials are due ..... January 30

Late applications will be accepted until ..... about February 1

Supplementary application materials are due ..... March 1

Failure to meet any deadline may result in a delay in action on an application for admission as well as that for a fellowship or assistantship.

Applicants for the M.A. and M.F.A. must have completed a Bachelor of Arts degree with a major in music (or the equivalent). Transcripts must show at least 52 quarter units of work outside music, including one college year (or its high school equivalent) of French, German, Italian, or Spanish and an average grade of at least B in the basic areas that normally constitute the undergraduate core curriculum in music (harmony, counterpoint, music history, analysis, and musicianship).

Those applying for the Ph.D. must have completed a Master of Arts degree in Music (or the 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 will automatically be 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 will also be 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.

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 Credentials

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

A 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 these requirements when you enter the program, you must begin language study during the first year of 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 course 596A, 596B, or 596C and four units of course 597 or 598 may be applied toward the total course requirement. No more than four units of all types of 500-series courses may be applied toward the

minimum graduate course requirement. Upper division courses that may be applied toward the minimum of nine courses include 103A, 103B, 104A, 104B, 106A*, 106B*, 107A*, 107B*, 107C*, 108, 109A, 109B, 109C, 110A†, 110B, 111A†, 111B, 112A, 112B, 118, 119A, 119B, 119C, C127A-C127F, 140A**, 140B**, 140C**, 141, 142A, 142B, 143A, 143B, 145, 146A, 146B, 146C, 147A, 147B, 148, 149, 151A, 151B, 152, 153A, 153B, 153C, 156A, C156B, 157, 175, M180, M181, 184, C185, 187. A maximum of four units of chamber ensembles (Music 175) may be applied toward the degree. Course 598 serves to guide the preparation of the thesis and should normally be taken during the last quarter of residence.

*Does not apply for students whose emphasis is composition.
†Does not apply for students whose emphasis is music education.
**Does not apply for students whose emphasis is ethnomusicology.

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-260F, and one elective upon 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 upon the recommendation of the graduate adviser.

Ethnomusicology: Music 200A, 200B, C290A-C290B, and five electives upon the recommendation of the graduate adviser.

Composition: Music 200A, one course from 251A-251D, 252A, 252B, and 252C in sequence, with the option of substituting 596A for 252C, 266A or 266B, and three electives upon the recommendation of the graduate adviser. In addition to the thesis, composition students are expected to produce other works as well, involving both instrumental and vocal music, both solo and ensemble. Furthermore, you are responsible for the campus presentation of one original work during each year of residency.

Music Education: Music 200A, 200B, C225, two quarters of 270A-270F, and four electives upon the recommendation of the graduate adviser.

Thesis Plan

All M.A. students, except those specializing in music education, must use the thesis plan.

In all areas except composition, the thesis will be an extended essay. For students in composition, the thesis will be a work proposed by the student and approved by the composers' council. Students in music education may elect either the thesis plan or the comprehensive examination plan.

The thesis topic is first approved by the area council; the topic and the composition of the master's committee are then taken up by the graduate committee.

Comprehensive Examination Plan

The comprehensive examination plan may be used in lieu of the thesis plan only if you are specializing in music education and are not going on to the Ph.D. You must pass a three-hour examination in one selected area (general, choral, or instrumental); a three-hour examination in the broad field of music education; and a two-hour examination in either theory, composition, historical musicology, systematic musicology, or ethnomusicology. In case of failure, reexamination is possible upon the recommendation of the master's committee.

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

A reading knowledge of French, German, or Italian is required. Candidates in the opera speciality must also be fluent in speaking one of these languages. The language requirement should be satisifed by the end of the first year of residence.

All M.F.A. students will be required to pass a departmental terminology examination covering standard musical performance terminology (expression, dynamics, interpretation, performance practices, instrumentation, style, tempo) in French, German, and Italian. The terminology requirement should be satisfied by the end of the second year of 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 course 596A, 596B, or 596C and eight units of course 598 may be applied toward the total course requirement. No more than four units of all types of 500-series courses may be applied toward the minimum graduate course requirement. The minimum residence requirement for the M.F.A. is two years.

Course requirements are as follows: Music 200A, three quarters of 261A-261F, six quarters of 400-level performance instruction, two quarters (eight units) of 598, and six electives. Conducting students will declare either a choral or instrumental specialization. Six quarters of course 475 will be required in the area of specialization (i.e., choral or instrumental) and at least two quarters in the other specialization. (On a two-year program, the ratio would be four to one.) Recommended electives include Music 108, 140A-140B-140C, 175, 187, 596A, 596B, 596C, and additional courses from the 200 and 400 series. A maximum of four units in chamber ensembles (Music 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 the last two quarters of residence.

With the exception of the 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 will 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 a solo (joint recital, soloing with a performance organization, accompanying, etc.) and may be only a portion of the program. Conducting students will 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 the last year of residence. A solo recital and appropriate scholarly paper will be required in all areas. In addition, a major operatic performance is required in the area of opera. Conducting students will 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 will 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 terminology examination, language requirement, and a majority of the coursework must be completed before submitting 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 the last year of residence.

Ph.D. Degree

Admission

Applicants for the Ph.D. in music education must have two years teaching experience at the elementary or secondary level to be considered for admission.

Foreign Language Requirement

A reading knowledge of French and German is required in systematic musicology, ethnomusicology, and music education, while reading knowledge of French, German, and a choice of

Italian, Latin, or another language approved by the area council is required in historical musicology. In the field of composition, two languages are required, one of which must be German or French; the other may be chosen from German, French, Latin, Italian, or Russian.

Course Requirements

You may petition to your area council on the advice of your graduate adviser for exemption from specific requirements on the basis of equivalent work done at the M.A. level.

Course requirements for each field of study are as follows. In each area, you may complete the residence requirement by electing courses (by consent of the graduate adviser) from the 200- or 100-level courses listed under the course requirements for the M.A.

Historical Musicology: Music 200A, 201A-201B-201C, 210, 211, 250A or 250B, and five quarters of 260A-260F. Students who have received the M.A. in historical musicology from UCLA will normally take a minimum of three quarters of Music 260A-260F in the Ph.D. program.

Systematic Musicology: Music 200A, 200B, five quarters of 272, and one quarter of 255, 269, 273, or 275. Students who have received the M.A. in systematic musicology from UCLA will normally take a minimum of two quarters of Music 272 in the Ph.D. program.

Ethnomusicology: Music 200A, 200B, C290A-C290B, and six seminars, at least three of which must be 280 (the others are to be chosen from 248, 253, 254A-254B, or 255). You are also expected to complete two area studies courses. Parts of these requirements may be completed at the M.A. level.

Composition: Music 200A, one course from 251A-251D, six quarters of 252A, 252B, 252C in sequence, with the option of substituting 596A for 252C, and 266A or 266B. Students who have received the M.A. in composition from UCLA will normally take a minimum of three quarters of 252 in the Ph.D. program. Students who have received the M.A. in composition elsewhere will normally take six quarters of Music 252A, 252B, 252C in sequence, with the option of substituting 596A for either or both 252Cs. In addition to the dissertation, composition students are expected to produce other works as well, involving both instrumental and vocal music, both solo and ensemble. Furthermore, you are 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-270F. Students who have received the M.A. in music education from UCLA will normally take a minimum of three quarters of Music 270A-270F in the Ph.D. program. Under advisement, two of the three quarters of 270A-270F may be completed under special studies (596C). Students who wish to pursue the Ph.D. in music education with a minor in ethnomusicology will be required to take Music 200A, 200B, C225, C290A-C290B, three quarters of 270A-270F, and two courses from 141A-143B, 145-149, 152, 153A-153B-153C, or 281A-288. Electives are to be selected from 140A-140B-140C, M180, M181, 187, 254A-254B, 255, and 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 will act 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 upon consultation with the guidance committee and after a stipulated period of time. Consult the department for details on the written examinations.

Upon successful completion of the written examinations, the University Oral Qualifying Examination will be scheduled.

In all fields but composition, the dissertation will be an extended monograph. In composition, the dissertation will consist 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.

Final Oral Examination

A final oral examination is required by the department.

Candidate in Philosophy Degree

Students are eligible to receive the optional C.Phil. degree upon advancement to candidacy for the Ph.D.

Lower Division Courses

1A-1B. Fundamentals of Music. (Formerly numbered 1.) Lecture, three hours; laboratory, two hours. **1A.** Sight-singing, ear training, reading music, and harmonization of simple melodies. **1B.** Prerequisite: course 1A or consent of instructor. Diatonic harmony; four-part writing, including inversions, 7ths, secondary dominants, and modulation; organization of melody and accompaniment; simple analysis; advanced sight-singing and ear training.
Ms. Karp, Mrs. Patton

2A-2B. Introduction to the Literature of Music. (Formerly numbered 2A-2B-2C.) Lecture, four hours; laboratory, one hour. Designed for non-music majors. **2A** surveys the technical and formal principles of music literature through the mid-18th century. **2B** surveys music literature from the mid-18th century to the present.
Ms. Rosow

4A-4B-4C. Basic Musicianship (½ course 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 (½ course each). Prerequisite: consent of instructor. The acoustical makeup of sound (pitch, tone quality); tuning systems; modes and scales; harmony and polyphony, rhythm and meter; notational systems; relationships of music to culture. Laboratory includes ear training and instrumental techniques.
Mr. Draper, Mr. Hutchinson

6GA-6GB. Graduate Review of Music History and Analysis (½ course). Prerequisite: graduate standing. Designed to help entering graduate students remedy entrance deficiencies. Clearance of deficiencies is by examination. May be repeated for credit.
Mr. Hudson

8G. Graduate Piano Sight-Reading (½ course). Prerequisite: graduate standing. Designed to help entering graduate students remedy entrance deficiencies. Clearance of deficiencies is by examination. May be repeated.
Miss Sheffield

10. Computer Assisted Sight-Singing Laboratory (½ course). Lecture, two hours; laboratory, one hour. Prerequisites: course 1A or equivalent and 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. Musicianship (½ course each). Laboratory, four hours. Prerequisites: aptitude, achievement, and piano skills tests. Series (A-F) must be taken in order. **11A.** Sight-singing of diatonic melodies, dictation of intervals and diatonic melodies, keyboard score reading with two lines in various clefs, and elementary rhythmic exercises. **11B.** Sight-singing of melodies with simple modulations, diatonic harmonic dictation of triads and seventh chords, keyboard playing of cadences, score reading up to three parts, and rhythmic exercises. **11C.** Sight-singing of more difficult melodies, two-part dictation, elementary figured bass playing, keyboard score reading up to four parts, and rhythmic exercises. **11D.** Sight-singing two-part dictation, figured bass playing, score reading of chamber scores, and rhythmic exercises. **11E.** Sight-singing, two-part dictation, figured bass playing, 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 orchestral scores, and rhythmic exercises.
Ms. Barkin and the Staff

12A-12B. Counterpoint (½ course each). Lecture, four hours. **12A.** Prerequisites: aptitude, achievement, and piano skills tests. 16th-century modal counterpoint in two parts, including the writing of motets. **12B.** Prerequisites: courses 12A (may be taken concurrently) and 14B. 18th-century tonal counterpoint in two parts, including the writing of inventions.
Ms. Barkin and the Staff

14A-14B-14C. Common Practice Harmony (½ course each). Lecture, four hours. **14A.** Prerequisites: aptitude, achievement, and piano skills tests. Common practice harmony using triads, inversions, dominants and secondary dominants, and simple modulations. **14B.** Prerequisite: course 14A. Common practice harmony through extended dominants and diminished sevenths in all inversions, along with modulations to all diatonic keys. **14C.** Prerequisites: courses 12A-12B and 14B. Chromatic harmony, including augmented sixth chords, Neapolitan sixths, and altered chords, along with complex modulations.
Ms. Barkin and the Staff

14D. Modern Harmony (½ course). Lecture, four hours. Prerequisite: course 14C. 20th-century practices, including nonfunctional harmony, pan-diatonicism, polytonality, and serialism.
Ms. Barkin and the Staff

26A-26B-26C. History and Analysis of Music I. Lecture, four hours; laboratory, one hour. Prerequisites: courses 11A-11B-11C, 12A, 14A-14B. Courses 11C and 12A may be taken concurrently with course 26A. Course 26A is prerequisite to 26B, which is prerequisite to 26C. The history and literature of music from the beginning of the Christian era to 1750, with emphasis upon analysis of representative works of each style period. Materials selected will illustrate the history of style and changing techniques of composition. Mr. D'Accone and the Staff

60A-65. Undergraduate Instruction in Performance. Limited to music majors (all lower division majors and upper division majors not in the performance specialization). Individual instruction of one hour per week. Students must perform in a practicum once during the academic year. Units will be distributed on the basis of one unit each for Fall and Winter Quarters and two units for Spring Quarter. Grades will 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. Kestenbaum
60C. Cello.	Mr. Oliver
60D. String Bass.	Mr. Zibits
60E. Harp.	Ms. Neill
60F. Classical Guitar.	Mr. Norman and the Staff
60G. Viola da gamba.	Ms. Marcus
60K. Lute.	Mr. Buetens
61A. Flute.	Mr. Stokes
61B. Oboe.	Mr. Bussell
61C. Clarinet.	Mr. Gray
61D. Bassoon.	Mr. Munday
61E. Saxophone.	Mr. Gray
62A. Trumpet.	Mr. Guarneri
62B. French Horn.	Ms. Graham
62C. Trombone.	Mr. Staples
62D. Tuba.	Mr. Johnson
63. Percussion.	Mr. Peters
64A. Piano.	Mrs. Harris, Mr. Tzerko and the Staff
64B. Organ.	Mr. Harmon
64C. Harpsichord.	Ms. Karp
65. Voice.	Mr. Guarnieri, Miss Hinson, Mrs. Patton and the Staff

80A-80N. Performance Organizations (¼ course each). Performance, three hours. Prerequisite: audition. Limited to non-music majors (courses 90A-90N are for music majors). May be repeated for credit. **80A.** A Cappella Choir; **80B.** University Chorus; **80C.** Madrigal Singers; **80D.** Opera Workshop; **80E.** Symphony Orchestra; **80F.** Concert Band; **80G.** Symphonic Wind Ensemble; **80H.** Collegium Musicum; **80J.** Men's Glee Club; **80K.** Women's Glee Club; **80L.** Musical Comedy Workshop; **80M.** Marching and Varsity Bands; **80N.** Jazz Ensemble.

81A-81Z. Ethnomusicology Performance Organizations (¼ course each). Performance, three hours. Prerequisite: consent of instructor. Limited to non-music majors (courses 91A-91Z are for music majors). May be repeated for credit. **81A.** Music and Dance of the American Indian; **81B.** Music and Dance of Bali; **81C.** Music and Dance of Bulgaria; **81D.** Music and Dance of China; **81E.** Music and Dance of Ghana; **81F.** Music and Dance of India; **81G.** Music and Dance of Japan; **81H.** Music of Java; **81J.** Music of Korea; **81K.** Music of Mexico; **81L.** Music of Persia; **81M.** Music of Thailand; **81N.** Music of the Near East; **81Z.** Open Ensemble.

90A-90N. Performance Organizations (No credit). Performance, three hours. Prerequisite: audition. Limited to music majors (courses 80A-80N are for non-music majors). Music majors may enroll in only one performance organization per quarter. May be repeated. **90A.** A Cappella Choir; **90B.** University Chorus; **90C.** Madrigal Singers; **90D.** Opera Workshop; **90E.** Symphony Orchestra; **90F.** Concert Band; **90G.** Symphonic Wind Ensemble; **90H.** Collegium Musicum; **90J.** Men's Glee Club; **90K.** Women's Glee Club; **90L.** Musical Comedy Workshop; **90M.** Marching and Varsity Bands; **90N.** Jazz Ensemble.

91A-91Z. Ethnomusicology Performance Organizations (No credit). Performance, three hours. Prerequisite: consent of instructor. Limited to music majors (courses 81A-81Z are for non-music 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 Ghana; **91F.** Music and Dance of India; **91G.** Music and Dance of Japan; **91H.** Music of Java; **91J.** Music of Korea; **91K.** Music of Mexico; **91L.** Music of Persia; **91M.** Music of Thailand; **91N.** Music of the Near East; **91Z.** Open Ensemble.

Upper Division Courses

100A-100B-100C. Music in American Education (½ course each). Lecture, three hours; laboratory, one hour. Prerequisites: courses 11A-11F, 12A-12B, 14A-14C, 14D, 26A-26B-26C, 193, and 195. Course 110A is prerequisite to 100B; course 111A 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. Ms. Karp

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. Mr. Travis

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. Mr. Travis

105. Introduction to Composition. Lecture, three hours. Prerequisites: courses 11A-11F, 12A-12B, 14A-14C, 14D. Intended for music majors whose specializations are in areas other than composition. The nature of the compositional process will be explored with selected exercises in specific techniques and styles. Mr. Reale

106A-106B. Advanced Orchestration. Discussion, three hours. Prerequisites: courses 17A-17F. Course 106A is prerequisite to 106B. Course 106A is not open to students with credit for former course 106B; course 106B is not open to students with credit for former course 106C. Scoring and analysis for ensembles and full orchestra. Mr. Ashforth

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 composition and theory. Vocal and instrumental composition in the smaller forms, including style composition and 20th-century techniques. Mr. Des Marais

108. Acoustics. Lecture, three hours. Prerequisite: consent of instructor. The interrelationship of acoustical and musical phenomena. Tuning systems, consonance and dissonance, tonal quality. Lecture, demonstration, discussion, and tours of instrumental collections and acoustical research facilities. Mr. Hutchinson

109A-109B-109C. Composition for Motion Pictures and Television (½ course each). Prerequisites: courses 11A-11F, 12A-12B, 14A-14C, and 14D, or consent of instructor. Course 109A is prerequisite to 109B, 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

110A-110B. Study and Conducting of Choral Literature (½ course each). Lecture, three hours. Prerequisites: courses 11A-11F, 12A-12B, 14A-14C, 14D, and 26A-26B-26C, or consent of instructor. Course 110A is prerequisite to 110B. The theory and practice of conducting as related to the study of choral works from the Renaissance to the present day. **110A.** Conducting fundamentals, including basic skills, techniques, analysis, and repertoire. **110B.** Stylistic interpretation of music literature. Mr. Hatcher, Mr. Weiss

111A-111B. Study and Conducting of Instrumental Literature (½ course each). Lecture, three hours. Prerequisites: courses 11A-11F, 12A-12B, 14A-14C, 14D, and 26A-26B-26C, or consent of instructor. Course 111A is prerequisite to 111B. The theory and practice of conducting as related to the study of instrumental works for string and wind ensembles. **111A.** Conducting fundamentals, including basic skills, techniques, analysis, and repertoire. **111B.** Stylistic interpretation of music literature. Mr. Henderson, Mr. Westbrook

112A-112B. Practical Scoring. Lecture, two hours; laboratory, two hours. Prerequisites: courses 11A-11F, 12A-12B, 14A-14C, 14D, and 26A-26B-26C, 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. Mr. Henderson, Mr. Weiss

113A-113B. Music Literature for Children. Lecture, three hours; laboratory, one hour. Prerequisites: courses 1A, 2A, or consent of instructor. Course 113A is not prerequisite to 113B. Designed for the non-music 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, singing, and folk instruments. Miss Hooper

115A-115E. Study of Instrumental and Vocal Techniques (¼ course each). Laboratory, three hours. Prerequisites or corequisites: courses 11A, 193, and consent of instructor. Applied studies in basic performance techniques and tutorial materials. Each of courses 115A-115D may be repeated once for credit. **115A.** Strings; **115B.** Woodwinds; **115C.** Brass; **115D.** Percussion; **115E.** Voice. Mr. Anderson, Mr. Hatcher

118. Advanced Study and Conducting of Orchestral Literature (½ course). Lecture, one hour; laboratory, two hours. Prerequisites: courses 111A-111B or consent of instructor. Detailed investigation of musical styles of orchestral literature, performance practices, and rehearsal techniques. Preparation by student to conduct an established student chamber ensemble. Mr. Krachmalnick

119A-119B-119C. Advanced Study and Conducting of Choral Literature (½ course each). Lecture, three hours. Prerequisites: courses 110A-110B. Course 119A is prerequisite to 119B, which is prerequisite to 119C. Advanced theory and practice of conducting; the study of representative choral works from the conductor's viewpoint. Mr. Hatcher, Mr. Weiss

126A-126B-126C. History and Analysis of Music II. Lecture, four hours; laboratory, one hour. Prerequisites: courses 11A-11F, 12A-12B, 14A-14C, 14D, and 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 upon analysis of representative works of each style period. Materials selected will illustrate the history of style and changing techniques of composition. Mr. Winter and the Staff

C127A-C127F. Selected Topics in the History of Music. (Formerly numbered 127A-127F.) Lecture, three hours. Prerequisites to all courses: courses 11A-11F, 12A-12B, 14A-14C, 14D, and 26A-26B-26C; in addition, 126A is prerequisite to C127D, 126A-126B are prerequisite to C127E, and 126A-126B-126C are prerequisite to C127F. Designed as a proseminar for undergraduates in preparation for graduate work. Special aspects of the music of each period are 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. Mrs. Gollner and the Staff

130. Music of the United States. Prerequisite: course 2A or consent of instructor. A survey of art music from Colonial times to the present. Mr. Stevenson

131A-131B. Music of Hispanic America. Prerequisite: consent of instructor. Course 131A is not prerequisite to 131B. Survey of art music, including attention to ethnic developments and peninsular background. **131A.** Mexico, Central America, and the Caribbean Isles; **131B.** Hispanic South America. Mr. Stevenson

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. Ms. Rosow

134. Beethoven. Lecture, two hours; laboratory, two hours. The life and works of Ludwig van Beethoven. Mr. Winter

135A-135B-135C. History of the Opera. Lecture, four hours; laboratory, one hour. **135A.** Opera of the Baroque and Classical Periods; **135B.** Opera of the Romantic Period; **135C.** Opera of the 20th Century. Mr. Cole

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 the use of music as a stimulus, tests and measurements, and related modes of musical behavior. **137B.** Prerequisites: courses 11A-11B-11C, 12A, 14A-14B, and 26A-26B-26C, or consent of instructor. A study of the psychological factors and problems in music from the points of view of the listener, performer, and composer. Ms. Murray

138. Aesthetics of Music. Lecture, three hours. Designed for nonmajors. A historical survey of musical aesthetic thought and practice. Selected readings and musical examples. Mr. Schwadron

139. History and Literature of Church Music. Prerequisite: course 2A or consent of instructor. A study of the forms and liturgies of Western church music. Mr. Cole

140A-140B-140C. Musical Cultures of the World. Prerequisite: consent of instructor. Course 140A is not prerequisite to 140B, which is not prerequisite to 140C. A survey of the musical cultures of the world (excluding Western art music), the role of music in society and its relationship to other arts; consideration is also given to scale structure, instruments, musical forms, and performance standards. **140A** deals with the musical cultures of Europe and the Americas; **140B** with those of the Near East and Africa; **140C** with those of South Asia, Southeast Asia, and the Far East. Mr. Jairazbhoy, Mr. Racy

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 not prerequisite to 142B. **142A** introduces the student to the forms and styles of traditional music in Eastern Europe (including the Balkans). Historical and ethnological aspects of the music are illustrated by numerous recorded examples from the major cultural subdivisions of the area. **142B** introduces the student to the forms and styles of traditional music in the Mediterranean basin, particularly those in which interaction between European and Oriental styles is apparent. Mr. Porter, Mr. Racy

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 and its relationship to American culture, with emphasis on 20th-century popular music and its major composers, including a comparison between traditional pre-1950 popular music and trends in post-1950 popular music. Mr. Morton

145. History of Chinese Opera. Prerequisite: consent of instructor. A survey of dramatic elements in Chinese operas, incorporating singing, dance, and acrobatics. Emphasis is 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 not prerequisite to 146B, which is not prerequisite to 146C. **146A.** A study of the literature, major sources, paleography, theory, and philosophy of the Ch'in and P'i P'a, including transcription and analysis. **146B.** A comprehensive study of Chinese musical instruments, classification system, 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 P'i 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. Course 147A is prerequisite to 147B. **147A.** History and theory of the music of China, including a survey of various provinces. Instrumental techniques. Not open for credit to students with credit for former course 147. **147B.** Introduction to various notational 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 occurrence. Mr. Jairazbhoy

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. Draper

151A-151B. History of Musical Performance Practices. Prerequisites: courses 11A-11F, 12A-12B, 14A-14C, 14D, and 26A-26B-26C. A general survey of musical interpretation and re-creation from the viewpoint of stylistic authenticity. **151A.** Medieval through Baroque; **151B.** Classic through 20th Century. Mr. Harmon

152. Survey of Music in India. A consideration of the main music genres in India, with particular reference to the religious, sociocultural, and historical background of the country. Mr. Jairazbhoy

153A-153B-153C. Music of the American Indians. American Indian music will be studied within the broader context of styles, cultural values, and sources. Films, recordings, lectures, and limited group singing and dancing will relate the music to the culture producing it. **153A.** Musics of the Eastern, California-Yuman, Great Basin, and Northwest Coast Areas; **153B.** Musics of the Athabascan, 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. Draper, Ms. Heth

M154A-M154B. The Afro-American Musical Heritage. (Same as Folklore M154A-M154B.) Prerequisite: course 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 West African, Afro-American, and Afro-Brazilian musical traditions. Ms. DjeDje

156A. Techniques of Electronic Music. Lecture, three hours; laboratory, two hours. Prerequisites: course 107A or equivalent and consent of instructor. Not open for credit to students with credit for former course 156. Manipulation of analog synthesizers and auxiliary equipment, tape techniques, and realization of original compositional materials. Mr. Ashforth

C156B. Techniques of Electronic Music. (Formerly numbered 156B.) Lecture, three hours; laboratory, two hours. Prerequisites: course 156A and consent of instructor. Manipulation of analog synthesizers and auxiliary equipment, tape techniques, and realization of original compositional materials. May be concurrently scheduled with course C226. Mr. Ashforth

157. Music of Brazil. Prerequisites: consent of instructor and some knowledge of Portuguese. History of ethnic and art music in Brazil with some reference to Portuguese antecedents. Mr. Stevenson

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 polycultural roots, local municipal traditions, and stylistic analysis. Mr. Ashforth

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. Mr. Stevenson

160A-165. Undergraduate Instruction in Performance for the Performance Specialist. Limited to upper division music majors who have been accepted by audition into the performance specialization. Individual instruction of one hour per week. Students must perform in a noon concert once during their junior year and must present a full recital in their senior year. Units will be distributed on the basis of one unit each for Fall and Winter Quarters and four units for Spring Quarter. Grades will be 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. Kestenbaum
160C. Cello.	Mr. Oliver
160D. String Bass.	Mr. Zibits
160E. Harp.	Ms. Neill
160F. Classical Guitar.	Mr. Norman and the Staff
160G. Viola da gamba.	Ms. Marcus
160K. Lute.	Mr. Buetens
161A. Flute.	Mr. Stokes
161B. Oboe.	Mr. Bussell
161C. Clarinet.	Mr. Gray

161D. Bassoon. Mr. Munday
161E. Saxophone. Mr. Gray
162A. Trumpet. Mr. Guarneri
162B. French Horn. Ms. Graham
162C. Trombone. Mr. Staples
162D. Tuba. Mr. Johnson
163. Percussion. Mr. Peters
164A. Piano. Mrs. Harris, Mr. Tzerko and the Staff
164B. Organ. Mr. Harmon
164C. Harpsichord. Ms. Karp
165. Voice. Mr. Guarnieri, Miss Hinson, Mrs. Patton and the Staff

174A-174D. Musical Terminology and Diction for Musicians (¼ course each). Prerequisite: music major or consent of instructor. Highly recommended for students enrolled in the Opera Workshop, as well as students in performance and music education. Intensive work in basic pronunciation and diction (for students with no background in the language), as well as more specialized work in terminology and translation of song texts and performance directions (for students with some background in the language). Students may enroll in two sections per quarter; a total of four units may be applied toward the degree requirements. Each course may be repeated once for credit. **174A**. German; **174B**. French; **174C**. Spanish; **174D**. Italian. Mrs. Hast

175. Chamber Ensembles (½ course). Prerequisite: audition. Students must be at the advanced level of their instrument to participate. Applied study of the performance practices of literature appropriate to the ensemble. Students may enroll in two sections per quarter; a total of twelve units may be applied toward the degree requirements. May be repeated for credit.

M180. Analytical Approaches to Folk Music. (Same as Folklore M180.) Prerequisites: courses 5A-5B-5C or consent of instructor. An intensive study of the methods and techniques necessary to the understanding of Western folk music. Mr. Porter

M181. Folk Music of Western Europe. (Same as Folklore M181.) Prerequisite: consent of instructor. The course introduces students to the forms and styles of traditional music in Western Europe. Historical and ethnological perspectives on this music are combined with numerous recorded examples from the major cultural subdivisions of the region. Mr. Porter

184. Experimental Research in Music. Lecture, three hours. Prerequisites: courses 11A-11F, 12A-12B, 14A-14C, 14D, and 26A-26B-26C or consent of instructor. Recommended for music majors in all specializations. Theories and processes in various modes of musical experimentation: physical, perceptual, psychological, pedagogical, quantificational, statistical procedures. Ms. Murray

C185. Historical and Philosophical Foundations of Music Education. (Formerly numbered 185.) Lecture, three hours. Prerequisite: completion of the undergraduate music education specialization or consent of instructor. The development of music education in the United States according to established schools of thought. May be concurrently scheduled with course C225. Mr. Schwadron

187. Problems in Musical Aesthetics. Lecture, three hours. Prerequisites: courses 11A-11F, 12A-12B, 14A-14C, 14D, and 26A-26B-26C. Recommended for students in all music specializations. Critical approach to musical problems of aesthetic analysis, description, values, theories, including both Western and non-Western considerations. Mr. Schwadron

188A-188F. The Master Composer. (Formerly numbered 188A-188Z.) 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 sixteen units. **188A.** Middle Ages; **188B.** Renaissance; **188C.** Baroque; **188D.** Classic; **188E.** Romantic; **188F.** 20th Century. Mr. Stevenson

189. The Symphony. Lecture, three hours; laboratory, one hour. A survey of symphonic literature from Haydn through the 20th century, with special emphasis upon the current symphonic programs of the Los Angeles Philharmonic Orchestra and other performing groups in the Los Angeles area.

C190A-C190B. Proseminar in Ethnomusicology. (Formerly numbered 190A-190B.) Lecture, three hours. Prerequisites: courses 140A-140B-140C. May be concurrently scheduled with courses C290A-C290B. Mr. Racy

193. Proseminar in Music Education (½ course). Prerequisites: course 11A (may be taken concurrently) and sophomore standing. A historical and philosophical introduction to the field. Mr. Schwadron

195. Field Studies in Music Education (½ course). Discussion, two hours; laboratory, two hours. Prerequisite: course 193. Discussion and observation of current practices. Miss Hooper

199. Special Studies in Music (½ or 1 course). Hours to be arranged. Prerequisites: senior standing, consent of instructor and department Chair, 3.0 grade-point average. Individual studies in music resulting in a research project. May be repeated for a maximum of eight units. Mr. Schwadron and the Staff

Graduate Courses

200A. Research Methods and Bibliography (1½ courses). Lecture, three hours. Prerequisite: graduate standing. A survey of general bibliographic material in music.

200B. Research Methods and Bibliography (1½ courses). Lecture, three hours. Prerequisite: course 200A. Guided writing, utilizing specific bibliography, in systematic musicology, ethnomusicology, and music education.

201A-201B-201C. Introductory Seminar in Historical Musicology (1½ courses each). Lecture, three hours. Course 201A is prerequisite to 201B, which is prerequisite to 201C. An introduction at the graduate level to the central questions and problems in the history of Western music designed to give beginning graduate students a unified background for the remainder of their studies and to employ their developing skills in research and bibliography. Mr. Cole, Mr. Hudson, Mr. Reaney

210. Medieval Notation (1½ courses). Lecture, three hours. Prerequisite: consent of instructor. Vocal and instrumental notation; paleography of the period. Mr. Reaney

211. Renaissance Notation (1½ courses). Lecture, three hours. Prerequisite: consent of instructor. Vocal and instrumental notation; paleography of the period. Mr. D'Accone

C225. Historical and Philosophical Foundations of Music Education. Lecture, three hours. Prerequisites: graduate standing and consent of instructor. The development of music education in the United States according to established schools of thought. Additional assignments, as well as evidence of a greater depth of study, are required of graduate students. May be concurrently scheduled with course C185. Mr. Schwadron

C226. Techniques of Electronic Music. Lecture, three hours; laboratory, two hours. Prerequisites: course 156A, graduate standing, and consent of instructor. Manipulation of analog synthesizers and auxiliary equipment, tape techniques, and realization of original compositional materials. Additional compositional assignments are required of graduate students. May be concurrrently scheduled with course C156B. Mr. Ashforth

C227A-C227F. Selected Topics in the History of Music. Lecture, three hours. Prerequisite: graduate standing. Special aspects of the music of each period are studied in depth. Additional assignments, as well as evidence of a greater depth of study, are required of graduate students. Each course may be repeated once for credit. May be concurrently scheduled with courses C127A-C127F. **C227A.** Middle Ages; **C227B.** Renaissance; **C227C.** Baroque; **C227D.** Classic; **C227E.** Romantic; **C227F.** 20th Century. Mrs. Gollner, Mr. Winter

248. Seminar in Comparative Music Theory (1½ courses). Lecture, three hours. Prerequisite: consent of instructor. The comparative study of the codified music theories of select cultures— Western and non-Western — considered in themselves and as expressions of their societies. Theory considered as a science of music; its place between cultural values and artistic practice in different civilizations.

250A-250B. Seminar in the History of Music Theory (1½ courses each). Lecture, three hours. Prerequisite: course 200A. Course 250A is not prerequisite to 250B. **250A.** Music Theory from Antiquity through Zarlino; **250B.** Music Theory from Rameau to the Present. Mr. D'Accone, Mr. Reaney

251A-251D. Seminar in Special Topics in Composition and Theory. Seminar, three hours. An intensive exploration of specialized aspects of composition. May be repeated for credit. **251A.** Orchestration; **251B.** Specific Media; **251C.** Specific Styles; **251D.** Compositional Analysis. Mr. Travis

252A-252B-252C. Seminar in Composition (1½ courses each). Lecture, three hours. Prerequisites: courses 106B and 107C. Course 252A is prerequisite to 252B, which is prerequisite to 252C. Courses may be taken out of sequence only by consent of instructor. May be repeated for credit. Mrs. Barkin

253. Seminar in Notation and Transcription in Ethnomusicology (1½ courses). Lecture, three hours. Prerequisites: courses 140A-140B-140C and C190A-C190B, or consent of instructor.

254A-254B. Seminar in Field and Laboratory Methods in Ethnomusicology (1½ courses each). Lecture, three hours. Prerequisites: courses C190A-C190B or consent of instructor. Training includes experience in handling of technical apparatus, films, recording, processing, and editing; field projects. Mr. Draper, Mr. Jairazbhoy

255. Seminar in Musical Instruments of the Non-Western World (1½ courses). Lecture, three hours. Prerequisites: courses 140A-140B-140C and C190A-C190B, or consent of instructor.

256. Seminar in Musical Form (1½ courses). Lecture, three hours. Prerequisites: courses 126A-126B-126C. The analysis of structural organizations in music. Mr. Hudson

257. Seminar in Music of the United States and Canada. Seminar, three hours. Prerequisite: course 130.

M258. Seminar in Folk Music. (Same as Folklore M258.) Seminar, three hours. Prerequisite: consent of instructor. Mr. Porter, Mr. Wilgus

260A-260F. Seminar in Historical Musicology (1½ courses each). Lecture, three hours. Prerequisites: courses 200A, 201A-201B-201C, and 210 or 211 (either may be taken concurrently). May be repeated for credit. **260A.** Medieval Music; **260B.** Renaissance; **260C.** Baroque; **260D.** Classical; **260E.** Romantic; **260F.** General Topics.

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.

266A-266B. Seminar in Music of the 20th Century. Seminar, three hours. Prerequisites: courses 126A-126B-126C. Students with credit for former course 266 may take either course 266A or 266B. **266A.** Discussion and analysis of the major works of the 20th century before World War II. Emphasis is placed on the study of groups of works written at the same time in history. **266B.** Discussion and analysis of composers and their works from 1945 to the present.

269. Seminar in the History of European Instruments. Seminar, three hours. Mr. Hammond

270A-270G. Seminar in Music Education (1½ courses each). (Formerly numbered 270A-270F.) Lecture, three hours. Prerequisite: consent of instructor. May be repeated for credit. **270A.** History; **270B.** Non-Western Musics; **270C.** Curriculum Innovations; **270D.** Tests and Measurements; **270E.** Choral Literature; **270F.** Instrumental Literature; **270G.** General Topics.

272. Seminar in Systematic Musicology. Seminar, three hours. Prerequisites: course 108 and consent of instructor. May be repeated for credit.

273. Seminar in Acoustics of Music (1½ courses). Lecture, three hours. Prerequisite: course 108 or consent of instructor. May be repeated once for credit. Mr. Hutchinson

275. Seminar in Aesthetics of Music (1½ courses). Lecture, three hours. Prerequisite: course 187 or consent of instructor. May be repeated once for credit. Mr. Schwadron

276. Seminar in the Psychology of Music (1½ courses). Lecture, three hours. Prerequisite: course 184 or consent of instructor. Selected topics in the psychology of music, including recent findings in brain research, musical perception, learning, cognition, memory, therapy, affect, meaning, and measurement. May be repeated for credit. Mrs. Murray

280. Seminar in Ethnomusicology (1½ courses). Lecture, three hours. Prerequisites: courses 140A-140B-140C, C190A-C190B, 200A, 200B. May be repeated for credit.

281A-281B. Music of Indonesia. Seminar, three hours. Prerequisite: consent of instructor. The 2000-year old cultural history of Indonesia will serve as a background for the materials of this course. During the first quarter, emphasis will be on the music of related performing arts of Java, including an analytical and comparative concentration on music as well as exercises in the melodic writing of classical gending; a similar emphasis in the second quarter will be devoted to the music and performing arts of Bali. Concurrent participation in one of the Indonesian performance groups is required.

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

283. Music of Thailand. Seminar, three hours. Prerequisite: consent of instructor. A study of the traditional music of Thailand; historical background and intercultural influences, instruments and ensembles, theatrical and dance music, the music in its social context; analysis of forms and styles through examination of representative compositions, with practice in composing in basic styles. Concurrent participation in the Thailand performance group is required.

284. Music of the Arabic-Speaking Near East. Seminar, three hours. Prerequisite: consent of instructor. A comparative study of the music cultures of Arabic speaking Near Eastern communities, with particular reference to pre-19th-century Arabic sources on music theory and aesthetics, and contemporary musical practice considered in respect of social contexts, musical genres, relationship between theory and practice, and trends. 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. A study of the history, theory, and practice of North and South Indian classical music. The first quarter will be concerned primarily with music history and traditional theory, while the second quarter will involve analysis of present-day forms, styles, techniques, and musical instruments. Concurrent participation in the Indian performance group is required. Mr. Jairazbhoy

287. Seminar in African Music. Seminar, three hours. Prerequisites: courses 140A-140B-140C, 143A-143B, 200A, 200B. Intensive investigation of musical style, historical, social, and cultural aspects of indigenous musical traditions and related art forms.

288. Seminar in North American Indian Music. Seminar, three hours. Prerequisite: consent of instructor. A survey of representative musical styles of Native North American Indians, including problems of transcription, methods of analysis, symbolic implications of song texts. Emphasis will be placed on interrelationship between music and cultural context. The influence of Western music in acculturative contexts will also be discussed. Mr. Draper

C290A-C290B. Proseminar in Ethnomusicology. Lecture, three hours. Prerequisites: courses 140A-140B-140C and graduate standing. Additional assignments, as well as evidence of a greater depth of study, are required of graduate students. May be concurrently scheduled with courses C190A-C190B.

370. Music in General Education (½ course). Prerequisite: graduate standing in the Graduate School of Education teacher training program (all music students must take course 370 concurrently with Education 100A, 100B, 112, 312, 315A, 315B, 315C, and supervised teaching). Critical discussions related to supervised teaching in progress. May be repeated twice for credit. Miss Hooper

375. Teaching Apprentice Practicum (¼ to 1 course). 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.

460A-465. Graduate Instruction in Performance (1½ courses each). Limited to M.F.A. students. Individual instruction of one hour per week, with performance laboratory at discretion of instructor. Intensive study and preparation of musical literature in the area of specialization. May be repeated for credit. **460A.** Violin; **460B.** Viola; **460C.** Cello; **460D.** String Bass; **460E.** Harp; **460F.** Classical Guitar; **460G.** Viola da gamba; **460K.** Lute; **461A.** Flute; **461B.** Oboe; **461C.** Clarinet; **461D.** Bassoon; **461E.** Saxophone; **462A.** Trumpet; **462B.** French Horn; **462C.** Trombone; **462D.** Tuba; **463.** Percussion; **464A.** Piano; **464B.** Organ; **464C.** Harpsichord; **465.** Voice.

472. Master Class in Opera (1½ courses). Laboratory, three hours. Limited to M.F.A. students. Intensive study and preparation of opera literature. May be repeated for credit. Mr. Krachmalnick

475. Master Class in Conducting (1½ courses). Laboratory, three hours. Limited to M.F.A. students. Intensive study and preparation of musical literature in the specialized field of conducting. May be repeated for credit. Mr. Hatcher, Mr. Weiss

596A. Directed Individual Studies in Orchestration and Composition (½, 1, or 1½ courses). 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 (½, 1, or 1½ courses). Only four units may be applied toward the M.A. or M.F.A. course requirements.

596C. Directed Individual Studies in Music Education (½, 1, or 1½ courses). Only four units may be applied toward the M.A. or M.F.A. course requirements.

597. Preparation for Master's Comprehensive Examination or Ph.D. Qualifying Examination (½ or 1 course). S/U grading.

598. Guidance of M.A. Thesis or M.F.A. Final Project (1, 2, or 3 courses). M.A. candidates may apply four units toward degree requirements; M.F.A. candidates may apply eight units toward degree requirements. May be repeated for credit. S/U grading.

599. Guidance of Ph.D. Dissertation (1, 2, or 3 courses). May be repeated for credit. S/U grading.

Related Courses in Other Departments

Dance C154. Music as Dance Accompaniment

206. Music for Dance

Folklore and Mythology CM106. Anglo-American Folk Song

M123B. Finnish Folk Song and Ballad

M243A. The Ballad

M243B. Problems in Ballad Scholarship

Theater Arts

2310 Macgowan Hall, 825-5761

Professors

William B. Adams, M.A.
John R. Cauble, M.A.
Shirley M. Clarke, A.A.
Donald B. Crabs, M.A., *Chair*
Arthur B. Friedman, Ph.D.
William Froug, B.J.
Henry Goodman, Ph.D.
Richard C. Hawkins, M.A.
Melvyn B. Helstien, Ph.D.
Carl R. Mueller, Ph.D.
Delia N. Salvi, Ph.D.
Louis C. Stoumen, B.A.
Frank A. Valert
Abe V. Wollock, Ph.D.
John W. Young, M.A.

Emeritus Professors

Walden P. Boyle, Ph.D.
Robert F. Corrigan, M.A.
Michael Gordon, M.F.A.
Edward Hearn, M.A.
John H. Jones, M.A.
Walter K. Kingson, Ed.D.
Frank D. La Tourette, M.Litt.
William W. Melnitz, Ph.D.
Darrell E. Ross, M.F.A.

Associate Professors

Nicholas K. Browne, Ed.D.
Gary A. Gardner, Ph.D.
Robert H. Hethmon, Ph.D.
Stephen D. Mamber, Ph.D.
Dan F. McLaughlin, M.A.
Sylvia E. Moss, B.A.
Jorge R. Preloran, B.A.
Ruth E. Schwartz, Ph.D.
Howard Suber, Ph.D.
William D. Ward, M.F.A.
Norman F. Welsh, B.A.
William T. Wheatley, Ph.D.
Margaret L. Wilbur, M.F.A.
William H. Menger, M.A., *Emeritus*

Assistant Professors
Alan M. Armstrong, M.F.A.
Janet L. Bergstrom, Ph.D.
Ivan N. Cury, M.F.A.
Teshome H. Gabriel, Ph.D.
Michael J. Hackett, Ph.D.
Patricia M. Harter, M.A.
Michael S. McLain, Ph.D.
Joanne T. McMaster, M.F.A.
Kathryn C. Montgomery, Ph.D.
Robert A. Nakamura, M.F.A.
Thomas J. Orth, M.F.A.
Beverly J. Robinson, M.A.
Richard S. Rose, M.F.A.
Carol J. Sorgenfrei, Ph.D.
Richard Walter, M.A.

Lecturers
John D. Boehm, M.A.
Edgar L. Brokaw, B.A.
Hugh M. Grauel, M.A.
Mark McCarty, M.A.

Professor
Robert E. Lee, D.Litt., *Adjunct*

Associate Professors
Theodore Apstein, Ph.D., *Adjunct*
Edward Burbridge, B.F.A., *Adjunct*
Lewis R. Hunter, M.A., *Adjunct*

Assistant Professor
Jennifer Penny, M.F.A., *Visiting*

Lecturers
Robert Bookman, J.D., *Visiting*
Matthew J. Chait, M.A., *Visiting*
Gordon Davidson, M.A., *Visiting*
Peter J. Dekom, J.D., *Visiting*
Anthony DeLongis, B.A., *Visiting*
H. Peter Guber, LL.M., *Visiting*
John Ingle, M.A., *Visiting*
William E. Kerstetter, J.D., *Visiting*
Kerry A. Madden, M.F.A., *Visiting*
Bob Merrill, *Visiting*
William E. Oliver, *Visiting*
Robert Rosen, M.A., *Adjunct*
Robert Trachinger, *Visiting*
Lyne S. Trimble, M.S., *Visiting*
George Van Buren, *Visiting*

Scope and Objectives

The UCLA Department of Theater Arts is considered among the finest of its kind in the country and is the only one that combines theater, motion picture, radio, and television in a single department.

The department bases its work on a solid foundation in the liberal arts. The purpose of the curriculum is to develop in its students a scholarly, creative, and professional approach to the theater arts. The aim of the department is to train graduates who will eventually make original contributions in the field of their work.

Each of the department's two divisions, 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 Theater

Preparation for the Major

Required: Theater Arts 5A, 5B, 5C, 10, 20, English 90.

The Major

Required: A total of 60 upper division units, including Theater Arts 130A, 140A, 141A, 142A, 143, 160 or 161A*, 170, C172 (eight units); one course chosen from 122, 144A, 146, 149A, 174, 190A, 190B; 22 units of approved upper division theater arts electives. Through certain of these required courses, you are responsible for completing specific production assignments related to production activity of the theater curriculum during each quarter of residence.

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*If course 161A is used to complete the requirement, 24 units of electives will be required.

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 status as a junior at the University. You must have at least 84 quarter units (56 semester units) of credit and have completed the general University and College of Fine Arts requirements before entering the major. You must also obtain departmental consent by (1) filing a letter of intention; (2) giving evidence of creative or critical ability when requested; and (3) providing additional material as determined by the department.

The Major

The major in motion picture/television consists of 68 upper division units taken in the junior and senior years. These include courses 109, 134, C166 (double course), C185 (double course); one of the following writing courses: 131, 133, 135, 181B; two of the following film history courses: 106A, 106B, 106C, 106D, 106E, 108, 110A; two of the following film criticism courses: 107, 110B, 112, 113, 114, 116; two motion picture/television area courses; and four upper division adviser-approved electives pertinent to your course of study in at least two other departments, including the theater area of the Department of Theater Arts (these courses may not be used to satisfy College of Fine Arts or University requirements). It is recommended that the majority of the required courses be completed during the junior year.

You should be mindful of the exigencies inherent in filmmaking and be prepared to meet the additional demands of time and costs.

Note: Students are required to perform assignments 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 restricted for majors only.

Graduate Study

The Department of Theater Arts offers the Master of Arts (M.A.), Master of Fine Arts (M.F.A.), and Doctor of Philosophy (Ph.D.) degrees in the following specializations: (1) motion picture/television and (2) theater.

Admission

Students are generally admitted in the Fall Quarter only. Applicants for another quarter should consult the department. 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 Graduate Admissions, 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 will be required to make up those deficiencies.

(2) Provide the department with at least three letters of reference and a statement of purpose.

Additional admission requirements are noted under each specific program.

Master of Arts in Theater

Admission

Requirements include a sample of scholarly or critical writing, statement of purpose, and other information (resume, portfolio, script interview, etc.) that may be required to establish the quality of work in the specialization.

Major Fields or Subdisciplines

The program leads to a general graduate degree, though there are opportunities, through your electives and thesis or research paper topic, to stress a particular interest such as acting, children's theater, design, directing, playwriting, puppet theater, theater history and criticism, theater management, and theater technology.

Foreign Language Requirement

The program does not require a foreign language, but you are urged to develop a proficiency in either French, German, Spanish, or Italian.

Course Requirements

You are required to complete a minimum of 10½ courses (42 units), five of which must be at the graduate level, in at least one year of intensive study, laboratory exercises, and research leading to the successful completion of either the thesis or comprehensive examination plan. You are required to take an active part in the production program of the department as partial fulfillment of the degree program.

The required courses are Theater Arts 200, 245A-245B, and C272 (one-half course to be taken three times). After consultation with your adviser, you will select six courses, including one graduate course in theater history and another in theater production theory, as well as four 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 then 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 upon 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 course 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 the final quarter of residency, at which time you should have advanced to candidacy.

Master of Arts in Motion Picture/Television

Admission

If you do not have an undergraduate major comparable to that of the department, you must submit for consideration film and television work done at other institutions (confirmed as your work by the instructors originally involved), as well as evidence of your production and scriptwriting competence. Alternatively, you may be required to take such courses at UCLA as will fulfill these requirements, though these courses will not be applied toward the minimum of nine courses required for the M.A. degree.

Major Fields or Subdisciplines

The program requires that you be conversant with both film and television, for you will be 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, Theater Arts 200 is required of all students. All six of these 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, and 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 established 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 your 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 upon assessments made by the committee.

Comprehensive Examination Plan

The examination consists of two written parts plus an oral. The first written part consists of three days of examination, four hours each day, and tests a broad range of knowledge in motion picture/television. An oral examination will follow. During the examination, you will also propose the subject and scope of the required scholarly essay. When you have successfully completed all sections of the first part of the written examination and the oral, you may begin writing the 50-page scholarly essay, which tests your ability to write critically and in depth about a specialized area. Upon completion, your committee grades you either pass or fail. You may repeat any failed portions of the examination once in the following quarter.

The comprehensive examination plan is currently under review. Please contact the department for further information.

Master of Fine Arts in Theater

Admission

Evidence of creative ability and professional intent is required. At the time of application to the Graduate Division, you must clearly state the degree objective (M.F.A.) and one of the following areas of specialization within the M.F.A. (Theater) program.

Acting: Submit strong letters of recommendation from directors familiar with your work, a complete resume of your experience, photographs, and audition for the M.F.A. faculty committee or its representative.

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, and critical commentaries, strong letters of recommendation, and arrange for an interview, when feasible.

Playwriting: Submit examples of creative writing such as full-length plays, one-act plays, and screenplays.

Puppet Theater: Submit actual puppets, photographs, and audition for the M.F.A. committee or its representative.

Theater Management: Submit a complete resume and a statement outlining the areas of specific interest and intent.

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. Only 16 units of Theater Arts 596 may be applied toward the total course requirement and the minimum graduate course requirement.

Specific course requirements for each specialization are available at 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 theater management and puppet theater may take advantage of opportunities offered by professional organizations.

Comprehensive Examination Plan

The plan is satisfied by fulfilling a series of creative projects appropriate to your specialization. On completion of the final creative project or last quarter of residency, whichever is last, you must file for advancement to candidacy. The committee will then review and evaluate your record for a degree. Your participation in the final review will be at the discretion of the committee.

Master of Fine Arts in Motion Picture/Television

Admission

Applicants with diverse backgrounds and undergraduate majors in areas other than theater arts are encouraged. You must state clearly your degree objective (M.F.A.) and the area of specialization desired within the program: animation, filmmaking, screenwriting, or television production.

If you intend to concentrate in film or television production, a description of a film or television project designed to be undertaken during graduate residence at UCLA is required. This should be in proposal, script, or treatment form.

If you intend to concentrate in writing, a finished full-length feature script in dramatic form is desirable; however, other forms of creative writing may be submitted.

If you intend to concentrate in animation, a description of an animation project to be undertaken during graduate study must be submitted, preferably in storyboard form. Other creative work may be submitted.

Major Fields or Subdisciplines

The program includes specializations in animation, filmmaking (fictional, documentary, education), screenwriting, and television production. Subdisciplines include ethnographic film and broadcast journalism.

Foreign Language Requirement

There is no foreign language requirement for the M.F.A. degree.

Course Requirements

A total of 18 courses is required for the degree, five of which must be graduate level. At least three courses must be in the 200 series in film history, aesthetics, or structure. Course requirements for each specialization are available at the Student Affairs Office, 1327 Macgowan Hall.

Only 16 units of Theater Arts 596 may be applied toward the total course requirement, and only eight of these units may be applied toward the minimum graduate course requirement. Only four units of course 596A and four units of course 596B may be taken prior to advancement to candidacy. Courses 596C through 596F may be taken only after advancement to candidacy.

Fieldwork and internships are not required but may be taken as courses which may be applied toward the degree.

Comprehensive Examination Plan

The comprehensive plan is satisfied by fulfilling projects appropriate to your specialization. No later than the beginning of the final quarter of residence, you must file the appropriate documents for advancement to candidacy and receive approval for the advancement from the M.F.A. committee.

If you fail the review and evaluation of your creative work by the examination committee, you may be reexamined. The number of reviews will be determined by the committee with final approval by the Chair of the department.

Ph.D. in Theater

Admission

Completion of a master's degree (M.A. or M.F.A.) equivalent to those offered by the UCLA Department of Theater Arts is required. In exceptional cases, students with an M.A. outside the field will be considered for direct admission to the program. Evidence of potential as a practicing scholar is indicated by (1) breadth and depth of advanced coursework in history, theory, and criticism; (2) imagination and quality of scholarly writing; (3) academic achievements and potential as indicated by the grade-point average, Graduate Record Examination scores, awards, scholarships, teaching assistantships, etc.

In addition, theater applicants must submit evidence of artistic competence in some facet of theater production.

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. Simultaneous application may be made to both the M.A. and Ph.D. programs in theater.

Note: Supporting material will be returned only if accompanied by postage, envelope, and shipping instructions. Further information is available from the Student Affairs Office, Department of Theater Arts, UCLA, Los Angeles, CA 90024.

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

Mastery of one foreign language is required and must be demonstrated in one of the following ways: (1) passing the Educational Testing Service examination in French, Spanish, German, or Russian with a score of 500 or better; (2) completing course 5 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 will be 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 of residence.

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 (495A and 495B). Theater Arts 216A, 216B, 216C are required. The remaining nine courses will be elective graduate courses, seminars, or tutorials. Of these electives, no more than four may be taken outside of 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 will be an historical, critical, analytical, or experimental study of a theater topic.

Teaching Experience

Every student must complete Theater Arts 495A or 496, depending on program requirements.

Qualifying Examinations

At the end of the second quarter of residence, you must take a preliminary oral examination to be conducted by a representative committee of the faculty of your specialization. The committee will specify the areas of review and test your background preparation and progress to date and determine 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 will be required to pass a written qualifying examination administered in four-hour segments during three 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 upon successful completion of this examination.

A dissertation demonstrating your ability to carry out independent and significant inquiry in an historical, theoretical, or critical field of theater arts is required. Final award of the Ph.D. depends on successful completion of the dissertation.

Final Oral Examination

A final oral examination, held after the completion of the dissertation, may be required at the option of the disseration committee.

Candidate in Philosophy Degree

The C.Phil. degree is available to all students advanced to candidacy for the Ph.D. in Theater Arts.

Ph.D. in Motion Picture/ Television

Admission

See admission requirements for the Ph.D. in Theater.

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

See the foreign language requirements for the Ph.D. in Theater. (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 the first year of residence, Theater Arts 211B, 215, and 273 must be completed, while course 274 is required in the last quarter of 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 Theater Arts 495A or 496, depending on program requirements.

Qualifying Examinations

See the description of qualifying examinations under the Ph.D. in Theater.

Final Oral Examination

A final oral examination, held after the completion of the dissertation, may be required at the option of the dissertation committee.

Candidate in Philosophy Degree

The C.Phil. degree is available to all students advanced to candidacy for the Ph.D. in Theater Arts.

Lower Division Courses

Theater Area

5A. History and Drama of the Theater from Primitive Times to 1640. Lecture, three hours; discussion, one hour. Required of theater majors. The history of the influence of different cultures, traditions, and technologies on the development of theater as a social institution.

5B. History and Drama of the Theater from 1640 to 1900. Lecture, three hours; discussion, one hour. Required of theater majors. The history of the influence of different cultures, traditions, and technologies on the development of theater as a social institution.

5C. History and Drama of the Theater from 1900 to the Present. Lecture, three hours; discussion, one hour. Required of theater majors. The history of the influence of different cultures, traditions, and technologies on the development of theater as a social institution.

10. Fundamentals of Theater Production. Lecture, three hours; laboratory, three hours. Required of theater majors in the first quarter of residence. A basic study of the relationship of acting, stage management, scenery, lighting, costume, and sound to the production of the play. Emphasis is on the planning, procedures, materials, equipment, and disciplines of theater production.

20. Acting Fundamentals. Lecture/laboratory. Required of theater majors. An introduction to the interpretation of drama through the art of the actor. Development of individual insights, skills, and disciplines in the presentation of dramatic material to an audience.

Upper Division Courses

Theater and General Secondary Credential Areas

100. The Teaching of Theater. Lecture, three hours. Prerequisites: courses 160 or 161A and 162A, or consent of instructor. Highly recommended for students pursuing a secondary teaching credential. Study of current methods and problems of production as related to the secondary level.

101. Introduction to Theater Arts (½ course). Lecture, two hours; laboratory, two hours. Not open for credit to theater arts majors. A survey of theater, motion pictures, television, and radio, together with critical analysis of their roles in contemporary culture, leading to an appreciation and understanding of the theater arts. A nontechnical presentation for the general student. P/NP grading.

102A. Selected Topics on the History of the European Theater. Lecture, three hours. Prerequisites: course 5A or equivalent and consent of instructor. An investigation in depth of a selected area of study in theater history from the Greeks through the Renaissance. May be repeated twice for credit.

102B. Selected Topics on the History of the European Theater. 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. Lecture, three hours. Prerequisite: consent of instructor. Not open for credit to students with credit for more than one course from the 5A, 5B, 5C series. A survey of the development of the theater from the Greeks to the present.

102E. Theater of the Non-European World. Lecture, three hours; discussion, one hour. A survey of theater forms of the non-European world in which primary attention will be concentrated on an examination and analysis of the traditional dance-drama and puppet theaters of East Asia, Southeast Asia, South Asia, the Middle East, and Africa. Analogous forms from European theater will be included for comparative purposes.

103A. Black People's Theater in America, Slavery to 1930. Lecture, three hours. An exploration of all extant materials on the history and literature of the theater developed and performed by Black artists in America from slavery to 1930.

103B. Black People's Theater in America, 1930 to the Present. Lecture, three hours. An exploration of all extant materials on the history and literature of the theater as developed and performed by Black artists in America from 1930 to the present.

104D. History of the American Theater. (Formerly numbered 104A.) Lecture, three hours. Not open for credit to students with credit for former course 104A prior to Fall Quarter 1981. The history of the American theater from the Revolutionary War to the Civil War.

104E. History of the American Theater. Lecture, three hours. Not open for credit to students with credit for former course 104A prior to Fall Quarter 1981. The history of the American theater from the Civil War to WWI.

104F. History of the American Theater. (Formerly numbered 104B.) Lecture, three hours. Not open for credit to students with credit for former course 104B prior to Fall Quarter 1981. The history of the American theater from WWI to the present.

105. Main Currents in Theater. Lecture, three hours. Critical examination of the leading theories of theater from 1887 to the present. Study and discussion of modern styles of production.

117. The Puppet Theater (½ course). Lecture/laboratory, four hours. Prerequisite: consent of instructor. Study of the history and practice of the art of puppetry. An examination of the materials and methods of construction. Staging of puppet productions as laboratory practice. May be repeated twice for credit.

118A. Creative Dramatics. 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 (½ course). 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.

119A. Theater for the Child Audience: Theory and Criticism. (Formerly numbered 119.) Lecture/laboratory. Not open to students with credit for former course 119. Principles of production and performance for the child audience.

119B. Theater for the Child Audience: Performance. Lecture, two hours; laboratory, four hours. Prerequisites: audition and consent of instructor prior to first class meeting. Designed to provide an opportunity for students to work together as an ensemble, creating through improvisation a theater presentation for a young audience. Class sessions focus on testing theoretical concepts through the ensemble work, rehearsal, pretesting, and evaluation of an original production for possible presentation outside the classroom.

121. Acting Workshop (½ course). Laboratory, to be arranged. Prerequisites: course 20 and consent of instructor. Courses 160, 161A, 161B, or 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 (½ course). Prerequisite: consent of instructor. The art of makeup and its relation to the production as a whole. History, aesthetics, materials, and procedures of makeup.

123. Intermediate Acting for the Stage. Lecture/laboratory. Prerequisites: course 20 and consent of instructor. Not open for credit to students with credit for former course 120. Study and practice of the art of acting through the perfecting of techniques and application of those techniques to acting problems.

124. Voice for the Stage. Lecture/laboratory. Prerequisites: course 20 and consent of instructor. Development of voice techniques for the stage. Includes work in relaxation, limbering, breathing, articulators, and resonators.

125A. Movement for the Actor. (Formerly numbered 125.) Lecture/laboratory. Prerequisites: course 20 and consent of instructor. Not open for credit to students with credit for former course 125. Physical awareness for the actor, concentrating on warming up the body, relaxation, control, stunts, and gymnastics.

125B. Advanced Movement for the Actor. Lecture/laboratory. Prerequisites: course 125A and consent of instructor. Not open for credit to students with credit for former course 125. An advanced and contemporary approach to classical and modern movement for the stage actor.

130A. Fundamentals of Playwriting I. Lecture, three hours. Prerequisite: consent of instructor. Required of theater majors. Designed to stimulate the student's critical and creative faculties through the preparation of original material for the theater. Guidance in the completion of a one-act play.

130B. Fundamentals of Playwriting II. Lecture, three hours plus conference. Prerequisites: course 130A and consent of instructor. Study in original material for the theater, its preparation and development. Designed to give further insight into the critical and creating aspects of the short and full-length play and guidance in the completion of the one-act and full-length play. May be repeated twice for credit.

132. Manuscript Evaluation for Theater. Lecture, three hours. Prerequisites: course 130A and consent of instructor. Principles and practices in the evaluation of manuscripts for theater. May be repeated once for credit.

136. Advanced Acting for the Stage. Lecture/laboratory. Prerequisites: courses 123, 124, 125A, and consent of instructor. Study and practice of the art of acting through a progression to more advanced acting problems. May be repeated twice for credit. Consecutive enrollment with the same instructor is not allowed. The total units for courses 136, 137A-137B-137C, and former course 120 may not exceed twelve units.

137A-137B-137C. Continuum Study in Acting for the Stage. Lecture/laboratory. Prerequisites: courses 123, 124, 125A, and consent of instructor. The technique of characterization and performance in advanced and complex acting styles. The total units from courses 136, 137A-137B-137C, and former course 120 may not exceed twelve units.

138. Special Problems in Performance Techniques. Lecture/laboratory. Prerequisites: courses 123, 124, 125A, and consent of instructor. Study of complex problems in voice, movement, and acting. May be repeated twice for credit.

140A. Scenic Techniques for the Stage. Lecture, three hours; laboratory, six hours. Prerequisites: course 10 and consent of instructor. Required of theater majors. An intensive study of scenic materials, construction techniques, production organization, and the rigging of scenery. Courses 140A, 141A, and 142A may be taken in any sequence, but not concurrently.

140B. Advanced Scenery for the Stage. Lecture/laboratory. Prerequisite: course 140A. Advanced study of technical problems in staging theater productions, including design analysis and planning related to rigging, shifting, and construction techniques.

141A. Lighting Techniques for the Stage. Lecture, three hours; laboratory, six hours. Prerequisites: course 10 and consent of instructor. Required of theater majors. An intensive study of theater 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.

141B. Advanced Lighting for the Stage. Lecture/laboratory. Prerequisite: course 141A. The detailed study of stage lighting as an art, with emphasis given to design concepts. The interpretation of a script or score through the control of light and color in relation to actor and audience.

142A. Theater Costuming Techniques. Lecture, three hours; laboratory, six hours. Prerequisites: course 10 and consent of instructor. Required of theater majors. The study of costume analysis and the interpretation of theatrical costume design through the use of patterns, fabrics, and related costume materials. Courses 142A, 140A, and 141A may be taken in any sequence, but not concurrently.

142B. Advanced Costuming for the Stage. Lecture, three hours; laboratory, four hours. Prerequisites: course 142A and consent of instructor. Special problems in the procuring, designing, construction, and management of costumes used in theatrical productions.

143. Scenic Design for the Theater. Prerequisites: course 10 and consent of instructor. Required of theater majors. Not open for credit to students with credit for former course 143A. Basic principles of design as applied to the interpretation and presentation of the visual aspects of dramaturgy. Study of styles, techniques, and methods of design for the theater arts. The translation of ideas into visual forms.

144A. Theater Sound Techniques (½ course). Lecture, two hours; laboratory, two hours. Prerequisite: course 10 or equivalent. A study of the equipment and techniques utilized in the recording and reproduction of sound for the theater.

144B. Advanced Theater Sound. Lecture, three hours; laboratory, four hours. Prerequisite: course 144A or consent of instructor. A detailed study of theater sound, with emphasis on the composition and execution of theater sound tracks, recording techniques, and acoustic reinforcement.

145. Costume Design for the Theater. Lecture/laboratory. Prerequisite: consent of instructor. Design of costumes for theatrical presentations. The study of the use of silhouette, fabrics, color, and decoration as related to theatrical characterizations.

146. Scene Painting Techniques (½ course). (Formerly numbered 146B.) Lecture/laboratory, three hours. Prerequisite: consent of instructor. The study of scenic painting techniques and materials and their relation to the realization of color design and elevations. May be repeated once for credit.

148. Special Courses in Design and Technical Theater. Lecture, three hours. Prerequisite: consent of instructor. Group study of selected subjects in design and technical theater. May be repeated twice for credit.

149A. Basic Drafting Techniques for the Stage (½ course). Lecture/laboratory, four hours. Prerequisite: course 10 or consent of instructor. Studies of the basic skills and techniques of drafting for the stage through the execution of floor plans and elevation drawings.

149B. Advanced Drafting for Theater Arts. Lecture/laboratory. Prerequisite: course 149A or consent of instructor. An advanced course in the technical sketching and drafting of working drawings essential in the development of the design of sets and properties for theater, television, and motion picture productions.

160. Fundamentals of Play Direction. (Formerly numbered 160A.) Lecture/laboratory. Prerequisite: consent of instructor. Required of theater majors. Course 161A may be substituted for this requirement (if substituted, an additional two upper division units are required). Course 121 may be taken concurrently. Basic theories of play direction and their application through the preparation of scenes under rehearsal conditions.

161A. Continuum in Directing for the Stage (½ course). Lecture/laboratory, six hours. Prerequisite: consent of instructor. Course 121 may be taken concurrently. The intensive development of primary directing skills and process, including text analysis and the exploration of craft fundamentals as a basis for director-actor communication and effective staging. The student will work in proscenium 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. Lecture/laboratory, six hours. Prerequisites: course 160 or 161A and 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. The student will work in arena and proscenium configurations with scenes drawn from the period of early realism through expressionism.

161C. Continuum in Directing for the Stage (1½ courses). Lecture/laboratory, six hours. Prerequisites: course 161B and consent of instructor. Course 121 may be taken concurrently. Working in three-quarter and environmental configurations, the student director will explore problems of style in production by staging scenes drawn from period plays (Greek through Romantic eras) and from contemporary, nonrealistic plays.

162A. Intermediate Play Direction. (Formerly numbered 160B.) Lecture/discussion, two hours; laboratory, eight hours. Prerequisites: course 160 or 161A and consent of instructor. Not open for credit to students with two units credit for former course 160B. A course in the application of stage direction techniques to the one-act play. Each student will direct a one-act play to be performed under rehearsal conditions. Material will be drawn from published sources.

162B. Advanced Play Direction. (Formerly numbered 161.) Lecture, four hours; laboratory, six hours. Prerequisites: course 160 or 161A and consent of instructor. Special problems in the direction of original one-act plays under production conditions. May be repeated once for credit by consent of instructor.

170. Theater Laboratory. Lecture, four hours; laboratory, eight hours. Prerequisites: courses 140A, 141A, 142A, 143, and consent of instructor. Required of theater majors. Laboratory in theater production under supervision. The translation of ideas and concepts into the dramatic form.

171A. Advanced Theater Laboratory (½ or 1 course). Hours to be arranged. Prerequisite: consent of instructor. Creative participation as an actor or stage manager in the public presentation of departmental productions. May be taken for a maximum of four units.

171B. Advanced Theater Laboratory (½ or 1 course). 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 (½ course). Hours to be arranged. Prerequisite: consent of instructor. Required 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 C472.

174. Techniques of Stage Managing (½ course). The professional duties of the stage manager. The problems of unions, professional auditions, organization, scheduling, out-of-town openings, Broadway openings, and the responsibilities of a lengthy run.

190A. The Role of the Producer in the Professional Theater (½ course). A study of the structure governing the economic and artistic decision making processes in the professional theater of America.

190B. The Role of Management in the Educational and Community Theater (½ course). A study of the artistic, social, and economic criteria in the administration of educational and community theater.

191. The Touring Company (2 or 3 courses). Lecture, twenty hours; laboratory, twenty-two hours. Prerequisite: consent of instructor. Rehearsal and technical preparation of a theatrical work for touring and the performance of that work on tour.

Motion Picture/Television Areas

106A. History of the American Motion Picture. 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 by departmental consent and with topic change.

106B. History of the European Motion Picture. 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 by departmental consent and with topic change.

106C. History of African, Asian, and Latin American Film. 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. 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 stress will be given to the interrelationship of film with its historical context and to the social dimensions of film structure, aesthetics, and language.

106E. The Development of Film in Europe and the United States From WWII to the Present. 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 stress will be given to the interrelationship of film with its historical context and to the social dimension of film structure, aesthetics, and language.

107. Experimental Film. Lecture/screenings, eight hours; discussion, one hour. A study and analysis of unconventional developments in the motion picture.

108. History of Documentary Film. Lecture/screenings, eight hours; discussion, one hour. Prerequisite: consent of instructor. The philosophy of the documentary approach in the motion picture. The development of critical standards and an examination of the techniques of teaching and persuasion used in selected documentary, educational, and propaganda films.

109. Introduction to Film and Television Study. Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. Required of motion picture/television majors in the first quarter of residency and recommended as a prerequisite to other motion picture/television history and criticism courses. Introduction to the major principles and concepts that organize film and television studies, including author, work, style, genre, structure, and ideology, with special attention to the approaches and procedures involved in a critical reading of a work.

110A. History of Broadcasting. Lecture/viewing, six hours; discussion, one hour. Prerequisite: consent of instructor. Not open for credit to students with credit for former course 110. Critical survey of broadcasting here and abroad. Consideration of the social responsibilities and educational implications of broadcasting.

110B. Problems and Issues in Broadcast Media. Lecture, four hours; discussion, two hours; laboratory, to be arranged. Prerequisite: consent of instructor. Open for credit to students with credit for former course 110. Study of the current issues and problems related to public and commercial broadcast programming and management, including analysis of contemporary criticism of the broadcast media.

111. Film Distribution and Exhibition. Lecture, three hours; laboratory, to be arranged. Prerequisite: consent of instructor. History and theory of organization of theatrical and nontheatrical distribution and exhibition of motion pictures and analysis of their interrelationships with production practices.

112. Film and Social Change. Lecture/screenings, eight hours; discussion, one hour. The development of documentary and dramatic films in relation to and as a force in social development.

113. Film Authors. 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 by departmental consent and with topic change.

114. Film Genres. Lecture/screenings, eight hours; discussion, one hour. Study of a specific film genre (e.g., the Western, the gangster cycle, the musical, the silent epic, the comedy, the social drama). May be repeated once for credit by departmental consent and with topic change.

115. Producers and Their Films. Lecture/screenings, eight hours; discussion, one hour. A consideration of the individual or corporate producers as they have affected the art and industry of the motion picture. Content varies and considers the work of a studio such as Paramount, Metro-Goldwyn-Mayer, Warner Brothers, etc. or of an individual such as Samuel Goldwyn, Stanley Kramer, Hal Wallis, etc. May be repeated once for credit.

116. Criticism. Lecture, four hours; laboratory, to be arranged. Study of and practice in criticism for the theater, motion pictures, and television. May be repeated once for credit by departmental consent and with topic change.

126A. Advanced Acting for Television and Motion Pictures. Laboratory, six hours. Prerequisite: course 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. 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 re handheld field equipment; use of the remote truck. Field exercises. Students rotate in production positions. May be repeated twice for credit.

127. The Film Image. Lecture, one hour; discussion, two hours; laboratory, one hour. Prerequisite: consent of instructor. Proseminar in the craft of film aesthetics. The visual revolution. Biophysical nature of perception. Lenses, perspective, graphic styles. Principles of composition, screenwriting, sound, editing. Problems of time and movement. How a director views his work and his world.

128. Media and Ethnicity. Prerequisite: consent of instructor. Utilizing the Asian American experience, the course explores the impact and uses of media on contemporary American ethnic communities. Role and techniques of media influence besides community utilization and production are studied.

131. Nontheatrical Motion Picture/Television Writing. Discussion, three hours. Prerequisite: consent of instructor. A course in the research and writing of documentary, technical, educational, industrial, and propaganda scripts. May be repeated twice for credit.

133. Script Analysis. Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. Limited to motion picture/television majors. The considerations and practices in the evaluation of scripts written for motion picture or television production.

134. Motion Picture/Television Writing. Discussion, three hours. Prerequisite: consent of instructor. Introduces students to problems in motion picture/television writing.

135. Advanced Motion Picture/Television Writing (2 courses). Discussion, three hours. Prerequisites: course 134 and/or consent of instructor. A course in motion picture/television writing. Original motion picture/television material to be developed. May be repeated twice for credit. (F,W,Sp)

150. Basic Motion Picture Photography. (Formerly numbered 150A.) Lecture, three hours; laboratory, four hours. Prerequisites: course 166, consent of instructor. Limited to motion picture/television majors. Not open to students with credit for former course 150A. Introduction to image control in motion picture photography through exposure, lighting, and selection of film, camera, and lens. Supervised projects in photography to complement material covered in the lecture.

151. Design for Motion Pictures and Television. Lecture, three hours; laboratory, to be arranged. Prerequisite: consent of instructor. Limited to motion picture/television majors. The techniques of art direction. May be repeated twice for credit (if repeated, the student is required to design and complete a short film).

152. Motion Picture/Television Sound Recording. (Formerly numbered 152A.) Lecture, three hours; laboratory, to be arranged. Prerequisite: course 166. Limited to motion picture/television majors. Not open to students with credit for former course 152A. Introduction to principles and practices of motion picture and television sound recording, including supervised exercises.

153C. Color Cinematography. 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 154A.) Lecture, three hours; laboratory, to be arranged. Prerequisites: course 166, consent of instructor. Limited to motion picture/television majors. Not open to students with credit for former course 154A. Introduction to the artistic and technical problems of film editing, with practical experience in the editing of image and synchronous sound.

164. Direction for Motion Pictures. 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. Laboratory, six hours. Prerequisites: courses 134, 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 I (2 courses). Lecture/discussion, four hours; laboratory, eight hours; other, four hours. Prerequisite: consent of instructor. Limited to and required of motion picture/television majors. Not open to students with credit for former course 179A. The completion of one or more short films, including their writing, production, and editing. May not be repeated.

176A-176B. Undergraduate Production II (2 courses each). Discussion, three hours; laboratory, to be arranged. Prerequisites: course 166, consent of instructor. Limited to motion picture/television majors. Not open to students with credit for former courses 179B, 179D, or 179E. The completion of a motion picture, television, or video production, including its writing, production, and editing. May not be repeated.

177. Motion Picture/Television Acting Workshop (½ or 1 course). 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.

178. Technical Motion Picture/Television Laboratory (½ or 1 course). Laboratory, to be arranged. Prerequisite: consent of instructor. Limited to motion picture/television majors. A laboratory of various aspects of motion picture/television production. May be repeated for a maximum of twelve units, but only eight units may be applied toward the motion picture/television major.

180A-180B-180C. Workshop in Broadcast News and Documentary. Discussion, three hours; laboratory, five hours. 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. Lecture, three hours; laboratory, three hours. Prerequisite: consent of instructor. History and use of speech, rhythm, and graphic design to form effective communication on film.

181B. Writing for Animation (1 or 2 courses). Lecture, six hours; laboratory, to be arranged. Prerequisites: course 181A, consent of instructor, and a storyboard at the first class meeting. Research and practice in creative writing and planning for the animated film. May be repeated for a maximum of sixteen units.

181C. Animation Workshop (1 or 2 courses). Lecture, six hours; laboratory, to be arranged. Prerequisites: course 181A, consent of instructor, and a storyboard at the first class meeting. Organization and integration of the various creative arts used in animation to form a complete study of a selected topic. May be repeated for a maximum of sixteen units.

182. Introduction to Video Production (2 courses). Lecture, four hours; discussion, four hours; laboratory, to be arranged. Prerequisite: consent of instructor. Limited to motion picture/television majors. An introduction to the techniques, processes, and equipment used in video production, culminating in a short project each student originates.

185. Beginning Television and Video Production (2 courses). Laboratory, sixteen hours. Prerequisite: consent of instructor. Limited to and required of motion picture/television majors. Not open to students with credit for former course 185. Instruction and exercises in the basic techniques of television and video production, including class participation in campus broadcasts.

187A-187B-187C. Remote Television Broadcasting. Laboratory, three hours (additional hours to be arranged). Prerequisites: course 185, consent of instructor. Instruction and supervised exercises in the planning and production of remote on-location television programs.

189. Overview of the Motion Picture Industry. Discussion, three hours. Prerequisite: consent of instructor. Evolution of economic and business structure of motion pictures from early beginnings to present, stressing methods of operation and the influence of social and economic pressures that contributed to the changing financial, distribution, and exhibition practices.

192. Motion Picture, Television, and Theater Internship (1 or 2 courses). Laboratory, ten or twenty hours; field experience. Prerequisite: consent of instructor. An internship at various film and television studios or theaters accentuating the creative contribution, the organization, and the work of professionals in their various specialties. May be repeated for a maximum of twelve units.

193A. Film Curatorship. 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 will be devoted to the application of new technology, equipment, and program materials to film archival-library design for research and teaching.

193B. Television Curatorship. Lecture, two hours; discussion, two hours; laboratory, four hours. Prerequisite: consent of instructor. Study of the principles and techniques of television curatorship and research, including but not limited to acquisitions, cataloging, storage, and retrieval systems. Special attention will be devoted to the application of new technology, equipment, and program materials to television archival-library design for research and teaching.

195. Independent Production of Feature Films. Lecture, three hours. Prerequisites: course 189 and consent of instructor. Survey of financial and business aspects involved in packaging, distributing, and exhibiting motion pictures today from the various perspectives of prominent industry leaders. May be repeated once for credit by departmental consent and with instructor change.

196. Senior Colloquium. Lecture, three hours. Prerequisites: consent of instructor, senior standing. An advanced seminar investigating special topics in film and television studies (i.e., style, modes of adaptation, media and social effects, etc.).

Special Studies

199. Special Studies in Theater Arts (½ to 2 courses). Hours to be arranged. Prerequisites: senior standing, 3.0 GPA in major, and consent of instructor. May be taken for a maximum of eight units.

Graduate Courses

Certain graduate courses concerned with individual student projects may be repeated for credit upon recommendation of the departmental graduate adviser. Graduate courses are not open to undergraduate students.

200. Bibliography and Methods of Research in Theater Arts:

Section 1. Theater.

Section 2. Motion Pictures.

Section 3. Television/Radio.

202A. Seminar in Western Classical Theater. Discussion, three hours. Prerequisites: graduate standing and consent of instructor. An examination of theatrical production and dramatic form in the Greek and Roman periods. May be repeated twice for credit.

202B. Seminar in Medieval Theater. Discussion, three hours. Prerequisites: graduate standing and 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. Discussion, three hours. Prerequisites: graduate standing and consent of instructor. Selected studies in theater architecture, theatrical production, and dramatic form in English and Continental theater from 1485 to the early 18th century. May be repeated twice for credit.

202D. Seminar in Bourgeois and Romantic Theater. Discussion, three hours. Prerequisites: graduate standing and consent of instructor. Selected studies in theater architecture, theatrical production, and dramatic form in English and Continental theater from 1700 to 1870. May be repeated twice for credit.

202E. Seminar on the Modern Consciousness in Theater. Discussion, three hours. Prerequisites: graduate standing and 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. Discussion, three hours. Prerequisites: graduate standing and consent of instructor. Selected studies of the theater's response to science and technology, politics, and revolution. May be repeated twice for credit.

202G. Seminar in Modern Theatricalism. Discussion, three hours. Prerequisites: graduate standing and 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. Discussion, three hours. Prerequisites: graduate standing and consent of instructor. Selected studies in the development of theatrical production and dramatic writing in the American theater. May be repeated twice for credit.

202N. Seminar in Theater Architecture and Scenic Design. Discussion, three hours. Prerequisites: graduate standing and consent of instructor. Selected studies of the playhouse and scenic environment, relating historic and contemporary concepts. May be repeated twice for credit.

202P. Seminar in Traditions of African Theater. Discussion, three hours. Prerequisites: graduate standing and consent of instructor. Selected studies of traditional theater forms such as those indigenous to Ghana, Nigeria, and other African nations and their diaspora (Haiti, Jamaica, and other areas of the Caribbean) through an examination of character, structure, performance modes, and archetypes. May be repeated twice for credit.

202R. Seminar in East Asian Theater. Discussion, three hours. Prerequisites: graduate standing and consent of instructor. Selected topics in the theater forms of East Asia, including dramatic literature, costume, theater spaces, and critical writings. May be repeated twice for credit.

202S. Seminar in South Asian Theater. Discussion, three hours. Prerequisites: graduate standing and 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. Discussion, three hours. Prerequisites: graduate standing and 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.

203. Seminar in Film and the Other Arts. Discussion, three hours (additional hours as required). Prerequisites: graduate standing and 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.

205A. The Background of Theatrical Art. Discussion, three hours. Prerequisites: graduate standing and consent of instructor. An analysis of major plays, commentaries, and historical materials from the classical and medieval periods.

205B. The Background of Theatrical Art. Discussion, three hours. Prerequisites: graduate standing and 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. Discussion, three hours. Prerequisites: graduate standing and consent of instructor. An analysis of major plays, commentaries, and historical materials from the Romantic, naturalistic, and symbolist periods.

206A. Seminar in European Motion Picture History. Discussion, three hours (additional hours as required). Prerequisites: course 106B, graduate standing, and consent of instructor. Studies in selected historical movements such as expressionism, socialist realism, surrealism, neorealism, New Wave, etc. May be repeated twice for credit.

206C. Seminar in American Motion Picture History. Discussion, three hours (additional hours as required). Prerequisites: course 106A, graduate standing, and consent of instructor. Study of central topics in American film history. May be repeated twice for credit.

208A. Seminar in Film Structure. Discussion, three hours (additional hours as required). Prerequisites: graduate standing and consent of instructor. An examination of various film conventions, both fictional and nonfictional, and of the role of structure in the motion picture.

208B. Seminar in Classical Film Theory. Discussion, three hours (additional hours as required). Prerequisites: graduate standing and consent of instructor. A study of the principal topics and lines of inquiry that characterize the theoretical writings of Arnheim, Eisenstein, Bazin, Mitry, etc.

208C. Seminar in Contemporary Film Theory. Discussion, three hours (additional hours as required). Prerequisites: course 208B, graduate standing, and consent of instructor. A study of the redefinition of the aims and methods of film theory through contemporary writings.

209A. Seminar in Documentary Film. Discussion, three hours (additional hours as required). Prerequisites: graduate standing and consent of instructor. The nonfictional film and its relation to contemporary culture.

209B. Seminar in Fictional Film. Discussion, three hours (additional hours as required). Prerequisites: graduate standing and consent of instructor. Film as fiction and its relation to contemporary culture. May be repeated once for credit.

M209C. Ethnographic Film. (Same as Anthropology M247A.) Prerequisites: graduate standing and consent of instructor. The ethnographic film as a form of realist cinema and its relations to cultural anthropology. (F)

209D. Seminar in the Animated Film. 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. Discussion, three hours (additional hours as required). Prerequisites: graduate standing and 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. Discussion, three hours. Prerequisites: graduate standing and consent of instructor. Limited to motion picture/television M.A. candidates. Beginning examination of the function and methods of writing film and television history as seen in the works of key historians in the United States and Europe.

211B. Seminar in Historiography. (Formerly numbered 211.) Discussion, three hours. Prerequisites: graduate standing and consent of instructor. Limited to motion picture/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. Discussion, three hours. Limited to motion picture/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, auteurism, semiology, psychoanalysis, sociology, etc.

216A. Critical and Historical Methods. Discussion, three hours. Prerequisites: graduate standing and consent of instructor. Studies in theater historiography and sociological criticism.

216B. Critical Methods. Discussion, three hours. Prerequisites: graduate standing and consent of instructor. Studies in critical theories of theatrical form and structure.

216C. Critical Methods. Discussion, three hours. Prerequisites: graduate standing and consent of instructor. Studies in contemporary modes of psychoanalytic and archetypal criticism for the theater.

M217B. Seminar in the Puppet Theater. (Formerly numbered M217.) (Same as Folklore M219.) Lecture, three hours. Prerequisite: consent of instructor. Studies in the puppet theaters of the world: techniques, literature, aesthetics.

219. Seminar in Film and Society. Discussion, three hours (additional hours as required). Prerequisites: graduate standing and consent of instructor. Study of the ways film affects and is affected by social behavior, belief, and value systems; considered in relation to the role of media in society. May be repeated once for credit.

220. Seminar in Television and Society. Discussion, three hours (additional hours as required). Prerequisites: graduate standing and consent of instructor. Study of the ways television forms affect and are affected by social behavior, belief, and value systems; study of the technological and economic aspects of the medium. May be repeated once for credit.

221. Seminar in Film Authors. Discussion, three hours (additional hours as required). Prerequisites: graduate standing and consent of instructor. Intensive examination of the works of outstanding creators of films. May be repeated twice for credit.

222. Seminar in Film Genres. Discussion, three hours (additional hours as required). Prerequisites: graduate standing and 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. Discussion, three hours (additional hours as required). Prerequisites: graduate standing and consent of instructor. The aesthetic, psychological, and physiological principles of vision as they relate to the ways in which man "sees" film and television, with emphasis on the ways in which these are different from other visual experiences.

230A-230B-230C. Advanced Playwriting. Lecture, three hours. Prerequisites: course 130A, graduate standing, and consent of instructor. Guided completion of a full-length play or study and preparation for the writing of a thesis play.

232. Manuscript Analysis. Lecture, three hours. Prerequisites: graduate standing and consent of instructor. Critical and constructive study of dramatic techniques as employed by playwrights and screenwriters in selected examples of contemporary work. May be repeated once for credit.

240. The Contemporary Playhouse. Discussion. Prerequisites: graduate standing and consent of instructor. Advanced study of the concept, form, and function of the contemporary playhouse and its equipment.

241. Research in Technical Theater. Prerequisites: graduate standing and consent of instructor. Research in technical processes and equipment in theater.

243A-243B-243C. Advanced Problems in Design for the Theater. Prerequisites: graduate standing and 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 (½ or 1 course). Laboratory, to be arranged. Prerequisites: graduate standing and consent of instructor. Creative participation as an assistant director, stage manager, or performer in the public presentation of departmental productions. May be taken for a maximum of four units.

244B. Advanced Theater Laboratory (½ or 1 course). Laboratory, to be arranged. Prerequisites: graduate standing and consent of instructor. Creative participation in the realization of production elements related to the public presentation of departmental productions. May be taken for a maximum of four units.

245A-245B. Production Planning in Theater. Lecture, two hours; laboratory, two hours. Prerequisites: graduate standing and consent of instructor. Development of planning procedures through the execution of a complete plan for producing a multiscene production. Courses must be taken in sequence.

247. Production Planning in Motion Pictures/Television. Discussion, three hours. Prerequisite: consent of instructor. Analysis of procedures and problems in preparing a script for film or television production, with emphasis on role of production manager in breaking down scripts, setting up shooting schedule, planning post-production, and preparing budgets.

M265A-M265B. Ethnographic Film Direction (1 or 2 courses each). (Same as Anthropology M267B-M267C.) Prerequisites: course M209C, graduate standing, and consent of instructor. Advanced study of problems in the production of ethnographic films. (W, M265A; Sp, M265B)

268. Seminar in the Short Film. Lecture, two hours; discussion, two hours. Prerequisites: graduate standing and 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.

270. Seminar in Film Criticism. Discussion, three hours (additional hours as required). Prerequisites: graduate standing and consent of instructor. A study of key aesthetic questions of analysis and evaluation in relation to central works of motion picture criticism. May be repeated once for credit.

271. Seminar in Television Criticism. Discussion, three hours (additional hours as required). Prerequisites: graduate standing and consent of instructor. An analysis of major forms of television production and the criticism it has elicited. May be repeated once for credit.

C272. Production and Performance Laboratory (½ course). (Formerly numbered C272A-C272B-C272C.) Lecture, three hours; laboratory, to be arranged. Prerequisites: graduate standing and consent of instructor. Credit for creative production assignments required of all M.A. students during the first three quarters of residence. May be repeated twice for credit. Concurrently scheduled with courses C172 and C472.

273. Seminar in Contemporary Film and Television Criticism. Discussion, three hours (additional hours as required). Limited to motion picture/television Ph.D. candidates. Study and practice of the analytic and critical response, with emphasis on contemporary film and television.

274. Seminar in Research Design. Discussion, three hours. Prerequisite: second-year standing in the motion picture/television Ph.D. program. An examination of the general principles that govern the formulation of major research projects and the preparation of a prospectus for the Ph.D. dissertation.

276. Seminar in Non-Western Films. Discussion, three hours (additional hours as required). Prerequisites: graduate standing and consent of instructor. Study of the aesthetic and ideological impulses of selected films from Asia, Africa, and Latin America.

277. Seminar in Narrative Studies. Discussion, three hours (additional hours as required). Prerequisites: graduate standing and consent of instructor. A study of the writings on the theory of narrative structure and their significance for analysis of film forms.

288. Seminar in Instructional Television. Discussion, three hours (additional hours as required). Prerequisites: graduate standing and consent of instructor. A historical survey and critical analysis of public, educational, and instructional television. A laboratory course requiring the preparation of a program plan.

289. Current Business Practices in Motion Picture/Television: Discussion, three hours. Prerequisites: course 247, graduate standing, and consent of instructor. Examination of current status of financing-production-distribution agreements, union agreements, music, copyright, etc., necessary to an understanding of the motion picture/television industry. May be repeated twice for credit. Mr. Grauel

290A. The Role of Management in Artistic Decision Making in the Theater. 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. Progrsmming and Planning Policies in the Theater. 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.

291. The Role of Management in Motion Pictures. Prerequisites: course 247, graduate standing, and consent of instructor. A study of the artistic, social, and economic criteria for decision making in the production and distribution of motion pictures. May be repeated twice for credit.

292. Network Television Management and Decision Making. Discussion, three hours. Prerequisites: course 247, graduate standing, and consent of instructor. A study of the business structure and the economic, social, and artistic criteria currently utilized by network television management. May be repeated once for credit.

293. Seminar in Film and Television Curatorship. Discussion, three hours (additional hours as required). Prerequisites: graduate standing and consent of instructor. Study and practice of issues in archival research and administration.

298A-298B. Special Studies in Theater Arts (½ to 1 course each). Lecture/discussion, two or four hours. Prerequisites: graduate standing and 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 (¼ to 1 course). 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.

417. Production Project for the Puppet Theater (2 courses). Laboratory, thirty hours; consultation, five hours. Prerequisite: consent of instructor. Limited to M.F.A. candidates. The design, construction, and performance of a full-length production with puppets as the culminating exercise for candidates for the M.F.A. degree in puppet theater. Students are expected to present the full argument for the design style and techniques used in the construction of the puppets, the rationale for the use of puppets for the particular project presented, and a final justification and analysis of the completed work.

420A. Advanced Techniques in Acting. 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 the student respond truthfully to real and imaginary stimuli by developing concentration, awareness, imagination, and spontaneity.

420B. Advanced Techniques in Acting. Lecture/laboratory, six hours. Prerequisite: consent of instructor. Limited to M.F.A. acting candidates in theater. Extended work in improvisations and exercises in order to apply these techniques to a role. Beginning with monologues, the work progresses to two-person scenes. Through these efforts the student begins to personalize the character's emotional needs and drives.

420C. Advanced Techniques in Acting. Lecture/laboratory, six hours. Prerequisite: consent of instructor. Limited to M.F.A. acting candidates in theater. Preparation and presentation of two-person scenes utilizing sensory work and "objectives" on a more refined basis. Students will now be able to find the similarities and differences between themselves and the characters and be able to play these elements truthfully and spontaneously.

421A. Advanced Projects in Acting (1 or 2 courses). 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.

421B. Advanced Projects in Acting (1 or 2 courses). 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 (1 or 2 courses). Lecture/laboratory, six hours. Prerequisite: consent of instructor. Limited to M.F.A. acting candidates in theater. Class exercises in acting. Preparation and presentation of roles under performance conditions.

423. Direction of Actors for Motion Pictures/Television. Lecture/laboratory. Prerequisites: first film project and consent of instructor. Exercise in analysis of script and character for the purpose of directing actors in motion picture and television productions. Emphasis is on eliciting the best possible performance from the actor. May be repeated twice for credit.

424A-424B-424C. Advanced Techniques in Voice for the Stage (½ course each). Lecture/laboratory. Prerequisite: consent of instructor. Limited to M.F.A. acting candidates in theater. Development of voice techniques for the stage. Includes work on relaxation, limbering, breathing, articulators, and resonators. Special vocal problems for the actor.

424D-424E-424F. Special Problems in Voice for the Actor (½ course each). Lecture/laboratory. Prerequisite: consent of instructor. Limited to M.F.A. acting candidates in theater. An extension of the first-year work, with increased demands on voice. Range and breathing capacity extension. Articulation and the phonetic alphabet. Advanced voice problems.

425A-425B-425C. Advanced Techniques in Movement for the Stage (½ course each). Lecture/laboratory. 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.

425D-425E-425F. Special Problems in Movement for the Actor (½ course each). Lecture/laboratory. Prerequisite: consent of instructor. Limited to M.F.A. acting candidates in theater. Physical awareness for the actor, concentrating on individual problems in terms of space, movement, and time. Special emphasis on natural rhythms, relaxation, and balance.

430A-430B-430C. Advanced Studies in Playwriting (1 course, 2 courses, 1 course). Seminar, to be arranged. Prerequisites: courses 230A-230B-230C and consent of instructor. Guidance in the completion of thesis plays.

432. Manuscript Evaluation. Lecture, four hours; laboratory, to be arranged. Prerequisites: course 132 and consent of instructor or candidate in M.F.A. writing program and consent of instructor. Evaluation of manuscripts of beginning writers, including but not limited to those produced in course 134. May be taken twice for credit (once each year of M.F.A. residence).

434. Advanced Motion Picture/Television Writing (2 courses). Discussion, three hours. Prerequisites: course 135 and consent of instructor. Advanced problems in the writing of original motion picture/television material. May be repeated twice for credit.

435A. Writing Scenes for Production. Discussion, three hours; laboratory, six hours. Prerequisites: graduate standing and consent of instructor. In coordination with direction and photography courses, students write, cast, rehearse, and produce scenes on videotape.

435B. Writing for the Short Film. Discussion, three hours. Prerequisites: graduate stading and consent of instructor. The writing and revisions of a script, or scripts, for a short film (approximately 10 to 60 minutes in length).

436. Script to Film. Discussion, three hours. Prerequisites: graduate standing and consent of instructor. The examination of all written material involved in creating a script of a major production and comparing these with the completed film.

437. Nontheatrical Writing for Motion Picture/Television. Discussion, three hours. Prerequisite: consent of instructor. Advanced problems in the field of documentary and special feature programs, with emphasis on research and preproduction.

442A-442B-442C. Advanced Problems in Costume Design. 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 upon 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 (½ or 1 course). 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 twelve units.

444. The Development of Costume Design Construction Technologies for Theater. Discussion, two hours; laboratory, two hours. Prerequisite: consent of instructor. Limited to M.F.A. candidates. A study of the effect of artistic and stylistic ideas on the mode and dress of men and women. May be repeated twice for credit.

450A. Lighting for Motion Pictures and Television. Lecture, three hours; discussion, one hour; laboratory, four hours. Prerequisites: course 150, graduate standing, and consent of instructor. 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.

450B. Advanced Motion Picture/Television Directing and Photography (2 courses). Lecture, three hours; discussion, two hours; laboratory, eight hours. Prerequisites: graduate standing and consent of instructor. Supervised filming of a short dramatic project on locations that explore the complexity of the process, emphasizing the balance essential to both directing and photographing in its varied technical and production aspects.

451. Advanced Design for Motion Pictures (½ to 1 course). Laboratory, to be arranged. Prerequisite: consent of instructor. Advanced study and practice of techniques and methods of design for motion pictures. Art direction for advanced workshop productions. May be repeated for a maximum of twelve units.

452A. Motion Picture/Television Sound Recording. Lecture, three hours; laboratory, four hours. Prerequisites: graduate standing and consent of instructor. Principles and practices of motion picture and television sound recording, including supervised exercises.

452B. Music Recording Workshop. 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. Laboratory, eight hours. Prerequisites: course 152 or 452A, graduate standing, and consent of instructor. Techniques of preparation and execution of rerecording using multitrack pickup recording technology, including supervised operational experience.

454A. Motion Picture Editing. Lecture, three hours; laboratory, to be arranged. Prerequisites: graduate standing and 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 syncing, and music and sound effects cutting, including offscreen narration, dialogue substitution, and playback tracks.

454B. Motion Picture Editing. Lecture, three hours; laboratory, to be arranged. Prerequisites: graduate standing and 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 finishing stages, including title preparation. The use of optical effects and blowups, preparation for the supervision of the mix, and the cutting of originals for single strand and A&B printing.

460A. Problems in Advanced Direction for the Stage. Lecture, to be arranged. Prerequisite: consent of instructor. Limited to M.F.A. candidates. Preparation and presentation of a published one-act play or equivalent under rehearsal conditions. Discussion and critique of work in progress.

460B. Problems in Advanced Direction for the Stage. Lecture, to be arranged. Prerequisite: consent of instructor. Limited to M.F.A. candidates. Preparation and presentation of a published play under rehearsal conditions. Discussion and critique of work in progress.

460C. Problems in Advanced Direction for the Stage. Lecture, to be arranged. Prerequisite: consent of instructor. Limited to M.F.A. candidates. Preparation and presentation of a full-length original play under rehearsal conditions. Discussion and critique of work in progress.

462. Production Project in Direction for the Stage (1 or 2 courses). 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 (2 or 3 courses). 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.

464A-464B. Motion Picture Direction (1 or 2 courses each). 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.

466A-466B. Television Direction (1 or 2 courses each). Lecture, two hours; laboratory, six hours. Prerequisites: graduate standing and consent of instructor. Special problems in the direction of dramatic and documentary television programs.

C472. Production and Performance Laboratory (½ or 1 course). Laboratory, to be arranged. Prerequisites: M.F.A. candidate and consent of instructor. Credit for creative production projects required of all M.F.A. students. May be repeated for a maximum of twelve units. Concurrently scheduled with courses C172 and C272.

475. Film I (2 courses). Discussion, three hours; laboratory, to be arranged. Prerequisites: graduate standing and consent of instructor. A study of the basic techniques of film production, including the preproduction planning and production of a short film.

476. Video I (2 courses). Discussion, three hours; laboratory, to be arranged. Prerequisites: graduate standing and consent of instructor. A study of the basic techniques of television and video production, including the completion of one or more projects.

477. Film II (2 courses). Discussion, three hours; laboratory, to be arranged. Prerequisites: course 166 or 475, graduate standing, and consent of instructor. Group experience in film production with each member rotating on crew work in the production of individual or collective projects.

478. Video II (2 courses). Discussion, three hours; laboratory, to be arranged. Prerequisites: course 185 or 476, graduate standing, and consent of instructor. Group experience in video production with each member rotating on crew work in the production of individual or collective projects.

479A-479B-479C. Advanced Graduate Film Production (1, 2, or 3 courses each). (Formerly numbered C479A-C479B-C479C.) Discussion, three hours; laboratory, to be arranged. Prerequisites: course 475, graduate standing, and consent of instructor. The completion of a film project, or projects, as agreed to by an advisory committee.

480A-480B-480C. Workshop in Broadcast Journalism. Laboratory, eight hours. Prerequisites: graduate standing and consent of instructor. The practice of reporting, writing, editing, and producing news, public affairs, and documentary programs for broadcast.

482A-482B. Advanced Animation Workshop (1 or 2 courses each). Lecture, three hours; laboratory, to be arranged. Prerequisites: courses 181A, 181B, 181C, and consent of instructor. Organization and integration of various creative arts used in animation, resulting in the production of a complete animated film.

483. Video Editing (1 or 2 courses). Discussion, four hours; laboratory, to be arranged. Prerequisites: course 476, graduate standing, and consent of instructor. Individual instruction in electronic editing.

485A-485B-485C. Advanced Graduate Television or Video Production (1, 2, or 3 courses). (Formerly numbered C485A-C485B-C485C.) Discussion, three hours; laboratory, to be arranged. Prerequisites: course 476, graduate standing, and consent of instructor. The completion of a television or video project, or projects, as agreed to by an advisory committee.

488A-488B-488C. Educational Television Workshop. Laboratory, eight hours. Prerequisite: consent of instructor. Instruction and supervised exercises in directing and producing television programs for educational purposes.

495A. Problems in the Teaching of Theater Arts. Lecture/laboratory, to be arranged. Prerequisites: graduate standing and 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 (½ or 1 course). Laboratory, to be arranged. Prerequisites: graduate standing and consent of instructor. Not open to students with credit for former courses 495C-495D. Demonstration of competence in theater production through successful completion of a major teaching production assignment. May be repeated for a maximum of twelve units.

496. The Practice of Teaching Theater Arts (½ course). Discussion. Required once of all teaching assistants or associates in the Department of Theater Arts. 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 Theater Arts (1, 2, or 3 courses). Full- or part-time at a studio or on a professional project. Prerequisites: graduate standing, advanced standing in M.F.A. program, and 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 (½ to 2 courses). Prerequisite: consent of graduate adviser and Graduate Dean and host campus instructor, department Chair, and Graduate Dean. The course is 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 (½ to 3 courses). Hours to be arranged. Prerequisite: graduate standing. May be repeated by consent of instructor.

596B. Directed Individual Studies: Writing (½ to 3 courses). Hours to be arranged. Prerequisite: graduate standing. May be repeated by consent of instructor.

596C. Directed Individual Studies: Directing (½ to 3 courses). Hours to be arranged. Prerequisite: graduate standing. May be repeated by consent of instructor.

596D. Directed Individual Studies: Design (½ to 3 courses). Hours to be arranged. Prerequisite: graduate standing. May be repeated by consent of instructor.

596E. Directed Individual Studies: Acting (½ to 3 courses). Hours to be arranged. Prerequisite: graduate standing. May be repeated by consent of instructor.

596F. Directed Individual Studies: Production (½ to 3 courses). Hours to be arranged. Prerequisite: graduate standing. May be repeated by consent of instructor.

597. Preparation for Ph.D. Qualifying Examination in Theater Arts (½ to 2 courses). May be repeated for a maximum of twelve units.

598. M.A. Thesis in Theater Arts (½ to 2 courses). Prerequisite: advancement to M.A. candidacy. Research and writing for the M.A. thesis. May be repeated for a maximum of twelve units.

599. Ph.D. Dissertation in Theater Arts (½ to 2 courses). Prerequisite: advancement to Ph.D. candidacy. Research and writing for the Ph.D. dissertation. May be repeated for a maximum of twelve units.

Related Courses in Other Departments

Classics 142. Ancient Drama

Dance 152A. Lighting Design for Dance Theater

152B. 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 to the Present

Humanities 1A, 1B, 1C. World Literature

Italian 46A-46B-46C. Italian Cinema and Culture (in English)

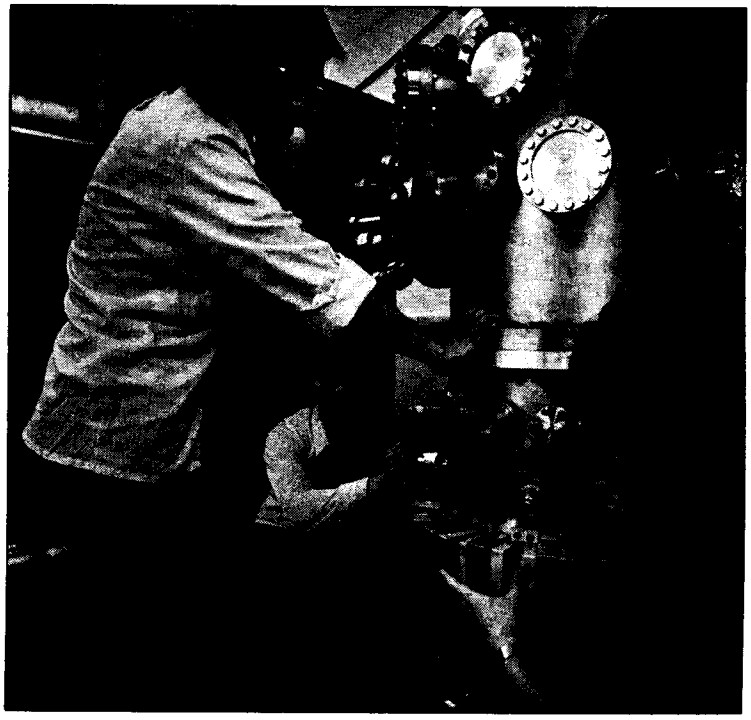
121. Italian Cinema

122. The Italian Theater

Music 135A-135B-135C. History of the Opera

School of Engineering and Applied Science

George L. Turin, Dean



An engineering education provides unusual opportunities for solving problems whose solutions will better mankind. Technology is now a dominant cause of change, including social change, and modern engineering is more than an identifiable body of subject matter; it is a cogent point of view and approach to problem solving, as well. Engineering courses contribute significantly to an understanding of the overall process of action.

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 enter the well established branches of engineering, such as chemical, civil, electrical, and mechanical engineering, and to move into new, still to be discovered technical areas with confidence and ability. Included in this goal is the 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.

There are seven departments within the school which serve as centers of activity for courses, graduate study, and research. 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 a number of industries, such as aerospace, electrical and electronics, metal products, mining, machinery and manufacturing, chemicals and petroleum, utilities, and construction.

Photo: Engineering students work on a molecular beam epitaxial growth facility.

School of Engineering and Applied Science

Graduate Studies Office:
6730 Boelter Hall, 825-8058

Undergraduate Studies Office:
6426 Boelter Hall, 825-2826

Bachelor of Science Degree

The undergraduate curriculum in the UCLA School of Engineering and Applied Science leads to a single degree, the Bachelor of Science in Engineering. The program provides a deep and broad education in the various fundamental branches of science and engineering while offering specialization in one of the major fields of engineering. The Bachelor of Science is intended to be a terminal, professional degree and/or to provide a basis for entering into graduate studies, not only in engineering but also in other professional schools such as medicine, law, dentistry, and business management.

The school offers instruction in acoustical engineering, aerospace 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, plasma engineering, soil mechanics, solid mechanics, structural engineering, systems science, and water resources.

Admission

Applicants for admission to the school must satisfy the general admission requirements of the University as outlined in the section entitled "Undergraduate Admission" in Chapter 2. In the future, entrance to the school may be based on the results of a further examination of grades and test scores.

Applicants are encouraged to apply either at the freshman or junior level. Students who begin their college work at a California community college are expected to remain at the community college to complete the lower division requirements in chemistry, mathematics, physics, and the recommended engineering courses before transferring to the University. Experience indicates that transfer students who have completed the recommended lower division program in engineering at California community colleges are able to complete the remaining requirements for the bachelor's degree in six quarters (two academic years) of normal full-time study.

Admission as a Freshman

While many students will take their first two years in engineering at a community college, an applicant may qualify for admission to the school in freshman standing. It is anticipated that admission will require that the following subjects be taken when satisfying the University admission requirements:

Algebra	2 years
Plane geometry	1 year
Trigonometry	½ year
Chemistry and physics with laboratory	2 years

It is also highly recommended that you take a course in technical drafting while in high school.

Freshman applicants whose entire secondary schooling was outside the United States must pass, with satisfactory scores, the College Entrance Examination Board Scholastic Aptitude Test (verbal and mathematics sections) and Achievement Examinations in English composition, physics, and advanced 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 Educational Testing Service, 1947 Center Street, Berkeley, CA 94704. Test scores should be forwarded to UCLA.

Admission as a Junior

Applicants for admission to the school in junior standing should have completed 21 to 23 courses (84 to 92 quarter units) in good standing, including the following minimum subject requirements:

(1) Two and one-fourth courses in chemistry, equivalent to UCLA's Chemistry 11A, 11B, 11BL; (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.

Students transferring to the school from institutions which offer instruction in engineering subjects in the first two years, particularly California community colleges, will be given credit for certain of the degree requirements (see the upper division segment below).

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 will satisfy part of their approved major field elective sequence.

Degree Requirements

The School of Engineering and Applied Science awards the Bachelor of Science degree to students who have satisfactorily completed a four-year program of engineering studies. The curricular requirements for the degree consist of the lower and upper division segments (46¼ courses, 185 units as detailed under "Course Requirements" below); the University requirements in scholarship, Subject A, and American History and Institutions; and the school requirements for scholarship and senior residence.

University Requirements

You can find these requirements discussed in detail in the "Undergraduate Degree Requirements" section in Chapter 2.

Scholarship Requirements

At least a 2.0 grade-point average must be achieved in all upper division University courses offered in satisfaction of the subject and elective requirements of the curriculum. In addition, a 2.0 minimum grade-point average in upper division mathematics, upper division core courses, and the major field electives is required for graduation.

Degrees Offered

Engineering	B.S., M.S., M.Engr., Engr., Ph.D.
Computer Science	M.S., Ph.D.
Engineering and Applied Science	Graduate Certificate of Specialization

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. Not more than 16 of the 36 units may be completed in Summer Session on the Los Angeles campus.

Course Requirements

The Engineering Curriculum is accredited by the Accreditation Board for Engineering and Technology, Inc. (formerly the Engineers' Council for Professional Development), the nationally recognized accrediting body for engineering programs.

Within the engineering curriculum, there are twelve major fields as follows: aerospace engineering, bioengineering, chemical engineering, civil engineering, computer engineering, electrical engineering, materials engineering, mechanical engineering, nuclear engineering, systems engineering, system science, and unified engineering. For additional new degree programs in chemical engineering, civil engineering, computer science and engineering, and electrical engineering to be offered effective Fall Quarter 1983, refer to the 1983-84 *Announcement of the UCLA School of Engineering and Applied Science.*

For curriculum courses, see the box on this page.

School Core

The core consists of eight courses (32 units) selected from the five subject areas listed below. The minimum and maximum number of units allowed is given for each.

Computer Processes (0-4 units): Engineering 124A.

Electrical Sciences (4-8 units): Engineering 100, 100B.

Mechanics (8-12 units): Engineering 102, 103, 108.

Systems (4-8 units): Engineering 106B, 121C, 127B.

Thermal and Materials Science (8-12 units): Engineering 14*, 105A, 105D.

*Not open for credit to students with credit for Engineering 107B.

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; advisers in the Undergraduate Studies Office are available to help you. You may not enroll in more than 18 units per quarter unless an Excess Unit Petition is approved in advance by the Dean.

Engineering and Applied Science Curriculum

Lower Division (23¼ Courses, 93 Units)

	Units First Quarter	Units Second Quarter	Units Third Quarter
Freshman Year			
Chemistry 11A, 11B/11BL	4	5	—
Mathematics 31A, 31B, 32A	4	4	4
Physics 8A, 8B	—	4	4
English 3[1]	4	—	—
Engineering 10[2]	—	—	4
Electives[3]	—	4	4
	12	17	16
Sophomore Year			
Mathematics 32B, 33A, 33B	4	4	4
Physics 8C, 8D	4	4	—
School Core[4]	4	4	8
Electives[3]	4	4	4
	16	16	16

Upper Division (23 Courses, 92 Units)

Prerequisite for junior standing: successful completion of the minimum subject requirements specified under "Admission as a Junior."

	Units First Quarter	Units Second Quarter	Units Third Quarter
Junior Year			
School Core[5]	8	4	4
Mathematics Elective[6]	4	—	—
Electives[7]	—	12	12
	12	16	16
Senior Year			
Electives[7]	16	16	16

[1]The English 3 requirement must be satisfied with a minimum grade of C before completing 90 units. A grade of C – will not satisfy the requirement.

[2]The Computer Science Department offers a placement examination each quarter during registration week to permit students to demonstrate proficiency in the subject area of Engineering 10 based on outside work experience and/or courses completed elsewhere. Satisfactory performance on the placement examination will exempt students from the Engineering 10 subject requirement, and will allow them to select another technical or major field elective course of their choice to satisfy the unit requirement. Normally, Computer Science 10S will not satisfy the Engineering 10 requirement.

[3]The lower division electives include one course in the life sciences, three courses in the humanities-social sciences-fine arts area, and one free elective.

[4]The school core requirement consists of eight courses (32 units) to be chosen from five subject areas (see "School Core"). For courses to be taken in the sophomore year, students should consult their major field advisers.

[5]The school core requirement consists of eight courses (32 units) selected from five subject areas within certain unit restrictions, as indicated under "School Core."

[6]Upper division course to be chosen from a school-approved list.

[7]The upper division electives include: (1) four courses in the humanities-social sciences-fine arts area (three of the four courses must be upper division courses); (2) two free electives; (3) twelve major field electives. For specific requirements within the humanistic and major field areas, refer to the section entitled "Electives."

After 213 quarter units, enrollment may not normally be continued in the school. You may petition the Dean for special permission to continue work required to complete the degree. This regulation does not apply to departmental scholars.

After you have completed 105 quarter units (regardless of where these units have been completed), you will not be allowed to 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 will be 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, will satisfy the Engineering 10 requirement. Certain lower division technical courses such as surveying, engineering drawing, engineering measurements, and descriptive geometry (maximum three courses) will apply as free electives. Many sophomore courses in circuit analysis, strength of materials, and properties of materials may satisfy Engineering 100, 108, and 14 respectively. Check with the Undergraduate Studies Office.

Electives

The curriculum for the bachelor's degree includes provision for 24 elective courses (96 units) to be chosen within the following categories.

(1) Three free elective courses (12 units) 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 Undergraduate Studies Office. It is, however, strongly recommended that you select additional technical courses for some of these units.

(2) Seven humanities, social sciences, and/or fine arts courses (28 units) to be chosen from an approved list. At least three (12 units) must be upper division courses. Students from California community colleges may reduce this to two upper division courses (eight units) provided they are in the same field; however, all students must have a minimum total of seven humanities 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 Undergraduate Studies Office.

(3) One engineering and science in society course (four units). One of the seven humanities-social sciences-fine arts courses or one of the free electives (four units) must deal primarily with engineering and science in society in the 100, 200, or 596 series (to be chosen from an approved list).

(4) One life science course (four units) to be chosen from an approved list.

(5) One mathematics course (four upper division units) to be chosen from an approved list and appropriate to the major field of study.

(6) The major field elective program (48 upper division units) must reflect coherence of subject matter and prepare you for an area of specialization (including unified engineering). The 12 courses must include (a) at least eight units of laboratory experience to be satisfied by designated laboratory courses or a four-unit laboratory course and two courses, each including two units of laboratory experience and (b) one upper division course (four units) in economics chosen from the school's approved list.

(7) The engineering design content of your program (major field electives, core courses, technical electives, free electives) must total at least 23 units.

(8) The engineering science content of your program must total at least 46 units.

Lists of courses approved to satisfy all elective categories are posted in the Undergraduate Studies Office.

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 will be accomplished on a formal basis, and you will be assigned to faculty advisers matching your major field of interest whenever possible.

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 choose the curriculum in the catalog in effect at the time they began their community college work in an engineering program, providing attendance has been continuous since that time.

Attend the Junior Conference conducted by the School of Engineering and Applied Science to help you plan your curriculum. The conference usually is held during the fourth week of each quarter. For time and place consult the Undergraduate Studies Office.

The Elective Selection form approved by the major field adviser must be submitted to the Assistant Dean, Undergraduate Studies, Undergraduate Studies Office, during the first quarter of the junior year. The deadline is announced each term in the school's *Undergraduate Enrollment Instruction* brochure.

Members of the Undergraduate Studies Office 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 Honor List

Students following the engineering curriculum are eligible to be named to the Dean's Honor 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 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 ten 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 3.6 for *Magna cum laude*, and a 3.4 for *Cum laude*. For all designations of honors, you must have a minimum 3.25 grade-point average in your major field elective courses. To be eligible for an award, you should have completed at least 80 upper division units at the University of California.

Tau Beta Pi

The UCLA chapter of *Tau Beta Pi*, the national engineering honor society, encourages high scholarship, provides volunteer tutors, and offers many services and programs "to foster a spirit of liberal culture in engineering colleges."

Extracurricular Activities

The faculty strongly encourages students to participate in the many extracurricular activities available on campus, especially those of most relevance to engineering. Among these are the student engineering society (the Engineering Society, University of California), student publications, and programs of the many technical and professional engineering societies in the Los Angeles area.

The student body takes an active part in shaping policies of the school through elected student representatives, two for each of the faculty's three major policy committees.

Women in Engineering

Women make up 22.2 percent of the undergraduate and 13.3 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 engineers. The UCLA chapter of SWE, in conjunction with other Los Angeles schools, also publishes an annual resumé book to aid women students in finding jobs.

Continuing Education

UCLA Extension's Department of Engineering, Science, and Mathematics, located in 6266 Boelter Hall, is open daily and from 5 to 7 p.m. Monday through Thursday throughout the year (except for the month of August and during Christmas and New Year's weeks) and offers information on Extension Continuing Education programs.

Graduate Study

Admission

In addition to meeting the requirements of the Graduate Division, applicants for the graduate engineering programs are required to take the General Test and Subject Test of the Graduate Record Examination in engineering, mathematics, or a related area. Applicants for the graduate computer science programs are required to take the Graduate Record Examination General Test and Subject Test in mathematics or computer science.

Students entering the Engineer/Ph.D. program normally will be expected to have completed the requirements for the master's degree with at least a 3.25 grade-point average and to have demonstrated creative ability. Exceptional students with research experience and strong evidence of creativity may petition to proceed to candidacy for the Ph.D. degree without the M.S. degree.

Graduate students without adequate preparation may be admitted provisionally and may be required to take certain remedial coursework which may not be applied toward the degree. Upon arrival at UCLA, the adviser will help students plan a program which will remedy any such deficiencies.

Admission forms, including a departmental supplement to the application, may be obtained by writing to the Assistant Dean for Graduate Studies, School of Engineering and Applied Science, UCLA, Los Angeles, CA 90024.

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 chosen from the following two groups:

Group 1 (four required courses or equivalent): Computer Science 141, 181, 151A and 151B or 251A.

Group 2 (two required courses or equivalent): Computer Science 111, 112*, 130* or 131 or 132, 171 or 174, 172 or 173 or 270A or Mathematics 141B.

*Courses subject to approval.

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.

Students in the Computer Science Department who wish to receive a degree in engineering rather than in computer science, should check with the department for details of the breadth requirement for engineering majors.

Undergraduate Courses

The following courses are not applicable toward graduate degrees: Engineering 10C, 10F, 11, 12, 14, 15, 94, 100, 100B, 100L, 102, 103, 104, 104C-104D, 105A, 105D, 106A, 106B, 106C, 106D, 108, 109, 121C, 124A, 127B, 199B-199G, Computer Science 5, 10S, 20, 30, 99, 199.

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 in Engineering and in Computer Science, 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 either the engineering or computer science major. 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 200-series courses; the remaining four courses may be either 200-series graduate or upper division undergraduate courses. No units of 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 the Assistant Dean for Graduate Studies.

Cooperative M.S. 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. Contact the Graduate Studies Office for details.

M.B.A./M.S.-Computer Science

The Graduate School of Management and the Department of Computer Science in the School of Engineering and Applied Science offer a concurrent degree program which enables students to complete requirements for the M.S. in Computer Science and the M.B.A. (Master of Business Administration) in three academic years. Students should request all application materials from the M.B.A. Admissions Office, Graduate School of Management.

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. Upon successful completion of the program, students are awarded both degrees simultaneously.

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 or the Aptitude and Advanced Test of the Graduate Record Examination in engineering, mathematics, or a related field. A screening interview with the coordinator of the Engineering Executive Program may be required.

The School of Engineering and Applied Science has a supplement to the Application for Admission which may be obtained from the Engineering Executive Program, 6288 Boelter Hall, School of Engineering and Applied Science.

Major Field or Subdisciplines

Engineering management.

Course Requirements

A total of 12 graduate courses are required: Engineering 470A-470B-470C-470D, 471A-471B-471C (half course), 472A-472B-472C-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 and orientation involved in a Ph.D. dissertation.

Requirements for the Engineer degree are identical to those of the Ph.D. degree up to and including the oral preliminary examination, except that the Engineer degree is based on coursework. The minimum requirement is 15 (at least nine graduate) courses beyond the bachelor's degree, with at least six courses in the major field (minimum of four graduate courses) and at least three in each minor field (minimum of two graduate courses in each).

The Ph.D. and Engineer degree programs are administered interchangeably in the sense that a student in the Ph.D. program may exit with an Engineer degree or even pick up the Engineer degree on the way to the Ph.D. degree; similarly, a student in the Engineer degree program may continue for the Ph.D. after receiving the Engineer degree. The time spent in either of the two programs may also be applied toward the minimum residence requirement and time limitation for the other program.

Ph.D. Degrees

Major Fields or Subdisciplines*

Chemical Engineering Department: Chemical engineering.

Computer Science Department†: Computer network modeling and analysis, computer science theory, computer system architecture, methodology of applicaton of computers, software systems (programming languages and systems).

Electrical Engineering Department: Applied plasma physics and fusion engineering, circuits, electromagnetics, quantum electronics, solid-state electronics.

Engineering Systems Department: Water resource systems engineering.

Materials Science and Engineering Department: Ceramics and ceramic processing, mechanical metallurgy and deformation processing, physical metallurgy and metal processing, science of materials.

Mechanics and Structures Department: Applied dynamic systems control, dynamics, earthquake engineering, fluid mechanics, heat and mass transfer, mechanics of solids, nuclear science and engineering, soil mechanics, structures.

System Science Department: Communications systems, control systems, operations research.

Schoolwide Fields: Applied mathematics**, man-machine-environment systems.

Schoolwide Programs: Biocybernetics, manufacturing engineering

*You may propose to the school any other field of study with the support of your adviser. Instructions on the definition of acceptable ad hoc fields and procedures for their approval are available in the Graduate Studies Office.
†Computer science majors may pursue additional relevant minor fields of study offered by the School of Engineering and Applied Science.

**Established minor field only.

Course Requirements

There is no formal course requirement for the Ph.D. degree, and you may, theoretically, substitute coursework by examinations. Normally, however, you will take courses to acquire the knowledge needed for the written and oral preliminary examinations. The basic program of study for the Ph.D. degrees in Engineering and in Computer Science is built around one major field and two minor fields. The major field has a scope corresponding to a body of knowledge contained in six courses, at least four of which are graduate courses, plus the current literature in your area of specialization. Each minor field normally embraces a body of knowledge equivalent to three courses, at least two of which are graduate courses. Grades of B – or better, with a grade-point average of at least 3.33 in all courses included in the minor field, are required. If you fail to satisfy the minor field requirements through coursework, a minor field examination may be taken (once only).

Qualifying Examinations

When you have mastered the body of knowledge defined in the three fields, you will take a written preliminary examination in the major field. When this examination is passed and all coursework completed, you will proceed to take an oral preliminary examination which encompasses the major and minor fields. Both preliminary examinations should be completed within the first two years of full-time enrollment in the Ph.D. program. You may not take an examination more than twice.

After passing both preliminary examinations, you are ready to take the University Oral Qualifying Examination. The details of the examination are at the discretion of the doctoral committee but ordinarily will include a broad inquiry into your preparation for research. The doctoral committee also reviews the prospectus of the dissertation at the oral qualifying examination.

Final Oral Examination

A final oral examination is required of all candidates.

Graduate Certificate of Specialization

A certificate of specialization is available in all areas offered by the School of Engineering and Applied Science, except computer 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 the Graduate Studies Office.

Courses completed for a Certificate of Specialization in Engineering and Applied Science may subsequently be applied toward master's and/or doctoral degrees.

School Courses

11, 12, 94, 104, 104C-104D, 194A, 194B, 196A, 291C, 298, 375, 470A-470D*, 471A-471B-471C*, 472A-472D*, 473A-473B*, 495, 501, 596, 597A, 597B, 597C, 598, 599.

*Open only to Engineering Executive Program students.

Departmental Courses

Chemical Engineering

130A, 134C, 137, 137A through 137E, 138, 138A, 138B, 139A, 139AC, 139B, 139BC, 199C, 230A, 230B, 230C, 230D, 237A through 237E, 238, 238A through 238E, 239AA-239AZ, 239CA-239CZ, 239EA-239EZ, 240, 375.

Computer Science

5, 10S, 20, 30, 99, 111, 112, 130, 131, 132, 141, 151A, 151B, 152A, 152B, 171, 171L, 172, 173, 174, 181, 183, M196B, 199, 201, 202, 212A, 212B, 215, 216, 218A, 219, 221, 231A, 231B, 232A, 232B, 234A, 234C, 239, 241A, 241B, 242A, 243A, 243B, 249, 251A, 252A, 253A, 253B, 254A, 255B, 256A, 257A, M258A-M258B-M258C, 259, 270A, 271A, 271B, 271C, 273A, 274A, 274B, 274C, 274Z, 275A, 276A, 276B, 276C, 277A, 279, 280A-280ZZ, 281A, 281D, 284A-284ZZ, 287A, 288S, 289A-289ZZ, M296A, M296B, M296C, 375, 497D-497E, 596, 597A, 597B, 597C, 598, 599.

Electrical Engineering

100L, 110A, 110B, 110C, 111A, 111B, 113A, 113L, 115A through 115F, 116A through 116F, 116L, 116M, 116N, 116U, 117A, 117B, 117D, 117E, 117L, 117M, 117X, 117Y, M118, 195A, 199B, 201, 210A through 210F, 213A, 213B, 213C, 213D, 213S, 214A, 214B, M214C, M214D, M214E, 215A through 215E, 216A through 216E, 217A-217B, 217C, 217E, 219A through 219E, 219X, M258A-M258B-M258C, 375.

Engineering Systems

106A, 106C, 106D, M107A, 109, 134A, 173, 174A, 174B, 176A, 180A, 180B, 181A, 184A, 184B, 184D, 184E, 193B, 199D, 270A, 274J, 274K, 276A, 277A, 277B, 280A, 280B, 284A through 284H, M288A, M288B, M288C, 375.

Materials Science and Engineering

15, 140D, 140E, 140X, 141, 142A, 142L, 143A, 143L, 144A, 144L, 145A, 145B, 146A, 146B, 146F, 146L, 147A, 147B, 147E, 147L, 149C, 149E, 199E, 240A, 240B, 241, 242A, 243A, 243B, 243C, 244, 245C, 246A, 246B, 246D, 247A, 247C, 248A, 375.

Mechanics and Structures

131A, 132A, 133A, 134B, 135A through 135F, 136A, 136B, 136C, 150A, 150B, 151, 153A, 153B, 153C, 154A, 154B, 155, 156A, 157, 157A, 157B, 158A, 160, 161A, 162A, 162B, 162C, 163, 164, 165A, 165B, 165C, 165L, 166, 167A, 167B, 167C, 167L, 167X, 169A, 169L, 171A, 171C, 185A, 185B, 185L, 191A, 192A, 192B, 192C, 193A, 199F, 201, 231A through 231F, 232B, 233A, 234A, 235A, 235B, 235C, 236A through 236E, 239BA-239BZ, 239DA-239DZ, 239FA-239FZ, 239GA-239GZ, M250, 250A, 250B, 250C, M251, 251A, 251B, 251C, M252, 252A, 252B, 253A, 253AA-253Z, 253B, 253C, 254A, 255A, 255B, 256A, 256B, 256C, 256F, M257A, M257B, 259A, 259B, 262A, 263A, 263B, 263C, 264A, 265A, 265B, 265C, 266A, 267A, 267C, 267E, 267S, 268A, 268B, 269A, 269B, 269C, 269D, 271A, 271B, 271C, 271D, 285A through 285E, 285L, 286A, 286B, M291A, M291B, M292A, M292B, 375.

System Science

120A, 120B, 121A, 122A, 124A, 128A, 128L, 129A, 192A, 192B, 192C, 193A, 199G, 200A, 200B, 200C, 200D, 201A-201ZZ, 220A, 220B, 220G, 221, 222A, 222B, 222C, 222EA-222EZ, M222F, M222G, 227A, 227B, 227C, 227EA-227EZ, 227F, 227G, 227S, 227T, 229A, 229B, 229C, 229EA-229EZ, 229J-229K-229L, 272A, 272BA-272BZ, 272C, 273A, 273B, 275A, 275B, M291A, M291B, 375.

Engineering

Lower Division Courses

10C. Introduction to Programming. 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 Engineering 10F or Computer Science 10S. Exposure to computer organization and capabilities. Basic principles of programming (using Pascal as the example language): algorithmic, procedural problem solving. Program design and development. Control structures and data structures. Human factors in programming and program design.
Mr. Levine (F,W,Sp)

10F. Introduction to Programming/Fortran. Recommended for Chemical Engineering Department and Mechanics and Structures Department majors (emphasis on numerical problems). Open to graduate students on S/U grading basis only. Not open to students with credit for Engineering 10C or Computer Science 10S. Description and use of Fortran programming language. Selected topics in programming techniques. Programming and running of several numeric problems. Mr. Levine (F,W,Sp)

11. Patterns of Problem Solving. An introduction to patterns of reasoning in the process of problem solution and decision making. Exposure to concepts, theories, and techniques in the analysis and synthesis of total systems in our complex technological civilization. Mr. Rubinstein (F,W,Sp)

12. Applied Patterns of Problem Solving. Prerequisite: course 11. An application of the tools and methods discussed in course 11 to three specific problems of a social and technical nature.
Mr. Rubinstein (Sp)

14. Science of Engineering Materials. Prerequisites: Chemistry 11A, 11B, 11BL, Physics 8A, 8B. Physics 8C may be taken concurrently. Not open for credit to students with credit for former course 107B. 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. Ono (F,W,Sp)

15. Introduction to Manufacturing Engineering. 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)

94. Introduction to Computer-Aided Design and Drafting. Lecture, two hours; laboratory, four hours. Fundamentals of computer graphics and two- and three-dimensional modeling on computer-aided design and drafting systems. Students will use one or more on-line computer systems to design and display various objects. Mr. Melkanoff (W)

Upper Division Courses

100. Electrical and Electronic Circuits. Lecture, four hours; recitation, one hour. Prerequisites: Mathematics 31A, 31B, 32A, 33A, 33B, Physics 8C. Electrical quantities, circuit principles, signal wave-forms, AC circuits, semiconductor devices, small signal models, amplifiers, electrical and electronic instruments. Mr. Luhmann (F,W,Sp)

100B. Engineering Electromagnetics. 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)

100L. Circuit Analysis Laboratory (½ course). Prerequisites: course 100 (should be taken concurrently), Physics 8C. Experiments with circuits containing linear and nonlinear devices; transient and steady state behavior of circuits.
Mr. Luhmann (F,W,Sp)

102. Mechanics of Particles and Rigid Bodies. Lecture, three hours; recitation, two hours. Prerequisites: Mathematics 33A, Physics 8A. Newtonian mechanics (statics and dynamics) of particles and rigid bodies. Fundamental concepts of mechanics. Statics, kinematics, and kinetics of particles and rigid bodies. Impulse-momentum and work-energy relationships. Applications. Mr. Mingori (F,W,Sp)

103. Elementary Fluid Mechanics. 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. Mr. Meecham (F,W,Sp)

104. Introduction to Experimental Techniques (½ course). Lecture/demonstration. Principles of simple machining operations, engineering drawing practices, soldering and welding techniques, vacuum systems, glassblowing, American standard sizes and color codes, effective presentation of results. May be taken prior to junior year. P/NP grading.
Mr. Stern (F,Sp)

104C-104D. Undergraduate Research Laboratory. Laboratory, eight hours. Prerequisite: senior standing. Two-quarter comprehensive projects in experimental engineering — research or design — involving laboratory work. Students may submit projects of their own choosing. May serve as basis for graduate research. Will satisfy engineering laboratory requirement. Qualified non-engineering students are encouraged to enroll.
Mr. Shabaik, Mr. Stern (F,W,Sp)

105A. Introduction to Engineering Thermodynamics. 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.
Mr. Catton, Mr. Robinson, Mr. Wazzan (F,W,Sp)

105D. Transport Phenomena. Lecture, four hours; recitation, one hour. Prerequisites: Physics 8B, Mathematics 32B, 33A. Transport phenomena; heat conduction, mass species diffusion, convective heat and mass transfer, and radiation. Engineering applications in thermal and environmental control.
Mr. Mills, Mr. Pomraning, Mr. Vilker (F,W,Sp)

106A. Principles of Engineering Economy. Prerequisite: upper division standing. Economic analysis of engineering projects; value systems; economic decisions on capital investment and choice of engineering alternatives; new projects, replacement and abandonment policies; risky decisions including make/buy policies and research investment; corporate financial practices and accounting. Mr. Lyman (F,W,Sp)

106B. Introduction to Design and Systems Methodology. Prerequisites: course 10C, Mathematics 32A, 32B, 33A, 33B. Theory of engineering design and synthesis. Models and modeling. Analysis, test, and evaluation. Methods for design optimization. Elementary decision theory. Student design projects.
Mr. Rosenstein (F,W,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 is compared to experimentally achieved realities. Student prize competition entries are encouraged. Mr. O'Brien (W)

106D. Engineering Systems Design Laboratory. Recitation, one hour; laboratory, eight hours. Prerequisites: course 106C, advanced senior standing. Recommended: course 104. Similar to course 106C and normally a continuation thereof. Design projects generally emphasizing productivity, energy, environments, and process cost-benefit studies.
Mr. O'Brien (Sp)

M107A. Principles of Biotechnology. (Same as Psychology M153.) Prerequisite: third-quarter sophomore or higher standing. The principles of biological science are developed in an engineering context. Emphasis is on how physiological, psychological, and sociological factors affect the integration of man into environmental, informational, and managerial systems by engineering means. Mr. Lyman (F,W)

108. Introduction to Mechanics of Deformable Solids. Lecture, three hours; recitation, two hours. Prerequisite or corequisite: Mathematics 33A. Recommended: course 102. Review of equilibrium principles. Concepts of stress and strain. Material constitution (stress-strain relations). Energy in deformable bodies. Structural applications to trusses, beams, shafts, columns, and pressure vessels.
Mr. Westmann (F,W,Sp)

109. The Engineer and Society. Prerequisite: senior standing. Selected lectures, discussions, oral and written reports related to creative engineering, its sociological and ecological impacts, present, future, and past relationships. Maximum student participation in topical selection and class structuring. Creativity and original thinking is emphasized.
Mr. O'Brien (F,W,Sp)

110A. Basic Circuit Theory I. Lecture, four hours; recitation, one hour. Prerequisite: course 100. The zero-input, zero-state, transient, steady state, and complete response of first-order and second-order circuits. Linear time-invariant networks; step response, impulse response, convolution integral. Sinusoidal steady state analysis. Coupling elements and coupled circuits. The Laplace transform.
Mr. Willson (F,W,Sp)

110B. Basic Circuit Theory II. Lecture, four hours; recitation, one hour. Prerequisite: course 110A. Elementary graph theory, general methods of analyzing electric circuits. Introduction to state equations, natural frequencies. Properties of network functions. Network theorems. Methods of characterizing two-port networks. Mr. Orchard (F,W,Sp)

110C. Passive Network Synthesis. Prerequisite: course 110B or equivalent. Properties of positive real functions and tests for positive realness. Synthesis of one- and two-port RLC and two-element kind networks. Mr. Temes (F)

111A. Electric Power Systems. Prerequisite: course 100. Overall electric power system requirements; typical systems; one-line diagrams. Per-unit quantities; characteristics of machines, transformers, overhead lines, and cables; steady state analysis of systems. Power limits and stability; fault calculations; relays and relay systems. Mr. Schott (W)

111B. Electromechanical Energy Conversion. Prerequisite: course 100. Energy conversion and power flow in electromechanical interactions; electromechanics of actuators and rotating AC synchronous and induction machines and DC machines. Linear machines. Mr. Schott (Sp)

113A. Introduction to Lasers and Quantum Electronics. Prerequisite: course 100B or equivalent or consent of instructor. Physical principles and applications of lasers and other quantum electronic devices. Interferometers, crystal optics, gain and saturation phenomena, and gas discharges.
Mr. Casperson, Mr. Stafsudd (F)

113L. Laser Laboratory (½ course). (Formerly numbered 113B.) Laboratory, four hours. Prerequisite or corequisite: course 113A or consent of instructor. Properties of lasers, including saturation, modelocking, and relaxation effects. Laser applications, including optics, modulation, communication, holography, interferometry, and nonlinear effects.
Mr. Casperson, Mr. Stafsudd (F)

115A. Fundamentals of Solid-State I. Lecture, four hours; recitation, one hour. Prerequisite: junior standing in engineering. Recommended: course 130A or equivalent. Introductory atomic concepts, quantum mechanical principles, energy level in complex atoms, quantum statistics, crystal structure, energy levels in solids, band theory.
Mr. Fetterman, Mr. Viswanathan (F,Sp)

115B. Fundamentals of Solid-State II. Prerequisite: course 115A. A discussion of the solid-state properties, lattice vibrations, thermal properties, dielectric, magnetic, and superconducting properties.
Mr. Fetterman, Mr. Stafsudd (W)

115C. Semiconductor Physical Electronics. Prerequisite: course 115B. Band structure of semiconductors, homogeneous semiconductors, excess carriers in semiconductors, semiconductor surfaces, optical and thermal properties; application to design of devices. Mr. Allen, Mr. Pan (Sp)

115D. The Principles of Design of Semiconductor Devices. Lecture, four hours; recitation, one hour. Prerequisite: senior standing in engineering. Semiconductor technology, Schottky barrier, p-n junction, MOS capacitance, transistor fundamentals, drift transistor, high frequency properties, field effect transistors, integrated electronics, applications and design of devices.
Mr. Viswanathan, Mr. K. Wang (F,W,Sp)

115E. Solid-State Electronics Laboratory (½ course). Prerequisite: course 115C. Experimental measurement of electronic, magnetic, thermal, and optical properties of p- and n-type semiconductors as used in the design of devices. Mr. Allen (W)

115F. Semiconductor Devices Laboratory (½ course). Prerequisite: course 115D. Design, fabrication, and characterization of junction, field effect, and other semiconductor devices. In particular the student will perform various processing tasks such as wafer preparation, oxidation, impurity diffusion, metallization, sintering, and photolithography.
Mr. K. Wang (F,Sp)

116A. Electronics I. Lecture, four hours; recitation, one hour. Prerequisite: course 110A (or 100 for non-electrical engineering majors). Equivalent circuit modeling of electron devices. Device-circuit-environment interactions. Design of single-stage amplifiers. Introduction to cascaded stages, coupling problems, and frequency responses. Mr. Green (F,W,Sp)

116B. Electronics II. Lecture, four hours; recitation, one hour. Prerequisite: course 116A. Electron device-circuit-environment interactions with emphasis on multistage amplifiers. Tuned amplifier considerations. Nonlinear situations requiring graphical method of solution. Emphasis on design techniques, including economics, reliability, and realization of performance specifications. Mr. K. Martin (F,W,Sp)

116C. Digital Integrated Circuits. Lecture, four hours; recitation, one hour. Prerequisites: courses 116A, 116B, Computer Science 151A. Modern logic families (TTL, I^2L, ECL, NMOS, CMOS), IC layout, MSI digital circuits (flipflops, registers, counters, PLAs, etc.), digital machine realization techniques, VLSI memories, A/Ds, VLSI systems (time permitting). Laboratory experiments in switching circuits.
Mr. K. Martin (F,W,Sp)

116D. Communication Circuits. Prerequisites: courses 116B, 121C. Signals and spectra. Signal distortion in transmission filters, transmission bandwidth requirements. Random signals and noise, linear modulation, exponential modulation circuits and characteristics. Commercial communication systems. Mr. Willis (F,Sp)

116E. Integrated Circuit Components and Design. Prerequisites: courses 115D, 116B. Realization of active and passive components in integrated circuit design. Passive components: resistors, capacitors, metal interconnections. Active devices: NPN and PNP BJTs, design rules; FET devices. Device interactions and layout rules.
Mr. K. Martin, Mr. K. Wang (W)

116F. Introduction to Power Electronics. Lecture, four hours; recitation, one hour. Prerequisite: course 116A. Electrical and thermal characteristics of power semiconductor devices, including diodes, transistors, and thyristors, and their application to power conditioning, conversion, and control. Emphasis is on device limitations and design considerations. Examples are drawn from power amplifiers (switched and linear), inverters, and DC and AC motor drives.
Mr. Schott

116L. Electronics I Laboratory (½ course). Prerequisite: course 100L. Recommended: course 116A. Experimental determination of device characteristics, resistive diode circuits, single-stage amplifiers, compound transistor stages, effect of feedback on single-stage amplifiers. Mr. K. Martin (F,W,Sp)

116M. Electronics II Laboratory (½ course). Prerequisite: course 116L. Recommended: course 116B. Experimental computer studies of multistage, wideband, tuned, and power amplifiers, and multiloop feedback amplifiers. Introduction to thick film hybrid techniques. Construction of amplifier using hybrid thick film techniques. Mr. Willis (F,W,Sp)

116N. Pulse and Digital Methods Laboratory (½ course). Prerequisites: courses 116C (must be taken concurrently), 116M. Experimental and computer studies of diode and transistor switching and timing circuits. Linear and nonlinear wave shaping techniques. Waveform generation.
Mr. K. Martin (F,Sp)

116U. Design Laboratory in Microcomputer Hardware and Interfacing. Lecture, two hours; laboratory, six hours. Prerequisites: Computer Science 151B, 152B. A second-level design laboratory in microcomputer hardware and interfacing. Address, data, and control busses. I/O devices including serial interfaces, parallel interfaces, and timers. Assembly language programming. Advanced concepts such as interrupts, DMA, inter-processor communication, and industrial control applications will be dealt with in major design projects where practical digital systems will be designed and realized. Mr. K. Martin (Sp)

117A. Electromagnetic Waves I. Lecture, four hours; recitation, one hour. Prerequisite: course 100B. Review of transmission line theory; guided waves in enclosed waveguide and on surfaces; Smith chart; excitation of guided waves; phase and group velocity; cavity resonators; concept of Q; perturbation theory; waves in complex media (ferrites, crystals, semiconductors, plasmas). Mr. Schott (F,Sp)

117B. Antenna Design I. Prerequisite: course 117A. Retarded potentials. Actual and equivalent sources. Far-field patterns of dipoles, loops, and helices. Reciprocity, directivity, beamwidth, and sidelobe level of antenna patterns. Design of linear arrays. Schelkunoff unit circle. Design of feeding networks. Array design including mutual coupling. Mr. Elliott (F)

117D. Electromagnetic Waves IV. Prerequisite: course 117A. Special relativity; relativistic kinematics; field transformations; particle trajectories in electromagnetic fields; radiation from accelerated changes; waves in active media, microwave sources.
Mr. C.W. Yeh (W)

117E. Modern Optics. (Formerly numbered 117C.) Prerequisite: course 117A. Two-dimensional transforms. Diffraction methods. Geometrical optics and applications. Gaussian beams. Coherent and incoherent imaging systems. Optical processing methods. Holography and applications.
Mr. Alexopoulos (Sp)

117L. Electromagnetics Laboratory (½ course). Prerequisite: course 117A. Course 117B may be taken concurrently. Experimental investigation of microwave and millimeter wave sources; coaxial, waveguide strip line transmission systems; detectors and power measuring devices; cavity resonator studies; antenna impedance and radiation characteristics.
Mr. Luhmann, Mr. Schott (W)

117M. Active Microwave Circuit Design Laboratory (½ course). Laboratory, four hours. Prerequisite: course 117L. The application of contemporary analytic design techniques to the development of microwave amplifiers and oscillators incorporating state-of-the-art commercially available microwave transistors (silicon bipolar and GaAs MESFET).
Mr. Luhmann (Sp)

117X. Antenna Design II. Prerequisite: course 117B. Radiation patterns of horns, slots, and patch antennas. Equivalent source representations. Synthesis of sum and difference patterns. Dolph-Chebychev excitation. Design of slot arrays with mutual coupling. Design of traveling wave antennas, reflectors, and lenses. Mr. Elliott (W)

117Y. Introductory Microwave Circuits. Prerequisite: course 117A. 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)

M118. Plasma Physics. (Same as Physics M122.) Prerequisite: course 100B or Physics 110A. Senior-level introductory course to physics of plasmas and ionized gases and fundamentals of controlled fusion. Particle motion in magnetic fields; fluid behavior, plasma waves; resistivity and transport; equilibrium and stability; kinetic effects. Illustrative laboratory experiments will be discussed.
Mr. Chen, Mr. Luhmann (F,Sp)

120A. Probability. Prerequisites: Mathematics 32B, 33B. An introduction to the theory and application of probability, including random variables and vectors, distributions and densities, characteristic functions, limit theorems, preliminary concepts of stochastic processes.
Mr. Mortensen, Mr. Omura, Mr. Subelman (F,W)

120B. Introduction to Stochastic Processes. Prerequisites: courses 120A, 121C, or equivalent. Introduction to the theory and application of stochastic processes, emphasizing stationary processes — properties and operations and mean-square estimation. Random and pseudorandom generation of processes with application to simulation. Elements of spectral analysis and FFT.
Mr. Miller, Mr. Mortensen, Mr. Yao (Sp)

121A. Elements of System Analysis. Prerequisites: Mathematics 33A, 33B. Not open for credit to students with credit for course 121C. Intended for non-engineering majors. Basic concepts of systems, dynamics, input-output behavior, analysis of signals; illustrations drawn from such fields as control and communication, economics and management sciences, life sciences, computer sciences.
Mr. Jacobsen, Mr. Levan (Sp)

121C. Systems and Signals. Lecture, three hours; recitation, two hours. Prerequisites: Mathematics 32A, 32B, 33A, 33B, Physics 8A, 8B, 8C. Recommended: course 100 or 102 or Physics 8D. Introductory course with illustrations from physical and life sciences. Input-output descriptions of systems, linearity; impulse and frequency responses, Fourier methods; transforms, analysis of signals. Introduction to digital filtering and fast Fourier transform. Computational aspects of system modeling and identification. Mr. Levan (F,W,Sp)

122A. Principles and Feedback Control. Prerequisite: course 121C or consent of instructor. Classical methods of analysis and design of feedback control systems as applied to problems selected from engineering, biology, and related areas.
Mr. Jacobsen, Mr. P.K.C. Wang, Mr. Yao (W)

124A. Applied Numerical Computing. (Formerly numbered M124A.) Lecture, three hours; recitation, two hours. Prerequisites: course 10C, Mathematics 33A, 33B, or equivalent. An introduction to numerical computing techniques: matrix computations, root finding, solutions of initial and boundary value problems of ordinary differential equations, interpolation and approximation. Mr. P.K.C. Wang (F,W,Sp)

127B. Elements of Probability and Information. Prerequisite: Mathematics 33A or consent of instructor. An introduction to finite systems for coding and transmission of messages as character strings. Basic laws of probability and decision in finite systems. Information sources, entropy, noisy channels, capacity, discussion of the meaning and application of Shannon's theorems. Mr. Balakrishnan (F,Sp)

128A. Linear Systems: The State-Space Approach. Prerequisite: course 121C. State-space methods of linear system analysis and design, with application to problems in networks, control, and system modeling.
Mr. Jacobsen, Mr. Levan, Mr. Omura (W)

128L. System Science Laboratory. Laboratory, eight hours. Prerequisites: courses 120B, 122A, and consent of instructor. Students will make actual measurements with real hardware in experimental investigations of such topics as frequency and transient response of a mechanical system; design, construction, and test of operational amplifiers, simple analog computers, and demodulations for AM and FM signals.
Mr. Subelman, Mr. P.K.C. Wang, Mr. Yao (Sp)

129A. Introduction to Linear and Quadratic Programming. Prerequisites: Mathematics 32A, 33A, or consent of instructor. An introduction to the formulation and solution of linear and quadratic programming problems, with applications from engineering and economic systems. Linear programming: the simplex algorithm; duality theory. Optimization of quadratic functions subject to linear and quadratic constraints.
Mr. Jacobsen, Mr. Omura, Mr. P.K.C. Wang (F,Sp)

130A. Introduction to Statistical Thermodynamics. Prerequisite: course 105A. Calculations of expected values and variances of thermodynamic functions for perfect monatomic gas, Einstein monatomic crystal, photon gas, electron gas in a metal, perfect absorbed gas, perfect diatomic gas, and Debye monatomic crystal. Calculations of gross emission rates from surfaces. (F)

131A. Intermediate Heat Transfer. Prerequisite: course 105D. Steady conduction: two-sided, two-ended, tapered, and circular fins; buried cylinders, thick fins. Transient conduction: slabs, cylinders, products. Convection: transpiration, laminar pipe flow, film condensation, dimensional analysis, working correlations. Surface radiation. Two-stream heat exchangers. Elements of thermal design.
Mr. Catton (F,W,Sp)

132A. Mass Transfer. Prerequisite: course 105D or 131A. The principles of mass transfer by diffusion. Mass transfer by convection in laminar and turbulent flows. Simultaneous heat and mass transfer. Applications including combustion of solids and volatile fuels, evaporation and condensation, ablation and transpiration cooling, gas absorption and catalysis.
Mr. Dhir (F)

133A. Engineering Thermodynamics. Prerequisites: courses 103, 105A, 105D. Applications of thermodynamic principles to engineering processes. Energy conversion systems. Rankine cycle and other power cycles, refrigeration, psychrometry, reactive and nonreactive fluid flow systems. (F,W)

134A. New Energy Technology: Resources, Conversion, Constraints. Prerequisite: course 105A or equivalent in physics or chemistry or consent of instructor. Energy resources: fossil fuels (fuel to fuel conversions), nuclear fuels, geothermal sources, solar power, etc. Conversion methods for power production and other energy uses. Consideration of thermodynamic, economic, and environmental constraints.
Mr. Perrine

134B. Solar Energy Use and Control. Prerequisite: course 105D or equivalent or consent of instructor. Nature and availability of solar radiation; review of selected heat transfer topics pertinent to solar energy collection and use; design analysis of nonfocusing solar energy collector-converters and methods of energy storage; selected applications. (W)

134C. Chemical, Nuclear, and Thermal Pollution of the Environment. Prerequisite: upper division standing. Description of the environment and the nature of environmental problems. Emphasis on the atmosphere and water as receptors of man-made and natural pollution; a description of sources of pollution, alternatives for control, and transport in the environment.

135A. Nuclear Reactor Theory I. Prerequisite: junior standing. Introduction to nuclear reactor theory, basic physics, neutron cross sections, nuclear fission, elementary analysis of homogeneous reactor cores. Multiregion reactors and one- and two-group diffusion theory. Mr. Kastenberg (F)

135AL. Nuclear Analysis Laboratory (½ course). Laboratory, four hours. Corequisite: course 135A. A laboratory course in nuclear engineering comprised of various experiments in reactor core physics and related fields. The experiments will consist of measuring and calculating reactor core physics parameters and pertinent heat transfer/fluid flow parameters. Mr. Catton (F)

135B. Nuclear Reactor Theory II. Prerequisite: course 135A. Introduction to slowing down, thermalization, multigroup theory, heterogeneous effects, reactor kinetics, and perturbation theory. Mr. Apostolakis (W)

135BL. Nuclear Analysis Laboratory II (½ course). Laboratory, four hours. Corequisite: course 135B. A laboratory course in nuclear engineering comprised of various experiments in reactor core physics and related fields. The experiments will consist of measuring and calculating reactor core physics parameters and pertinent heat transfer/fluid flow parameters. Mr. Catton (W)

135C. Introductory Nuclear Reactor Design. (Not the same as course 135C prior to Spring Quarter 1980.) Prerequisites: courses 135A, 135B. Reactor physics, engineering, fuel element design for nuclear reactor cores, criticality, reactivity considerations, and effects; power distributions; differences among various power reactor systems. Introduction to the use of physics design computer codes. Mr. Pomraning

135D. Introduction to Fusion Engineering and Reactor Design. Corequisite: course 135A or consent of instructor. Fusion reactions, fuel cycle, and operating conditions. Magnetic and inertial confinement, including tokamaks, magnetic mirrors, laser fusion, and selected others. Concepts for and subsystems of fusion reactors. Design of reactors and key subsystems. Application of fusion reactors for electricity, fissionable fuel, and/or chemical fuel production. Mr. Conn (W)

135E. Neutron Activation Analysis Laboratory. Prerequisites: upper division standing in engineering, Chemistry 11A, 11B, Mathematics 31A, 31B, Physics 6A and 6B or 8A and 8B. Application of neutron activation as a tool for research in the physical sciences. Emphasis will be on the nuclear reactor as a neutron source. Topics include nuclear chemistry, radiation detectors and analyzers, with computer handling of the spectral data. Mr. Catton

135F. Experimental Reactor Operations, Control, and Safety (½ course). Laboratory, four hours. Prerequisite: course 135A. Operation of the UCLA R-1 Argonaut reactor, measurements of various core parameters and control system responses, and evaluation of various safety systems through experimentation. Experiments not included in courses 135B, 135C, 139A will be conducted. Mr. Catton

136A. Introduction to Probabilistic Risk Analysis. Prerequisite: consent of instructor. Probabilistic models for the failure of components and systems. Redundant systems. Maintenance models. Fault and event tree analysis. Applications to nuclear reactor systems. Mr. Apostolakis

136B. Nuclear Reactor Thermal Hydrsulic Design. Prerequisites: courses 105A, 105D, 131A. Recommended: course 135A. Thermohydraulic design of various nuclear power reactor concepts; power generation and heat removal; power cycle, thermal and hydraulic component design; overall plant design; steady state and transient nuclear system operation. Mr. Dhir (W)

136C. Fundamentals of Nuclear Reactor Materials. Prerequisites: course 14, Mathematics 33A, Physics 8D. Function and choice of materials in reactors. Point defects. Diffusion in solids. Fuel element thermal performance. Behavior of fission products. Fuel swelling radiation effects in metals; hardening, embrittlement, and fracture; nuclear fuel equation of state; fuel element design. Mr. Ghoniem

137. Introduction to Chemical Engineering. Prerequisites: Mathematics 32B (may be taken concurrently), Chemistry 11C/11CL, Physics 8B. Introduction to the analysis and design of industrial chemical processes. Material and energy balances. (F)

137A. Chemical Engineering Thermodynamics. Prerequisite: course 137. Thermodynamic properties of pure substances and solutions. Phase equilibrium. Chemical reaction equilibrium. (W)

137B. Chemical Engineering Diffusional Processes. (Formerly numbered 137E.) (Not the same as course 137B prior to Fall Quarter 1981.) Prerequisites: courses 105D, 137, 137A. Brownian motion, fluxes according to irreversible thermodynamics; one-dimensional theory: membrane transport, facilitated transport; convective diffusion, concentration boundary layers, turbulent diffusion. The fundamentals will be illustrated by applications to separation processes, gas cleaning, and blood oxygenation. (Sp)

137C. Chemical Engineering Separation Operations. (Formerly numbered 137B.) (Not the same as course 137C prior to Fall Quarter 1981.) Prerequisites: courses 105D, 137, 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. (Sp)

137D. Chemical Engineering Kinetics. (Formerly numbered 137C.) (Not the same as course 137D prior to Winter Quarter 1982.) Prerequisites: courses 105D, 137, 137A, 137B. Fundamentals of chemical kinetics and catalysis. Introduction to the analysis and design of homogeneous and heterogeneous chemical reactors. (F)

137E. Chemical Engineering Design. (Formerly numbered 137D.) (Not the same as course 137E prior to Spring Quarter 1982.) Prerequisites: courses 137C, 137D. Integration of chemical engineering fundamentals such as chemical reactor design and separation operations and simple economic principles for the purpose of designing complete chemical processes. (Sp)

138. Chemical Engineering Process Dynamics and Control. 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. (W)

138A. Introduction to Cryogenics and Low Temperature Processing. Prerequisite: course 105A. Liquefaction of gases, cooling to cryotemperatures, LNG processes, liquid hydrogen, and liquid He cryosystems for superfluids and applied superconductivity. Mr. Frederking (W)

138B. Chemical Engineering Polymer Processes. Prerequisites: course 103, Chemistry 21, or senior standing in engineering or physical science. Formation of polymers, criteria for selecting a reaction scheme, polymerization techniques. Polymer characterization. Mechanical properties, Rheology of macromolecules, modeling and experimental methods to characterize non-Newtonian fluids. Polymer process engineering. Mr. Cohen (F)

139A. Introductory Chemical, Nuclear, and Thermal Engineering Laboratory. Laboratory, eight hours. Prerequisites: courses 103, 105A, 105D. Basic introductory laboratory experiments illustrating the equilibrium state properties and transport response to applied driving forces in energy transformation and rate processes. Experiments include examples from thermodynamics, chemical engineering, heat and mass transfer, nuclear engineering, and environmental problems. (W)

139AC. Introductory Chemical, Nuclear, and Thermal Engineering Laboratory. Laboratory, eight hours. Prerequisites: courses 103, 105A, 105D, 137, 137A, or consent of instructor. Designed for students in the chemical engineering program. Basic introductory laboratory experiments illustrating the equilibrium state properties and transport response to applied driving forces in energy transformation and rate processes. Experiments include examples from thermodynamics, chemical engineering, heat and mass transfer, nuclear engineering, and environmental problems. (F,Sp)

139B. Chemical and Thermal Engineering Laboratory. Laboratory, eight hours. Prerequisites: courses 131A or 137A and 139A. Basic laboratory practice for the study of energy transformation and rate processes. Selected experiments include examples from thermodynamics, heat and mass transfer, chemical and electrochemical processes, cryogenics, chemical kinetics, molecular dynamics, saline water conversion, and environmental problems. (Sp)

139BC. Chemical and Thermal Engineering Laboratory. Laboratory, eight hours. Prerequisites: courses 137B, 137C (may be taken concurrently), 139AC, or consent of instructor. Designed for students in the chemical engineering program. Basic laboratory practice for the study of energy transformation and rate processes. Selected experiments include examples from thermodynamics, heat and mass transfer, chemical and electrochemical processes, cryogenics, chemical kinetics, molecular dynamics, saline water conversion, and environmental problems. (F,W)

140D. Solid-State Electronic Materials. Prerequisite: course 14. Principles of nucleation and crystal growth from the melt and vapor. Solute redistribution in the melt; preparation of semiconductor single crystals and thin films. Phase diagrams. Preparation of p-n junctions by the liquid-phase-epitaxy and diffusion techniques. Electrical properties of solar cells. Field trips. Mr. Yue (Sp)

140E. Materials Selection and Engineering Design. Prerequisite: course 14 or consent of instructor. 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. Yue (W)

140X. Experimental Methods of Materials Research (¼ to 1 course). Laboratory, two to eight hours; recitation, one to four hours. Prerequisites: course 14 or equivalent and consent of instructor. Variable topics intended for students wishing to learn individually laboratory techniques for preparation, processing, and characterization of materials. Students will operate various modern instruments, including electron microscopes, X-ray diffraction apparatus, mechanical testing machines, and high temperature furnaces. Mr. Ono

141. Phase Relations in Solids. Prerequisites: courses 14, 105A. Summary of thermodynamic laws, equilibrium criteria, solution thermodynamics, mass-action law, binary and ternary phase diagrams, glass transitions. Mr. Knapp (Sp)

142A. Diffusion and Diffusion-Controlled Reactions. Prerequisite: course 141. Diffusion in metals and ionic solids, nucleation and growth theory; precipitation from solid solution, eutectoid decomposition, design of heat treatment processes of alloys, growth of intermediate phases, gas-solid reactions, design of oxidation-resistant alloys, recrystallization, and grain growth. Mr. Douglass (F)

142L. Diffusion and Diffusion-Controlled Reactions Laboratory (½ course). 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. Douglass (F)

143A. Mechanical Behavior of Materials. Prerequisite: course 14 or equivalent. Recommended: course 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. Ono, Mr. Shabaik (W,Sp)

143L. Mechanical Testing Laboratory (½ course). Prerequisites: courses 14, 108. Recommended: one or more of courses 143A, 158A, 166. Experimental techniques for the measurements of mechanical properties of engineering materials. Elastic constants, tensile, compression and bend testing, fracture toughness, fatigue and creep testing.
Mr. Ono, Mr. Shabaik (F,W,Sp)

144A. Polymer Science. Prerequisite: consent of instructor. Polymerization mechanisms, molecular weight and distribution, chemical structure and bonding, structure crystallinity, and morphology and their effects on physical properties. Glassy polymers, spring polymers, elastomers, adhesives. Fiber forming polymers, polymer processing technology, plasticiation. Mr. Mackenzie (W)

144L. Design of Specific Polymeric Systems (½ course). Prerequisite: course 144A or consent of instructor. Encapsulation of circuit boards, corrosive fluid containers; compatibility problems, polymeric chair bases, motor vehicle tires; compatibility and bonding problems, design of fiber reinforced polymeric systems, polymer-metal articulating surfaces, passenger restraint systems. Mr. Mackenzie (W)

145A. Introduction to Materials Characterization A (Crystal Structure and X-Ray Diffraction of Material). 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 structure; 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). 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. Ardell (W)

146A. Introduction to Ceramics and Glasses. Prerequisite: course 14 or equivalent. An introduction to ceramics and glasses being used as important materials of engineering, processing techniques, and unique properties. Examples of design and control of properties for certain specific applications in engineering. Mr. Mackenzie (W)

146B. Processing of Ceramics and Glasses. 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. Knapp (Sp)

146F. Electronic Ceramics. Prerequisites: courses 14, 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. Mackenzie (Sp)

146L. Laboratory in Ceramics (½ course). Laboratory, four hours. Prerequisite: course 146A or equivalent. Recommended corequisite: course 146B. Processing of common ceramics and glasses. Attainment of specific properties through process control for engineering applications. Quantitative 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. Knapp (Sp)

147A. Introduction to Metallurgy. Prerequisites: course 14 and 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 (F)

147B. Manufacturing Processes. Prerequisite: course 14. Theoretical basis for cold forming and hot forming processes; rolling, extrusion, and forging. Conventional metal removal. Solidification processes and casting. Powder metallurgy. Mr. Shabaik (Sp)

147E. Modern Process Metallurgy. Prerequisites: courses 105A and/or 147A. Modern process metallurgy used in extraction and refining of metals and alloys. The role of vacuum processing in modernizing and enlarging the scope of extractive metallurgy. Design of extractive and refining processes. Properties of vacuum-processed materials.
Mr. Bunshah (W)

147L. Manufacturing Processes Laboratory. Laboratory, eight hours. Prerequisite: course 147B. Experimental investigation, analysis, and design of metal forming processes (forging, extrusion, drawing, and rolling). Force measurements and energy calculations in metal cutting. Experimental investigation of hot and isostatic pressing of powder.
Mr. Shabaik (Sp)

149C. Properties of Art Ceramic Materials. Lecture, three hours; laboratory, three hours. 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 will be included (not intended for engineering majors). Mr. Knapp (W)

149E. Ceramic Materials in History and Archaeology. Lecture, two hours; laboratory, four hours. Prerequisite: consent of instructor. A technical introduction to the origins and evolution of ceramics and related materials, with emphasis on fabrication processes and raw materials. Laboratory exercises are aimed at the development of skills necessary for analytical studies (for students in the humanities and sciences). Mr. Knapp (Sp)

150A. Applied Fluid Mechanics I. Prerequisite: course 103 or consent of instructor. The course will provide students with a working knowledge of incompressible fluid mechanics. Equations of motion will be derived and applied to a variety of engineering fields. These include flow over bodies, turbulent flow in pipes, open channel flow, ocean waves, and porous media. Mr. Kelly (F,W)

150B. Applied Fluid Mechanics II. Prerequisite: course 103 or equivalent or consent of instructor. Gas dynamics: isentropic flow in nozzles, normal and oblique shocks, Prandtl-Meyer expansion fan, effects of friction and heat transfer in channel flows, thin airfoils in supersonic flow. Viscous flow; exact solutions of Navier-Stokes equations, boundary layer theory, instability, turbulence, separation.
Mr. Charwat (Sp)

151. Performance of Vehicles. Prerequisites: courses 103, 105A. 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, efficiency, dynamics and stability, noise, and air or water pollution. Mr. Charwat (F)

153A. Engineering Acoustics. Prerequisite: upper division standing in engineering or consent of instructor. Fundamental course in acoustics, including the ear and hearing; basic acoustical instrumentation; propagation of sound; sources of sound; architectural reverberation; selected subjects. Mr. Stern (F)

153B. Acoustics Laboratory. Laboratory, eight hours. Prerequisite or corequisite: course 153A or consent of instructor. Experimental studies in the field of acoustics, including audiometry, noise and noise control, acoustical filters, impedance measurements, transducer characteristics, and interferometry. Occasional field trips may be necessary to obtain data.
Mr. Stern (W, odd years)

153C. Noise and Noise Control Design. Prerequisite: course 153A or consent of instructor. Practical concepts in design, construction, measurement, and analysis of noise suppression techniques. Includes equipment, transducers, environmental factors in sound propagation, enclosures, properties of materials, sound interaction in structures, mufflers, isolators, damping of panels, ducts, aerodynamic noise, noise criteria and standards.
Mr. Stern (W, even years)

154A. Aerodynamic Design. Prerequisites: courses 103, 150A. The course presents the classical ideas of aircraft aerodynamics. Lift, drag, thrust, and power are discussed, then aircraft performance and stability. The quarter assignment is the preliminary design of an aircraft satisfying specifications set by the instructor. Mr. Friedmann (W)

154B. Design of Aerospace Structures. Prerequisites: courses 154A, 166. Design of aircraft, helicopter, spacecraft, and related structures. External loads, internal stresses. Applied theory of thin-walled structures. Material selection, design using composite materials. Design for fatigue prevention and structural optimization. Field trips to aerospace companies.
Mr. Friedmann (Sp)

155. Intermediate Dynamics. Prerequisite: course 102 or equivalent. Not open for full credit to students with credit for former course 102B. The axioms of Newtonian mechanics, generalized coordinates, Lagrange's equations, variational principles; central force motion; kinematics and dynamics of a rigid body, Euler's equations, motion of rotating bodies, oscillatory motion, normal coordinates, orthogonality relations, the vibrating string. Mr. Forster (Sp)

156A. Advanced Strength of Materials. Prerequisite: course 108. Columns and beam columns. Torsion; Airy's stress functions, stress concentrations. Loads on balls, rollers. Rotating disks, thick hollow spheres, thick hollow circular cylinders, curved beams, coiled springs. Mr. Fourney (Sp)

157. Experimental Techniques in Mechanics. Lecture/laboratory, eight hours. Methods of measurement in mechanics and fluid mechanics. Primary sensors, transducers (motion, force, fluid flow, temperature). Signal processing, analogue and digital recording. Theory of data analysis.
Mr. Fourney (F,W,Sp)

157A. Fluid Mechanics Laboratory. Laboratory, eight hours. Prerequisites: courses 103, 157. Course provides a background in experimental techniques in fluid mechanics. Students will take part in three experiments, each of which will study a practical problem while giving hands-on experience with various measurement techniques. Mr. Charwat (Sp)

157B. Experimental Fracture Mechanics. Lecture, two hours; laboratory, four hours. Prerequisite: course 157 or equivalent. Elementary introduction to fracture mechanics and experimental techniques used in fracture, crack tip stress fields, strain energy release rate, fracture characterization, compliance calibration, surface flaws, fatigue crack growth and fatigue life of structural components, mixed mode fracture, and individual projects. Mr. Fourney (W)

158A. Elasticity and Plasticity. Prerequisite: Mathematics 32B. Three-dimensional stress and strain. Criteria for prediction of mechanical failure. Differential equations in three dimensions; analytical, numerical, and experimental solutions of plane state and torsion problems. (Stress function, iteration, strain gages, photoelasticity.) Homogeneous plastic flow, plastic tensile instability. Mr. Westmann (F,W)

160. Introduction to Biostructural Mechanics. Prerequisite: course 108 or equivalent. An introduction to biostructural mechanics of the human musculoskeletal system. Structural characteristics and behavior of skeletal members. Response to mechanical trauma. Elastic and viscoelastic properties of hard and soft tissues. Mathematical modeling. Design characteristics of hip prostheses and anthropometric dummies. Mr. Roberts (Sp)

161A. Introduction to Astronautics. Prerequisite: course 102. 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, influence of earth's oblateness. Mr. Forster (Sp)

162A. Introduction to Mechanism and Mechanical Systems. Prerequisite: course 102. The analysis and synthesis of mechanisms and mechanical systems are studied, including both kinematics and dynamics aspects. Mechanisms from a wide range of applications, including automatic machinery, transportation systems, and computer peripheral equipment, are introduced. Mr. Yang (F)

162B. Fundamentals of Mechanical System Design. Lecture, three hours; laboratory, three hours. Prerequisite: course 102. Techniques of modern design and development of mechanical systems. Application and analysis of basic components and subsystems such as gear trains, bearings, hydraulic and pneumatic subsystems. The dynamics of high-speed machines. Students will create a design of their choice. Mr. Yang (F,W)

162C. Electromechanical Systems Laboratory. Lecture, one hour; laboratory, five hours. Prerequisite: course 162B or consent of instructor. Laboratory course for students interested in research, design, or development of complex mechanical and electromechanical systems. Students, with consent of instructor, will select a system which they will develop, build, and instrument. Behavior of this system is studied in detail. Mr. Yang (Sp)

163. Dynamics and Control of Physical Systems. Prerequisites: courses 155 or 169A (may be taken concurrently) and 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 are emphasized.
Mr. Yang (W, even years)

164. Digital Control of Physical Systems. (Not the same as course 164 prior to Fall Quarter 1982.) Prerequisite: course 122A or 171A. Recommended: courses 163, 171C. Analysis and design of digital control systems. Discrete-time transfer functions for physical systems. Design using classical methods: performance specifications, frequency response, root locus; compensation. Design using state-space methods: control laws, estimators. Practical considerations: roundoff, sample rate selection, computer implementation. Mr. Mingori (W)

165A. Elementary Structural Analysis. 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. Schmit (F,Sp)

165B. Intermediate Structural Analysis. Prerequisite: course 165A. Classical force, displacement methods of structural analysis; three moment equation, slope-deflection equations, moment distribution; virtual work, minimum potential, complementary potential theorems; Castigliano's theorems, generalized displacements, forces; Rayleigh-Ritz method; introduction to matrix methods; stiffness, flexibility matrices for bars, beams. Mr. Nelson (F,W)

165C. Computer Analysis of Structures. Prerequisite: course 165A. Development of algorithms and Fortran coding for matrix manipulation, inversion; solution of the linear algebraic equations, eigenvalue problems; structural applications; matrix displacement method for planar trusses, frames, direct assembly of system stiffness; matrix force method for planar frames. Mr. Dong (Sp)

165L. Structural Design and Testing Laboratory (½ course). Lecture, one hour; laboratory, four hours. Prerequisites: courses 157, 165A. Design, construction, instrumentation, and test of a small-scale model of a structure for comparison with theoretically predicted behavior. Mr. Felton (Sp)

166. Elementary Structural Mechanics. Prerequisite: course 108. Analysis of stress, strain; phenomenological material behavior, fatigue, cumulative damage; bending, extension of beams, unsymmetrical sections, stiffened shell structures; torsion of beams, stress function, warping, thin-walled cross sections; shear stresses; plate analysis; instability, failure of columns, plates, approximate methods, empirical formulas. Mr. Roberts (F,W)

167A. Design of Steel Structures. Lecture, three hours; recitation, three hours. Prerequisite: course 165A. Allowable stress design of tension members, compression members, beams, beam columns, and tension splices according to AISC specifications for buildings. Mr. Rea (F)

167B. Design of Reinforced Concrete Structures. Lecture, three hours; recitation, three hours. Prerequisite: course 165A. Design of reinforced concrete buildings. Reinforced concrete beams, columns, and slabs. Working stress and ultimate strength methods of analysis. Determination of loads and design constraints. Introduction to reinforced concrete structural systems. Mr. Selna (W)

167C. Design of Prestressed Concrete Structures. Prerequisite: course 165A. Prestressing and post-tensioning techniques. Properties of concrete and prestressing steels. Loss of prestress. Analysis of sections for flexural stresses and ultimate strength. Design of beams by allowable stress and strength methods. Load balancing design of continuous beams and slabs. Mr. Selna (Sp)

167L. Reinforced Concrete Structural Laboratory. Laboratory, eight hours. Prerequisites: course 167B and 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)

167X. Reinforced Concrete Construction Laboratory (½ course). Laboratory, four hours. Prerequisite: junior standing. Design and fabrication methods used for construction of reinforced concrete structural elements. Full or near-full scale slab, beam, column, and joint elements formed, fabricated, and cast in the laboratory. Mr. Selna (F)

169A. Introduction to Mechanical Vibrations. Prerequisites: courses 102, 108. Recommended: course 121C. Fundamentals of vibration theory and applications. Free, forced, and transient vibration of one and two degrees of freedom systems, including damping and nonlinear behavior. Normal modes, coupling, and normal coordinates. Elements of vibration and wave propagation in continuous systems.
Mr. Hart (F,W)

169L. Mechanical Vibrations Laboratory (½ course). Corequisite: course 169A. Calibration of instrumentation for dynamic measurements. Determination of natural frequencies and damping factors from free vibrations. Determination of natural frequencies, mode shapes, and damping factors from forced vibrations. Dynamic similitude. Mr. Rea (F)

171A. Introduction to Feedback and Control Systems: Dynamic Systems Control I. Lecture, three hours; lecture/laboratory, one hour. Prerequisite: consent of instructor. Introduction to feedback principles, control systems, and stability. Unified introductory treatment of continuous and discrete-time (digital or sample-data) systems. Control systems modeling applications in engineering and other fields. Emphasis on concepts. Computer-aided problem solving techniques for systems analysis and design.
Mr. Mingori (F,W)

171C. Dynamic Systems Control II. Recommended prerequisite: course 122A or 171A. 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. Leondes (W,Sp)

173. Engineering Project Management. Prerequisites: background in design and statistics (such as courses 106B, 193A, or equivalent) and consent of instructor. Scientific principles and application arts for computer-compatible management in project definition, design, implementation, and evaluation. Quantitative interdisciplinary formulations exemplifying environmental, industrial, business, and administrative challenges with people influences and operational value-goal strategies. Organizational models. Project manager as a leader. Mr. O'Brien

174A. Introduction to Elements of Decision Making. Prerequisite: course 193A or equivalent mathematics course. Elements of decision making and the decision process. Decision 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 judgements; bias and scoring rules.
Mr. Rubinstein (F)

174B. Reliability and Quality Assurance. Prerequisite: course 193A or consent of instructor. An introduction to the manufacturing-oriented and related fields of reliability and quality in terms of organizational relationships, major functional tasks, statistical and other techniques, and elements of engineering analysis. Mr. Lyman (F,W,Sp)

176A. Introduction to Optimization Methods for Engineering Design. Prerequisites: course 10C, Mathematics 32A, 32B, 33A, 33B. Introduction to applied optimization as an engineering design tool. Computational algorithms and chemical, civil, electrical, mechanical, and structural applications. Methods for solving the general unconstrained and constrained minimization problem. Methods for converting the general inequality constrained problem to a sequence of unconstrained problems.
Mr. Rosenstein (F)

180A. Environmental Biotechnology. Prerequisite: course M107A or consent of instructor. Physical, physiological, and psychological aspects of the interaction between man and thermal, atmospheric, radiant, and mechanical agents and energies in the environment. Biological and physical requirements for engineering control of the environment; applications to complex systems. Mr. O'Brien

180B. Machine and Systems Biotechnology. Prerequisite: course M107A or consent of instructor. Quantitative and qualitative methods for assessing man as a component in engineering design applications. Limits and optima of human psychophysiological capabilities applied to display-control design, decision making problems, and task definition; problems of man-machine interactions in large-scale systems. Mr. Lyman (W)

181A. Air Pollution Control. Prerequisite: senior standing or consent of instructor. Quantitative consideration of the air resource and its management. Air quality measurements and standards. Systems for pollution removal. Industrial, commercial, and community air pollution problems. Data analyses and interpretations. Lectures, occasional laboratory, and field trips. Mr. Perrine (Sp)

184A. Engineering Hydrology. 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. W. Yeh (F,Sp)

184B. Introduction to Water Resources Engineering. Prerequisite: course 103 or consent of instructor. Principles of hydraulics, the flow of water in open channels and pressure conduits, reservoirs and dams, hydraulic machinery, hydroelectric power, introduction to system analysis and design applied to water resources engineering. Mr. W. Yeh (W)

184D. Water Quality Control Systems. Prerequisites: course 103 and 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 trip.
Mr. Stenstrom (F,Sp)

184E. Water Quality Control Laboratory. Laboratory, eight hours. Prerequisites: course 184D (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 hardness, and other parameters used in water quality control. Mr. Stenstrom (F,Sp)

185A. Principles of Soil Mechanics. 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. Mr. Lade (F,W)

185B. Design of Foundations and Earth Structures. (Not the same as course 185B prior to Winter Quarter 1983.) Prerequisite: course 185A. Design methods for foundations and earth structures. Site investigation, including determination of soil properties for design. Design of footings and piles, including stability and settlements calculations. Design of slopes and earth retaining structures.
Mr. Oner (Sp)

185L. Soil Mechanics Laboratory (½ course). (Formerly numbered 185B.) Laboratory, four hours. Prerequisites: courses 185A, 185B, or consent of instructor. Laboratory experiments to be performed by the students to get basic data required for assigned design problems. Soil classification, Atterberg limits, permeability, compaction, shear strength, and specific gravity determination. Design problems, report writing. Mr. Oner

191A. Laplace Transforms and Applied Complex Variables. Prerequisites: courses 100, 102. Introduction to the Laplace transformation: application to electrical and mechanical problems, convolution-type integral equations, difference equations, and simple boundary value problems in partial differential equations. Complex variable theory, contour integrals, residues; application to transform inversion and partial differential equations. Mr. Forster (W,Sp)

192A. Mathematics of Engineering. Prerequisites: Mathematics 33A, 33B. Application of mathematical methods to problems of interest in engineering. The main topic is systems of linear ordinary differential equations. Fourier series, transforms, and nonlinear effects are also discussed as related to the solutions of differential equations.
Mr. Forster, Mr. Kastenberg, Mr. Levan (F,W,Sp)

192B. Mathematics of Engineering. Prerequisite: course 192A or equivalent. Applications of mathematical methods to engineering problems are considered. Eigenvalue problems for continuous systems and the related special functions are studied.
Mr. Forster, Mr. Kastenberg, Mr. Levan (Sp)

192C. Mathematics of Engineering. Prerequisite: course 192A or equivalent. Application of mathematics to engineering problems. A survey of the classical partial differential equations, wave, heat, and potential. The formulation of boundary value problems and analytical and numerical methods are studied.
Mr. Forster, Mr. Kastenberg, Mr. Levan (F)

193A. Engineering Probabilistics and Stochastics. Prerequisite: junior standing in engineering. Sets and set algebra; sample spaces; combinatorics; absolute and conditional probability; discrete and continuous random variables; probability distribution, increment, and density functions; Chebychev's inequality; Laplace-Fourier transforms; law of large numbers; central limit theorems; discrete and continuous stochastic processes.
Mr. Apostolakis, Mr. Meecham (F,Sp)

193B. Engineering Statistics. Prerequisite: course 193A or equivalent or consent of instructor. Introductory concepts of statistical decision and estimation. Population parameters, samples, data, statistics. Classical tests of significance and hypotheses. OC-functions and sample sizes. Statistical estimation for one- and two-parameter populations. Bayesian inference, stopping rules. Decision theory, payoffs, losses. Applications.

194A. Fundamentals of Computer-Aided Design and Manufacturing. Prerequisite: junior standing in engineering or mathematics. Corequisite: course 194B. Basic course in computer-aided and manufacturing area. Covers foundation of computerized drafting, including primitives, operators, and major functions. Discusses descriptions and representations of solid objects; hardware, software, and available commercial systems. Discusses the data processing and numerical control aspects of computer-aided manufacturing. Mr. Melkanoff (F)

194B. Computer-Aided Design Laboratory (½ course). Laboratory, four hours. Prerequisite: junior standing in engineering or mathematics. Corequisite: course 194A. Students will be taught how to utilize an on-line computer-aided system, to draw and to design various parts and systems. Mr. Melkanoff (F)

195A. Computer-Aided Circuit Design. Prerequisite: course 110B, knowledge of computer use. Piecewise analysis of large networks. Device modeling. AC, DC, and transient analysis of linear and nonlinear networks. Sensitivity and tolerance analysis. Computer-aided circuit optimization.
Mr. Temes (Sp)

196A. Introduction to Topics in Bioengineering (½ course). Prerequisite: calculus. History, motivation, and current directions in bioengineering. Bioinstrumentation and measurement. Biomaterials. Biomechanics. Biosystems. Health services and patient protection. Human factors engineering. Orthotic/prosthetic systems and sensory aids. P/NP grading.
Mr. DiStefano, Mr. Roberts, Mr. Stenstrom (F,Sp)

M196B. Modeling and Simulation of Biological Systems. (Same as Medicine M196B.) Lecture, four hours; laboratory, to be arranged. Prerequisite: calculus. Introduction to classical and modern systems and modeling and simulation methods for studying biological systems. Includes multicompartmental modeling, multi-exponential curve fitting, and simulation laboratory projects. Applications in physiology and medicine. Life science and medical students are encouraged to enroll. Mr. DiStefano (F,Sp)

199B-199G. Special Studies (½ to 2 courses). Prerequisites: senior standing and consent of instructor. Individual investigation of a selected topic to be arranged with a faculty member. Enrollment request forms are available in department offices. Occasional field trips may be arranged. May be repeated for credit:

199B. Electrical Engineering Department. (F,W,Sp)

199C. Chemical Engineering Department. (F,W,Sp)

199D. Engineering Systems Department. (F,W,Sp)

199E. Materials Science and Engineering Department. (F,W,Sp)

199F. Mechanics and Structures Department. (F,W,Sp)

199G. System Science Department. (F,W,Sp)

Graduate Courses

291C. Integral Equations in Engineering. 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. Kastenberg (Sp)

298. Seminar in Engineering (½ to 1 course). Prerequisites: graduate standing in 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 (¼ to 1 course). 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.

470A-470D. The Engineer in the Technical Environment (¾ course 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. Includes case studies and individual projects. Mr. O'Neill

471A-471B-471C. The Engineer in the General Environment (¾ course, ¾ course, ⅓ course). Limited to students in the Engineering Executive Program. Influences of human relations, laws, social sciences, humanities, and fine arts on the development and utilization of natural and human resources. The interaction of technology and society past, present, and future. Change agents and resistance to change. In Progress grading for courses 471B-471C only (credit to be given only upon completion of course 471C).
Mr. Barthol

472A-472D. The Engineer in the Business Environment (¾ course, ¾ course, ¾ course, ⅜ course). 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 upon completion of courses 472B and 472D). Mr. Ruskin

473A-473B. Analysis and Synthesis of a Large-Scale System (¾ course each). 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 grading. Mr. Ruskin

495. Teaching Assistant Training Seminar. Prerequisites: graduate standing in engineering and 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 the students. S/U grading. Mr. Rubinstein (F)

501. Cooperative Program (½ to 2 courses). Prerequisite: consent of UCLA graduate adviser and Graduate Dean and host campus instructor, department Chair, and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596. Directed Individual or Tutorial Studies (½ to 2 courses). Prerequisites: graduate standing in 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 (½ to 3 courses). Prerequisites: graduate standing in engineering, consent of instructor. Reading and preparation for M.S. comprehensive examination. S/U grading.

597B. Preparation for Ph.D. Preliminary Examinations (½ to 4 courses). Prerequisites: graduate standing in engineering, consent of instructor. S/U grading.

597C. Preparation for Ph.D. Oral Qualifying Examination (½ to 4 courses). Prerequisites: graduate standing in 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 (½ to 3 courses). Prerequisites: graduate standing in 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 (½ to 4 courses). Prerequisites: graduate standing in engineering, consent of instructor. Usually taken after student has been advanced to candidacy. S/U grading.

Chemical Engineering

5405 Boelter Hall, 825-5423

Professors

Traugott H.K. Frederking, Ph.D.
Sheldon K. Friedlander, Ph.D. *(Ralph M. Parsons Professor of Chemical Engineering)*
Eldon L. Knuth, Ph.D.
Ken Nobe, Ph.D., *Chair*
Lawrence B. Robinson, Ph.D.
William D. Van Vorst, Ph.D.
Ahmed R. Wazzan, Ph.D., *Associate Dean*
F. Eugene Yates, M.D. *(Crump Professor of Medical Engineering)*

Associate Professor

Vincent L. Vilker, Ph.D.

Assistant Professors

Yoram Cohen, Ph.D.
Steven M. Dinh, Ph.D.
Saeed Fathi-Afshar, Ph.D.
Owen I. Smith, Ph.D.

Professors

Manuel M. Baizer, Ph.D., *Adjunct*
Irving M. Pearson, Ph.D., *Adjunct*

Lecturer

Dwight A. Landis, M.S., *Adjunct*

Graduate Courses

230A. Advanced Engineering Thermodynamics. Prerequisites: Engineering 130A and 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. (F)

230B. Nonequilibrium Thermodynamics. Prerequisite: Chemical Engineering 230A. Interpretation of nonequilibrium phenomena in terms of the fourth law of thermodynamics, namely (a) linear interdependence of fluxes and driving forces and (b) Onsager reciprocal relations. Boltzmann transport equation; diffusion; electrical and heat currents; numerical calculation of parameters. Mr. Robinson (Sp)

230C. Cryogenics. Prerequisite: Engineering 137A. The study of basic phenomena in low temperature systems, including the third law, various cooling methods, and superfluid systems; Meissner state, type I and type II systems; applied superconductivity cryogenics. Mr. Frederking (Sp)

230D. Thermodynamics of Phase Transitions. Prerequisite: Chemical Engineering 230A or equivalent. Phase stability criteria and separation of phases. Molecular thermodynamic treatment of multicomponent systems with chemical engineering applications. Solubility of gases and solids in liquids. Phase equilibrium properties of fluid mixtures. Mr. Robinson

237A. Reaction Kinetics. Prerequisites: Engineering 130A and 137C, or equivalent. Macroscopic descriptions: reaction rates, relaxation times, thermodynamic correlations of reaction rate constants. Molecular descriptions: kinetic theory of gases, models of elementary processes. Applications: absorption and dispersion measurements, unimolecular reactions, photochemical reactions, hydrocarbon pyrolysis and oxidation, explosions, polymerization. (W)

237B. Molecular Dynamics. Prerequisite: Engineering 130A or 137C. Analysis and design of molecular-beam systems. Molecular-beam sampling of reactive mixtures in combustion chambers or gas jets. Molecular-beam studies of gas-surface interactions, including energy accommodations and heterogeneous reactions. Applications to air pollution control and to catalysis. Mr. Knuth

237C. Surface Science. Prerequisite: Engineering 137C or consent of instructor. Chemical processes at the gas-solid interface. Physics and chemistry of the solid surface, reconstruction, and bulk interactions. Gas scattering and trapping. Mechanism and rate of adsorption and surface reactions on clean and covered surfaces. Experimental techniques in surface science.

237E. Combustion Processes. Prerequisite: Engineering 132A or 137C. Fundamentals: change equations for multicomponent reactive mixtures, rate laws. Applications: combustion, including burning of (1) premixed gases or (2) condensed fuels. Detonation. Sound absorption and dispersion. Mr. Knuth, Mr. Smith (Sp)

238. Advanced Diffusion and Interfacial Transfer. Prerequisite: Engineering 137E or consent of instructor. Advanced treatment of diffusion and interfacial transfer, with applications to industrial separation processes, gas cleaning, and pulmonary bioengineering; molecular and phenomenological theories of diffusion; structure of the interface: membrane transport, facilitated transport, active transport; concentration boundary layers, turbulent diffusion. (F)

238A. Chemical Reaction Engineering. Prerequisites: Engineering 137B and 137C, or equivalent. Principles of chemical reactor analysis and design. Particular emphasis on simultaneous effects of chemical reaction and mass transfer on noncatalytic and catalytic reactions in fixed and fluidized beds. (W)

238B. Electrochemical Kinetics. Prerequisite: one year of physical chemistry or equivalent. Study of principles of electrode kinetics and other phenomena associated with metal-electrolyte interfaces. Some applications to engineering processes of current interest, such as electrochemical energy conversion (i.e., fuel cells and batteries) and corrosion processes. Mr. Nobe

238C. Electrochemical Engineering. Prerequisite: one year of physical chemistry or equivalent. Transport phenomena in electrochemical systems; relationships between molecular transport, convection, and electrode kinetics will be discussed, along with applications to industrial electrochemistry, fuel cell design, and modern battery technology. Mr. Nobe (Sp)

238D. Biochemical Engineering. Prerequisites: Engineering 137C and 137D, or consent of instructor. Theoretical models and experimental techniques for describing the thermodynamics and transport behavior of solutions of biological macromolecules. Nonideal solution behavior emphasized. Applications to mass transfer problems in natural and man-made systems. Elementary theory of biochemical reactions. Mr. Vilker (W)

238E. Corrosion Science and Engineering. Prerequisite: Engineering 137A or a course in physical chemistry or equivalent. Fundamentals of electrochemical thermodynamics and kinetics pertinent to corrosion processes are presented. Topics such as corrosion inhibition, passivity, anodic and cathodic protection, pitting, stress corrosion, and hydrogen embrittlement will be covered. Optional laboratory experiments will be offered. Mr. Nobe (F)

239AA-239AZ. Special Topics in Chemical Engineering (½ to 1 course each). Prerequisites: consent of instructor and additional prerequisites for each offering as announced in advance by the department. Advanced and current study of one or more aspects of chemical engineering, such as chemical process dynamics and control, fuel cells and batteries, membrane transport, advanced chemical engineering analysis, polymers, optimization in chemical process design. May be repeated for credit with topic change. (F,W,Sp)

239CA-239CZ. Seminar: Current Topics in Energy Utilization. Prerequisite: consent of instructor. Review of current literature in an area of energy utilization in which the instructor has developed special proficiency as a consequence of research interests. Students report on selected topics. (F,W,Sp)

239EA-239EZ. Seminars in Chemical Engineering (½ to 1 course each). Prerequisites: consent of instructor and additional prerequisites for each offering as announced in advance by the department. Lectures, discussions, student presentations, and projects in areas of current interest. May be repeated for credit. S/U grading. (F,W,Sp)

240. Fundamentals of Aerosol Behavior. Prerequisite: Engineering 137E or equivalent. Physics and chemistry of small particle behavior, with applications to gas cleaning air pollution and air chemistry. Course is concerned with particles transport and deposition, optical properties and experimental methods, gas-to-particle conversion, and the dynamics of particle size distributions. Mr. Friedlander

375. Teaching Apprentice Practicum (¼ to 1 course). 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. Nobe (F,W,Sp)

Chemistry/ Materials Science (Interdepartmental)

For details on this undergraduate program, see Chapter 5 on the College of Letters and Science.

Computer Science

3731 Boelter Hall, 825-6396

Professors

Algirdas A. Avizienis, Ph.D., *Chair*
Bertram Bussell, 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.
Gerald Estrin, Ph.D.
Thelma Estrin, Ph.D., *in Residence*
Sheila A. Greibach, Ph.D.
Walter J. Karplus, Ph.D.
Leonard Kleinrock, Ph.D.
Allen Klinger, Ph.D.
David F. Martin, Ph.D.
Lawrence P. McNamee, Ph.D.
Michel A. Melkanoff, Ph.D.
Richard R. Muntz, Ph.D.
Judea Pearl, Ph.D.
Gerald J. Popek, Ph.D.
Jacques J. Vidal, Ph.D.
Chand R. Viswanathan, Ph.D.
Thomas A. Rogers, Ph.D., *Emeritus*

Associate Professors

Daniel M. Berry, Ph.D.
Milos D. Ercegovac, Ph.D.
Mario Gerla, Ph.D.
D. Stott Parker, Jr., Ph.D.
David A. Rennels, Ph.D.

Assistant Professors

Michael G. Dyer, Ph.D.
Margot Flowers, Ph.D.
Eliezer M. Gafni, Ph.D.
Robert C. Uzgalis

Senior Lecturer

Leon Levine, M.S.

Assistant Professor

Vance C. Tyree, M.S., *Adjunct*

Lecturer

William B. Kehl, A.M., *Adjunct*

Lower Division Courses

5. Computer Literacy and Appreciation. (Formerly numbered Engineering 5.) Lecture, three hours; laboratory, one hour. An introduction to computers for students without prior experience. The course surveys computer technology, computer applications, and how machines represent and process information. Students will gain insight into the development, power, limitations, and social impact of modern computer systems. Mr. Bussell (F,W,Sp)

10S. Introduction to Programming. (Formerly numbered Engineering 10S.) Lecture, four hours; recitation, two hours. Recommended for all majors except mathematics/computer science and engineering (emphasis on nonnumerical problems). Open to graduate students on S/U grading basis only. Not open to students with credit for Engineering 10C or 10F. Exposure to computer organization and capabilities. Basic principles of programming (using Pascal as the example language): algorithmic, procedural problem solving. Program design and development. Control structures and data structures. Human factors in programming and program design.
Mr. Levine (F,W,Sp)

20. Programming and Problem Solving (1½ courses). Lecture, four hours; laboratory, four hours. Prerequisite: Engineering 10C or consent of instructor. Open to graduate students on S/U grading basis only. Students design and develop programs solving several problems of intermediate complexity drawn from various disciplines, using an assembly language and a high-level language. Machine organization, programming techniques, algorithm analysis, and data structures. Students develop programming sophistication through intensive individual laboratory work. Mr. Melkanoff, Mr. Popek (F,W,Sp)

30. Introduction to Computer Operating Systems. Lecture, four hours; laboratory, two hours. Prerequisite: Computer Science 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 of simple O/S functions.
Mr. McNamee, Mr. Muntz (F,W,Sp)

99. Individual Programming Projects (½ to 1 course). Prerequisite: Engineering 10C or consent of instructor. Course is 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 Computer Science 20. Students design, check-out, and run programs in various programming languages. Mr. Melkanoff

Upper Division Courses

111. Systems Programming. Lecture, four hours; laboratory, two hours. Prerequisites: Computer Science 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. Gerla, Mr. Muntz (F,Sp)

112. Computer System Modeling Fundamentals. Prerequisite: upper division standing. Basic tools for performance evaluation and design of distributed computer systems, including probability; transforms; Markov chains; queueing theory; counting; graphs; network flows; computational graph models. Examples will be drawn from the computer systems field.
Mr. Kleinrock (F)

130. Software Engineering. (Formerly numbered Computer Science 234B.) Lecture, four hours; laboratory, two hours. Prerequisite: Computer Science 20. Structured programming, program proving, modularity, abstract data types, composite design, program testing, team programming. Mr. Berry (Sp)

131. Programming Languages. Lecture, four hours; laboratory, two hours. Prerequisite: Computer Science 20. The main objective is to study, compare, and evaluate programming languages, in particular commercially available languages: Fortran, Algol 60, Cobol, PL/1, and Algol 68. Additional topics as set by instructor. Mr. Berry, Mr. Cardenas (F,W,Sp)

132. Compiler Construction. Lecture, four hours; laboratory, two hours. Prerequisite: Computer Science 131 or consent of instructor. Modern compiler structure; design of syntax and lexical analyzers; semantic analysis and run-time environment; program and data structure; code optimization.
Mr. D. Martin (Sp)

141. Basic Methods of Data Organization. Prerequisite: Computer Science 20. Fundamental techniques for organizing and manipulating data, stressing relationships to performance, time/storage tradeoffs. Sequential and linked storage allocation for linear lists, multilinked structures. Trees: implementation, traversals, mathematical properties. Dynamic storage allocation. Topics include sorting-searching, algorithmic analysis, graph theory, concepts underlying file management.
Mr. Gerla, Mr. Klinger (F,W,Sp)

151A. Computer System Architecture I (Introductory). Lecture, four hours; recitation, two hours. Prerequisites: college-level physics (electricity and magnetism), Engineering 10C. Corequisite for mathematics/computer science majors and engineering undergraduates specializing in computer science and engineering: Computer Science 152A. Introduction to computer architecture. Description of machine organization and operation. Information: its representation and manipulation. Combinational logic design with ICs and MSI devices. Sequential circuits, storage elements, and MSI packages. Arithmetic and arithmetic-logic units.
Mr. Bussell, Mr. Ercegovac (F,W,Sp)

151B. Computer System Architecture II (Intermediate). Lecture, four hours; recitation, two hours. Prerequisite: Computer Science 151A. Corequisite for mathematics/computer science majors and engineering undergraduates specializing in computer science and engineering: Computer Science 152B. Formal description of machine organization. Effects on machine organization of instruction sets and formats; addressing structures; memory organization and management; control sequence generator; I/O processing and interrupts; reliability aspects.
Mr. Bussell, Mr. Ercegovac (F,W,Sp)

152A. Introductory Digital Circuits Laboratory (½ course). Prerequisite: Engineering 10C. Corequisite: Computer Science 151A. Familiarization with design and interconnection of logic circuits and networks through implementation and debugging procedures, including experience with printed circuit design.
Mr. Bussell, Mr. Rennels (F,W,Sp)

152B. Digital Systems Laboratory (½ course). Corequisite: Computer Science 151B. A computer-based laboratory which probes computer architecture through construction simulation and measurement of digital subsystems.
Mr. Bussell, Mr. Rennels (F,W,Sp)

171. On-Line Computer Systems. Prerequisite: senior standing or consent of instructor. A survey of fundamentals, with emphasis on hardware and systems concepts. Adapting digital computers to interfaces, including multiprogramming, interrupt, and time-sharing considerations. Digital communication, remote consoles, sampling, quantizing, multiplexing, analog-digital conversation, and data reconstruction.
Mr. Karplus, Mr. Levine (F,W,Sp)

171L. Real-Time Systems Laboratory (½ to 1 course). Laboratory, four to eight hours. Prerequisites: senior standing and consent of instructor. Recommended: Computer Science 171 (may be taken concurrently) and 152A. Tests and measurements of digital and analog signals and systems as encountered in data acquisition, on-line computing, telecommunication facilities, terminals, modems, interfaces, and standards (e.g., RS 232, IEEE488). May be repeated for credit by consent of instructor.
Mr. Carlyle (Sp)

172. Simulation and Models. Prerequisite: Computer Science 20. Model formulation 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 model results. Computer exercises.
Mr. Karplus, Mr. McNamee (W)

173. Random Data Analysis and Measurement Procedures. Prerequisite: Engineering 121C. Provides practical aspects of random data analysis and measurement procedures. Includes statistical properties of random data, correlation, spectral density, input/output relationships, statistical errors, coherence functions, data acquisition, and processing techniques. Mr. McNamee (Sp)

174. Elements of Computer Graphics. Lecture, three hours; laboratory, one hour. Prerequisites: Computer Science 131, 141, 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 graphics. Design and development of interactive graphics programs to solve representative problems in various application areas.
Mr. Vidal (F,Sp)

181. Theoretical Models in Computer Science. (Formerly numbered Computer Science M123B.) Prerequisite: senior standing or consent of instructor. Sets, strings, and languages. Phrase-structure languages. Finite-state languages and finite-state automata. Context-free languages and pushdown store automata. Unrestricted phrase-structure languages and Turing machines. Context-sensitive languages and linear-bounded automata. Elementary decision problems of automata and languages.
Ms. Greibach, Mr. Parker (F,W,Sp)

183. Discrete Systems and Automata. (Formerly numbered Engineering 128D.) Prerequisite: two quarters of lower division mathematics or comparable experience with mathematical ideas, such as in linguistics or basic courses in logic or computer programming. An introductory course emphasizing finite-state systems: graphs, machines, languages, regular expressions, coding, computing; memory, system identification, diagnosis; design considerations. Mr. Carlyle

199. Special Studies. Prerequisites: senior standing and consent of instructor. Individual investigation of a selected topic to be arranged with a faculty member in the Computer Science Department. Enrollment request forms are available in the department office. Occasional field trips may be arranged. May be repeated for credit. (F,W,Sp)

Graduate Courses

201. Computer Science Seminar (½ course). 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 will complete one tutorial and one or more original pieces of work in the specialized area. May be repeated for credit.
Mr. Estrin (W,Sp)

212A. Queueing Systems Theory. Prerequisites: Computer Science 112 and Engineering 120A, or consent of instructor. Resource sharing issues and the theory of queueing (waiting-line) systems. Review of Markov chains and baby queueing theory. Method of stages. M/E_r/1. E_r/M/1. Bulk arrival and bulk service systems. Series-parallel stages. Fundamentals of open and closed queueing networks. Intermediate queueing theory: M/G/1; G/M/m. Collective marks. Advanced queueing theory: G/G/1; Lindley's integral equation; spectral solution. Inequalities, bounds, approximations. Mr. Kleinrock (W)

212B. Queueing Applications: Scheduling Algorithms and Queueing Networks. Prerequisite: Computer Science 212A. Not open for full credit to students with credit for Computer Science 211A prior to Winter Quarter 1981. Priority queueing. Applications to time-sharing scheduling algorithms: FB, Round Robin, Conservation Law, Bounds. Queueing networks: definitions; job flow balance; product form solutions — local balance, M → M; computational algorithms for performance measures; asymptotic behavior and bounds; approximation techniques — diffusion — iterative techniques; applications.
Mr. Kleinrock, Mr. Muntz (W)

215. Computer Communications and Networks. (Formerly numbered Computer Science 212C and 255A.) Prerequisite: Computer Science 112. Not open for full credit to students with credit for Computer Science 212C or 255A prior to Winter Quarter 1981. Resource sharing; computer traffic characterizations; multiplexing; network structure; packet switching and other switching techniques; the ARPANET and other computer network examples; network delay and analysis; network design and optimization; network protocols; routing and flow control; satellite and ground radio packet switching; local networks; commercial network services and architectures. Optional topics include extended error control techniques; modems; SDLC, HDLC, X.25, etc.; protocol verification; network simulation and measurement; integrated networks; communication processors. Mr. Chu, Mr. Kleinrock (F,Sp)

216. Distributed Multiaccess Control in Networks. Prerequisites: Computer Science 212A, 215. Topics drawn from the field of distributed control and access in computer networks will be discussed, including terrestrial distributed computer networks; satellite packet switching; ground radio packet switching; local network architecture and control.
Mr. Kleinrock (W,Sp)

218A. Network Protocol and Processor Design. Prerequisite: Computer Science 112. Recommended: Computer Science 215. Computer network architecture review. Protocol levels: subnet, network access, transport, application. Protocol specification and verification. Network processor architectures (single processor; multiprocessor). Task partitioning. Performance models (throughout, delay, reliability).
Mr. Gerla (W)

219. Current Topics in Computer System Modeling Analysis (½ to 3 courses). 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. Students report on selected topics. May be repeated for credit by consent of instructor.

221. Economics of Computers. Prerequisite: consent of instructor. Basic economic factors in data processing. Buyers and sellers; products; applications; major cost factors. Selection and operation of a data processing system. Mr. Melkanoff (W)

231A. Advanced Topics in Programming Languages. Prerequisite: Computer Science 131. Presentation, analysis, and discussion of specialized programming languages, new higher-level languages, and new and/or advanced features of programming languages. Mr. Melkanoff (Sp)

231B. Advanced Topics in Computer Language Design. Prerequisites: Computer Science 132, 141, 181, 232A, 232B. Treatment of current topics in computer language, including design goals of modern languages, levels of abstraction, methodologies for standardization, and proposals for new problem-oriented and extensible languages. Enrollment limited to allow individual application of language design principles. Mr. Uzgalis (W)

232A. Operational Semantics of Programming Languages. Prerequisites: Computer Science 131 and 181 (may be taken concurrently). Interpreter models of programming language semantics: information structure models, Vienna definition language, lambda calculus, LISP definition, interpreter equivalence and correctness. Mr. Berry (F)

232B. Semantics of Programming Languages. Prerequisite: Computer Science 181 or equivalent or consent of instructor. Syntax-directed semantics of context-free languages. Knuthian semantic systems (K-systems) and their mathematical formulation. K-system formulation of programming language semantics; translational and denotational semantics. Properties of K-systems; equivalence of K-systems. Applications of current research interest.
Mr. D. Martin (F)

234A. Correctness Proofs. Prerequisite: consent of instructor. Theoretical and practical aspects of correctness proofs. Partial correctness, total correctness, and termination. Axiomatic semantics and proof systems. Abstraction and correctness of implementations. Formulation, execution, and assessment of correctness proofs. Topics of current research interest. Mr. D. Martin (Sp)

234C. High-Level Language Computer Architecture. Prerequisites: Computer Science 131, and 232A or 232B. A study of machine architectures to facilitate direct or nearly direct execution of high-level languages: Algol-like machines, including Burroughs B6700, microprogramming and microprogrammable machines, measurements and their use in architecture design. Mr. Berry

239. Current Topics in Computer Science Programming Languages and Systems (½ to 4 courses). Prerequisite: consent of instructor. Review of current literature in an area of computer science programming languages and systems in which the instructor has developed special proficiency as a consequence of research interests. May be repeated for credit with topic change.

241A. Data Management Systems. Prerequisites: Computer Science 131 or Management 113B and Computer Science 141, or equivalent. Information and file handling in higher-level languages, storage devices, and operating systems. Secondary index organizations. Models and architecture of data management systems. Logical and physical structures. Query languages. Commercially available generalized file management and data base management systems. Management information systems.
Mr. Cardenas, Mr. Muntz (F,W,Sp)

241B. Data Base, Software, and Information Systems. Prerequisites: Computer Science 131 or Management 113B and Computer Science 241A, or equivalent. Data base systems technology. Application program development technology. Information system development cycle and methodology. Systems analysis. Feasibility and cost/effectiveness studies. Software architecture, management, costing. Automated program and data base generation. Problem statement languages. Various topics at instructor's discretion, emphasizing data base technology. Mr. Cardenas (W)

242A. Privacy and Security in Computer Information Systems. Prerequisite: Computer Science 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 and critique of current systems and practices. Possible certifiability of such systems. Relevant social issues. Mr. Popek

243A. Relational Data Bases. Prerequisites: Computer Science 131, 141. The relational model of data: definition and operations; relational languages. Relational data bases: experimental and commercial; design methodology. Mr. Parker (W)

243B. Abstract Data Types and Program Specification. Prerequisites: Computer Science 141, 181. The notions of abstract data type and abstract program specification permit one to understand how programs manipulate data, independently of their implementations. These notions also give powerful techniques for program structuring and verification. The class will include programming exercises.

249. Current Topics in Data Structures (½ to 3 courses). 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 by consent of instructor.

251A. Advanced Computer Architecture. Prerequisites: Computer Science 151A, 151B, and 111, or consent of instructor. Functional and structural models of computer systems. Architecture and organization at microprogramming, machine language, and operating system level. Processor organization and system control. Arithmetic processors: algorithms and implementation. Storage system organization: hierachy and management. Communication organization and control.
Mr. Ercegovac, Mr. Rennels (F,W)

252A. Computer Science Design: Arithmetic Processors. Prerequisite: Computer Science 251A or consent of instructor. Concepts of number systems, digital numbers, algorithms; logic and organization of digital arithmetic processors; conventional arithmetic; algorithm acceleration; floating-point and significance arithmetics; redundant, signed-digit, residue number systems; error detecting codes for digital arithmetic; algorithm evaluation by analysis and simulation. Mr. Avizienis, Mr. Ercegovac (W)

253A. Computer System Design: Fault Tolerance. Prerequisite: Computer Science 251A. Specification of fault-tolerance: fault classes, measures of reliability. Fault masking, fault detection, and system recovery algorithms. Methodology of implementation. Analytic modeling and evaluation. Design of fault-tolerance systems. Tolerance of man-made faults. Fault-tolerant software. Mr. Avizienis, Mr. Rennels (W)

253B. Advanced Topics in Fault-Tolerant Computing. Prerequisite: Computer Science 253A. Analysis and discussion of the modeling, design, and evaluation of fault-tolerant computer 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: Computer Science 251A or consent of instructor. Generic types of memory systems; control, access modes, hierarchies, and allocation algorithms. Characteristics, system organization, and device considerations of ferrite memories, thin film memories, and semiconductor memories.
Mr. Chu, Mr. Rennels (F)

255B. Distributed Processing and Distributed Data Base System. Prerequisite: Computer Science 255A. Interprocess communications, protocol, interface design, bus structures, system reconfiguration, error recovery. Task partitioning, performance optimization, microprocessor based distributed processing system. File allocation, directory design, deadlock, consistency, synchronization, file availability, query optimization, data translation. Examples, trade-offs, and design experiences. Mr. Chu (W)

256A. Interactive Computer Graphics. (Formerly numbered Computer Science 274A.) Prerequisite: Computer Science 174 or equivalent. Current topics in interactive computer graphics system design, development, and applications. Mr. Bussell (Sp)

257A. Computer System Design: Comparative Architecture and Synthesis Methods. Prerequisite: Computer Science 252A. Advanced topics in computer system architecture. Important properties of computer systems and methods for modeling, evaluating, and synthesizing them. Mr. Estrin (W)

M258A-M258B-M258C. LSI in Computer System Design. (Same as Electrical Engineering M258A-M258B-M258C.) Prerequisites: graduate standing in computer science or electrical engineering and consent of instructor. A three-quarter interdepartmental graduate course on LSI/VLSI design principles and application in computer systems.
Mr. Bussell, Mr. Viswanathan
(F, M258A; W, M258B; Sp, M258C)

259. Current Topics in Computer Science System Design/Architecture (½ to 4 courses). 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.

270A. Computer Methodology: Advanced Numerical Methods. Prerequisites: graduate standing in computer science or engineering, and Engineering 124A or Mathematics 141B or comparable experience with numerical computing. 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 and the applicability of contemporary developments in numerical software. Computer exercises.
Mr. Carlyle, Mr. Karplus (F,Sp)

271A. Computer Methodology: Continuous Systems Simulation. Prerequisites: Engineering 124A and Computer Science 171. The organization, operation, and areas of application of analog-digital computer systems. Error analysis, numerical analysis aspects, digital simulation languages for continuous systems characterized by ordinary differential equations. Mr. Karplus, Mr. Levine (W)

271B. Computer Methodology: Distributed Parameter Systems. Prerequisite: Engineering 124A. A survey of the mathematical formulation and computer solution of engineering field problems governed by partial differential equations. Emphasis on digital simulation methods, including finite difference approximations, Monte Carlo methods, and the use of modern problem-oriented languages.
Mr. Karplus, Mr. Vidal (F)

271C. Seminar in Advanced Simulation Methods (½ course). Prerequisite: Computer Science 271A or equivalent. Discussion of advanced topics in the simulation of systems characterized by ordinary and partial differential equations. Topics include (among others) simulation languages, dataflow machines, array processors, and advanced mathematical modeling techniques. Topics vary from quarter to quarter. May be repeated for credit. S/U grading.
Mr. Karplus (F,W,Sp)

273A. Digital Processing of Engineering and Statistical Data. Prerequisite: Computer Science 173. Computer methods for processing engineering and statistical data. Algorithms to evaluate recursive filter functions, Fourier series, power spectral, analyis correlation computations, and statistical testing.
Mr. McNamee (W)

274A. Problem Solving and Decision Making. (Formerly numbered Computer Science M274A.) Prerequisite: Engineering 193A or equivalent. Formal models of problem structures. Heuristic techniques for mechanized problem solving. Foundations of quantitative coding of qualitative information. Theories of subjective probabilities and utility. Relation between artificial intelligence and decision analysis. Information processing models of human decision making and problem solving behavior.
Mr. Pearl (F)

274B. Knowledge-Based Systems. (Formerly numbered Computer Science M274B.) Prerequisite: Computer Science 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)

274C. Computer Methods of Data Analysis and Model Formation. (Formerly numbered Computer Science M274C.) Prerequisite: Engineering 120A or 193A or equivalent or consent of instructor. Techniques of using computers to interpret, summarize, and form theories of empirical observations. Mathematical analyses of trade-offs between the computational complexity, storage requirements, and precision of computerized models. Mr. Pearl

274Z. Current Topics in Cognitive Systems. (Formerly numbered Computer Science M274Z.) Prerequisites: consent of instructor and additional prerequisites for each offering as announced in advance by the department. Theory and implementation of systems which emulate or support human reasoning. Current literature and individual 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)

275A. Information Processes in Nervous Systems. Prerequisite: consent of instructor. Conceptual discussion of acquisition and transfer of information in the nervous system and of the role of computers in the analysis and interpretation of neurophysiological data. Mr. Vidal (W)

276A. Statistical Pattern Recognition. Prerequisite: graduate standing. Recommended: background in probability, such as Engineering 120A, Mathematics 150A. Computer methodology in the processing of large data sets. Multidimensional measurements. Adaptation and learning the mean of a normal distribution. Bayesian statistics and loss functions. Learning algorithms and clustering processes. Student projects and presentations. Mr. Klinger (F)

276B. Structural Pattern Recognition. Prerequisite: prior background in computer science, such as Computer Science 141, 181, or consent of instructor. Descriptive methods in computer processing of patterned data. Picture description languages, primitives, and formal methods for syntactic analysis, abstraction, and recognition. Introductory material on scene analysis and image processing. Applications to alphanumeric characters, chromosome data, and line drawings. Mr. Klinger (W)

276C. Machine Pattern Analysis (½ course). Prerequisite: Computer Science 276A or equivalent. Advanced research topics in machine processing of patterned data. Topics in pattern recognition, image processing, artifical intelligence (e.g., scene analysis and data structure). May be repeated once for credit with topic change. Mr. Klinger (F,W,Sp)

277A. Heuristic Programming and Artificial Intelligence. (Formerly numbered Computer Science 286A.) Prerequisite: Computer Science 131 or 181 or consent of instructor. Principles underlying the use of computers to perform tasks generally agreed to require some intelligence. The objective is to develop an understanding of current research regarding the possibilities and limitations of existing experiments in automating intelligent behavior.
Mr. Klinger, Mr. Pearl (F)

279. Current Topics in Computer Science Methodology (¼ to 4 courses). Prerequisite: consent of instructor. Review of current literature in an area of computer science methodology in which the instructor has developed special proficiency as a consequence of research interests. Students report on selected topics. May be repeated for credit with topic change.

280A-280ZZ. Algorithms. (Formerly numbered System Science 228CA-228CZ.) Prerequisites: consent of instructor and additional prerequisites for each offering as announced in advance by the department. Selections from design, analysis, optimization, and implementation of algorithms; computational complexity and the general theory of algorithms; algorithms for particular application areas. Subtitles of some current sections: Principles of Design and Analysis (280A); Graphs and Networks (280G). May be repeated for credit by consent of instructor and with topic change. Ms. Greibach (Sp)

281A. Computability and Complexity. (Formerly numbered System Science 228B.) Prerequisite: Computer Science 181 (or former course 123B) or compatible background. Concepts fundamental to the study of discrete information systems and theory of computing, with emphasis on regular sets of strings, Turing-recognizable (recursively enumerable) sets, closure properties, machine characterizations, nondeterminisms, decidability, unsolvable problems, "easy" and "hard" problems, PTIME/NPTIME. Ms. Greibach, Mr. Parker (F)

281D. Discrete State Systems. (Formerly numbered System Science 228D.) Prerequisite: consent of instructor. Recommended: Computer Science 181. Finite-state machines, transducers, and their generalizations; regular expressions, transduction expressions, realizability; decomposition, synthesis, and design considerations; topics in state and system identification and fault diagnosis, linear machines, probabilistic machines, applications in coding, communication, computing, system modeling, and simulation. Mr. Carlyle

284A-284ZZ. Topics in Automata and Languages. (Formerly numbered Computer Science 284XA-284XZ.) Prerequisites: Computer Science 181 and additional prerequisites for each offering as announced in advance by the department. Selections from families of formal languages, grammars, machines, operators; pushdown automata, context-free languages and their generalizations, parsing; multidimensional grammars, developmental systems; machine-based complexity. Subtitles of some current and planned sections: Context-Free Languages (284A), Parsing Algorithms (284P). May be repeated for credit by consent of instructor and with topic change. Ms. Greibach

287A. Theory of Program Structure. (Formerly numbered Computer Science M287A.) Prerequisite: Computer Science 181 (or former course 123B). Models of computer programs and their syntax and semantics; emphasis on programs and recursion schemes; equivalence, optimization, correctness, and translatability of programs; expressive power of program constructs and data structures; selected current topics. Ms. Greibach (F)

288S. Seminar in Theoretical Computer Science (½ course). Prerequisites: Computer Science 280A, 281A, and consent of instructor. 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. Intended for students undertaking thesis research. May be repeated for credit. S/U grading. Ms. Greibach (F,W,Sp)

289A-289ZZ. Current Topics in Computer Theory (½ to 3 courses each). (Formerly numbered Computer Science 289.) 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.

M296A. Biocybernetics I. (Formerly numbered Engineering Systems M296A.) (Same as Medicine M296A.) Prerequisites: Engineering 171C or equivalent, and M196B (may be taken concurrently). Development of modern systems/biocybernetic methods applicable to problems in life sciences and medicine. Emphasis on dynamical modeling, advanced analysis methods and their limitations, biological systems quantification (identification), experimental design and hypothesis testing, the limitations of biological data, and computational methods.
Mr. DiStefano (F)

M296B. Biocybernetics II. (Formerly numbered Engineering Systems M296B.) (Same as Medicine M296B.) Prerequisite: Computer Science M296A. Recommended: Physiology 100 or Biology 166 or equivalent. Continued development of modern systems/biocybernetics methodology and identification of biological systems. Critical survey of their application in the life sciences. The systems viewpoint of regulation in selected biological systems. Applications to human pathophysiology, diagnosis, and therapy. Mr. DiStefano (W)

M296C. Seminar: Advanced Topics in Biocybernetics. (Formerly numbered Engineering Systems M296C.) (Same as Medicine M296C.) Prerequisite: consent of instructor. Interactive seminar on current research topics in biocybernetics. Dynamic systems modeling of physiological processes, with emphasis on specific applications in physiology and clinical medicine. Students will be involved in one or more class projects. Mr. DiStefano (Sp)

375. Teaching Apprentice Practicum (¼ to 1 course). 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. Avizienis (F,W,Sp)

497D-497E. Field Projects in Computer Science. Prerequisite: consent of instructor. Students will be divided into teams led by the instructor; each team will be assigned an external company or organization which they will investigate as a candidate for possible computerization. They will submit a team report of their findings and recommendations. In Progress grading. Mr. Cardenas, Mr. Melkanoff

596. Directed Individual or Tutorial Studies (½ to 2 courses). Prerequisites: graduate standing in 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 (½ to 3 courses). Prerequisites: graduate standing in engineering, consent of instructor. Petition forms to request enrollment may be obtained from the Assistant Dean, Graduate Studies. Reading and preparation for M.S. comprehensive examination. S/U grading.

597B. Preparation for Ph.D. Preliminary Examinations (½ to 4 courses). Prerequisites: graduate standing in engineering, consent of instructor. Petition forms to request enrollment may be obtained from the Assistant Dean, Graduate Studies. S/U grading.

597C. Preparation for Ph.D. Oral Qualifying Examination (½ to 4 courses). Prerequisites: graduate standing in engineering, consent of instructor. Petition forms to request enrollment may be obtained from the Assistant Dean, Graduate Studies. Preparation for oral qualifying examination, including preliminary research on dissertation. S/U grading.

598. Research for and Preparation of M.S. Thesis (½ to 3 courses). Prerequisites: graduate standing in engineering, consent of instructor. Petition forms to request enrollment may be obtained from the Assistant Dean, Graduate Studies. Supervised independent research for M.S. candidates, including thesis prospectus. S/U grading.

599. Research for and Preparation of Ph.D. Dissertation (½ to 4 courses). Prerequisites: graduate standing in engineering, consent of instructor. Petition forms to request enrollment may be obtained from the Assistant Dean, Graduate Studies. S/U grading.

Electrical Engineering

7732 Boelter Hall, 825-2647

Professors

Nicolaos G. Alexopoulos, Ph.D.
Frederick G. Allen, Ph.D.
Lee W. Casperson, Ph.D.
Francis F. Chen, Ph.D.
Robert S. Elliott, Ph.D.
Harold R. Fetterman, Ph.D.
A. Theodore Forrester, Ph.D.
Neville C. Luhmann, Jr., Ph.D.
H. J. Orchard, M.Sc.
Frederick W. Schott, Ph.D.
Oscar M. Stafsudd, Jr., Ph.D.
Gabor C. Temes, Ph.D.
Chand R. Viswanathan, Ph.D., *Chair*
Kang-Lung Wang, Ph.D.
Alan N. Willson, Jr., Ph.D.
Cavour W. Yeh, Ph.D.
Louis L. Grandi, M.S., *Emeritus*
William D. Hershberger, Ph.D., *Emeritus*
Ellis F. King, M.S., *Emeritus*

Associate Professor

Jack Willis, B.Sc.

Assistant Professors

Douglas N. Green, Ph.D.
Kenneth W. Martin, Ph.D.
Dee-Son Pan, Ph.D.

Professor

Paul T. Greiling, Ph.D., *Adjunct*

Associate Professors

James B. Forsythe, Ph.D., *Adjunct*
Siegfried G. Knorr, Ph.D., *Adjunct*

Assistant Professor

Vance C. Tyree, M.S., *Adjunct*

Lecturer

Clifford E. Gilbert, B.Sc., *Visiting*

Graduate Courses

201. Electrical Engineering Seminar (½ course). Prerequisite: graduate standing in engineering. Lectures on current research topics in electrical engineering. S/U grading. Mr. Viswanathan (F,W,Sp)

210A. Advanced Circuit Theory I. Prerequisites: Engineering 110B, 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 related topics. Mr. Orchard (F)

210B. Advanced Circuit Theory II. Prerequisite: Electrical Engineering 210A. Analytical techniques for active circuits: return difference, Blackman's formula for an active impedance. Characterization of nonlinear elements. State equations for nonlinear circuits. Stability of nonlinear circuits: Liapunov's direct method. Theory of nonlinear transistor circuits. Mr. Willson (W)

210C. Advanced Network Synthesis. Prerequisite: Engineering 110C. Theory and practical development of lossless ladder networks. Loss-phase relations in minimum-phase networks. The Hilbert transform. All-pass functions and networks. Design of linear-phase polynomials. Mr. Orchard, Mr. Temes (W)

210D. Active, Passive, and Digital Filters. Prerequisite: Electrical Engineering 210C or consent of instructor. Approximation theory. Realization of passive filters. Electromechanical filters. Active filters with lumped and/or distributed elements. Switched and digital filters. Mr. Orchard, Mr. Temes (Sp)

210E. Digital Signal Processing. Prerequisite: Engineering 110B. Relationship between continuous-time and discrete-time signals. The z-transform. The discrete Fourier transform. The fast Fourier transform. State equations for discrete-time systems. Network structures for digital filtering. Introduction to digital filter design techniques. Mr. Temes, Mr. Willson (F)

210F. Theory and Design of Digital Filters. Prerequisite: Electrical Engineering 210E. Approximation of filter specifications. Use of design charts. Structures for recursive digital filters. FIR filter design techniques. Comparison of IIR and FIR structures. Implementation of digital filters. Limit cycles. Overflow oscillations. Discrete random signals. Wave digital filters. Distributed arithmetic structures. Mr. Willson (W)

213A. Quantum Electronics I. (Not the same as Electrical Sciences and Engineering 213A prior to Fall Quarter 1979.) Prerequisite: Engineering 115A or consent of instructor. Not open to students with credit for Electrical Sciences and Engineering 215A prior to Fall Quarter 1979. Review of quantum mechanics, approximation methods, interaction of radiation and matter. Mr. Casperson, Mr. Stafsudd (F)

213B. Quantum Electronics II. Prerequisite: Electrical Engineering 213A or consent of instructor. Not open for credit to students with credit for Electrical Sciences and Engineering 213A prior to Fall Quarter 1979. Optical beams and resonators, interaction of light with atoms (including amplification and saturation), properties of lasers (including power output and mode effects). Mr. Casperson, Mr. Stafsudd (W)

213C. Quantum Electronics III. Prerequisite: Electrical Engineering 213B or consent of instructor. Properties of laser oscillators including transient phenomena, quantum mechanical effects, and behavior of high gain laser media. Mr. Casperson, Mr. Stafsudd (Sp)

213D. Quantum Electronics IV. Prerequisite: Electrical Engineering 213B or consent of instructor. Not open for credit to students with credit for Electrical Sciences and Engineering 213B prior to Winter Quarter 1980. Quantum electronic systems, modulation, detection, acousto-optics, magneto-optics, nonlinear optics. Raman scattering, Brillouin scattering. Mr. Casperson (Sp, odd years)

213S. Quantum Electronics Seminar (½ course). Prerequisite: Electrical Engineering 213A or consent of instructor. A series of lectures and student presentations on topics of current research interest in quantum electronics, modern optics, and laser physics. May be repeated for credit. S/U grading. Mr. Casperson, Mr. Stafsudd

214A. Plasma Waves and Instabilities. Prerequisites: Engineering 100B and M118. Wave phenomena in plasmas described by the macroscopic fluid equations. Emphasis on homogeneous plasmas in uniform magnetic fields. Microwave propagation, plasma oscillations, ion acoustic waves, cyclotron waves, hydromagnetic waves, whistlers and helicon waves, and their classification. Illustrative experiments. Mr. Chen, Mr. Luhmann (W)

214B. Advanced Plasma Waves and Inatabilties. Prerequisites: Engineering M118, and Electrical Engineering 214A 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)

M214C. Principles of Magnetic Confinement Fusion. (Same as Mechanics and Structures M250.) Prerequisites: Engineering M118, and Electrical Engineering 214A and 214B or Physics 222A-222B, or consent of instructor. Plasma requirements for controlled fusion. Structure of magnetic fields. Theory of MHD equilibrium and stability. Shear and minimum-B stabilization. Resistive and microinstabilities. Neoclassical diffusion physics of tokamak and tandem-mirror plasmas. Neutral beams and auxiliary heating. Alternate concepts. Mr. Chen (F)

M214D. Fusion Reactor Analysis. (Same as Mechanics and Structures M251.) Prerequisite: Engineering M118 or consent of instructor. Fusion reactions, fuel cycles, reactor plasma performance requirements. Methods for burning plasma analysis in, for example, tokamaks, tandem mirrors, and laser fusion plasmas. Point plasma kinetics, space-time multifluid hydrodynamics, and kinetic theory models. Driven reactor plasmas. Atomic radiation processes and plasma-wall interactions. Mr. Chen (W)

M214E. Fusion Reactor Technology and Design. (Same as Mechanics and Structures M252.) Prerequisite: Engineering 135A or consent of instructor. Fusion reactors, both magnetic and inertial. Operating conditions, power balance, system Q. Drivers for inertial confinement, magnet systems; blanket and shield design and analysis, induced radioactivity, tritium breeding and processing; radiation damage effects, design of reactors for electricity production or as hybrid systems. Mr. Chen (Sp)

215A. Solid-State Electronics I. Prerequisites: Engineering 115C and Electrical Engineering 213A, or consent of instructor. Energy band theory, electronic band structure of various elementary, compound, and alloy semiconductors, defects in semiconductors. Recombination mechanisms, transport properties. Mr. Pan (F)

215B. Solid-State Electronics II. Prerequisite: Electrical Engineering 215A. Techniques to solve Boltzmann transport equation, various scattering mechanisms in semiconductors, high field transport properties in semiconductors, Monte Carlo method in transport. Optical properties. Mr. Pan (W, even years)

215C. Microwave Semiconductor Devices. Prerequisite: Engineering 115D. Physical principles and design considerations of microwave solid-state devices: Schottky barrier mixer diodes, IMPATT diodes, transferred electron devices, tunnel diodes, microwave transistors. Mr. Fetterman, Mr. Pan (W)

215D. Physics of Semiconductor Devices II. Prerequisite: Engineering 115D. Physical principles and design considerations of junction devices. Mr. Allen, Mr. K. Wang (F)

215E. Physics of Semiconductor Devices I. Prerequisite: Engineering 115D. Principles and design considerations of field effect devices and charge-coupled devices. Mr. Viswanathan (Sp)

216A. Analog Integrated Circuits. (Not the same as Electrical Sciences and Engineering 216A prior to Fall Quarter 1981.) 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 SNR. Voltage multipliers, D/As and A/Ds converters. Mr. K. Martin, Mr. Willis (F)

216B. Advanced Digital Integrated Circuits. (Not the same as Electrical Sciences and Engineering 216B prior to Winter Quarter 1981.) Prerequisite: Engineering 116C. Modern logic families (description, analysis, and comparison), MSI digital circuits (flip-flops, registers, counters, PLAs, etc.). VLSI memories (ROMs, RAMs, CCDs, bubble memories, EPROMs, EEPROMs) and VLSI systems (microcomputers, PIAs, ACIAs, etc.). Mr. K. Martin (Sp)

216C. Advanced Integrated Circuit Design. Prerequisites: Electrical Engineering 216A, 216B, Engineering 116E. 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. K. Martin (Sp)

216D. Microwave Amplifiers. (Formerly numbered Electrical Sciences and Engineering 216A.) Prerequisites: Engineering 110B, 116B. Not open to students with credit for Electrical Sciences and Engineering 216A prior to Winter Quarter 1981. Microwave transistors, characteristics, and equivalent circuits at microwave frequencies. Two port networks, activity and stability. Matching network synthesis with lumped and distributed components. Commensurate matching, networks. Linear amplifier design. Narrow band, broad band: input-output interactions. Optimum design approach, graphical approximations, syntheses, and optimization. Mr. Willis (W, even years)

216E. Communicstion Feedback Circuits. (Not the same as Electrical Engineering 216E prior to Fall Quarter 1982.) Prerequisites: Engineering 110B, and 116D or 120B. Analysis and applications of automatic gain control (AGC) and phase-locked loop (PLL) circuits. Emphasis is on the use and design of AGCs and PLLs in communication circuits. Subjects include coherent and noncoherent AGCs, applications of PLLs, frequency synthesis, analysis of linear behavior with noise, and nonlinear acquisition. Mr. Green

217A-217B. Advanced Engineering Electrodynamics. Prerequisites: Engineering 117A and 117B, or equivalent. Advanced treatment of concepts in electrodynamics and their applications to modern engineering problems. Waves in anisotropic, inhomogeneous, and dispersive media. Guided waves in bounded and unbounded regions. Radiation and diffraction, including optical phenomena. Partially coherent waves, statistical media. Mr. Alexopoulos, Mr. C. Yeh (F, 217A; W, 217B)

217C. Microwave Circuits. Prerequisite: Engineering 117A. Transmission line review; application to strip line and microstrip. Multiport microwave networks; scattering and immittance matrices; devices. Inhomogeneously filled guides. Surface guides. Excitation of guided waves. Periodic structures and filters. Mr. Elliott, Mr. Schott (Sp)

217E. Antenna Theory and Design. Prerequisite: Engineering 117B. Antenna patterns. Sum and difference patterns. Optimum designs for rectangular and circular apertures. Arbitrary side lobe topography. Discrete arrays. Mutual coupling. Design of feeding networks. Mr. Elliott (W, even years)

219A. Seminars on Advanced Topics in Electromagnetics. Prerequisites: Engineering 117A and 117B, or equivalent. Current topics in electromagnetics, such as wave intraction with ferrites, moving media, data processing antennas, waves in statistically varying media, numerical methods applied to electromagnetic problems, holograms, and partially coherent waves. May be repeated for credit.

219B. Seminars on Advanced Topics in Solid-State Electronics. Prerequisites: Electrical Engineering 215A, 215B. Current research areas, such as radiation effects in semiconductor devices, diffusion in semiconductors, optical and microwave semiconductor devices, nonlinear optics, and electron emission.

219D. Special Topics in Electric Circuit Theory. Prerequisite: Electrical Engineering 210B or 210C or 210D. Advanced treatment of topics chosen from reseach areas in electric circuit theory.

219E. Special Topics in Quantum Electronics. Prerequisite: Electrical Engineering 213A or consent of instructor. Advanced treatment of topics chosen from research areas in quantum electronics, such as guided wave optics, unconventional laser systems, optical detection, and coherent optical imagery. May be repeated for credit.

Mr. Casperson, Mr. Stafsudd

219X. Advanced Electrical Engineering Seminar (½ course). Prerequisite: passing of Ph.D. major field examination or consent of instructor. Seminar on current research topics in solid-state and quantum electronics (Section 1) or in electronic circuit theory and applications (Section 2). Students will report on a tutorial topic and on a research topic in their dissertation area. May be repeated for credit. S/U grading.

Mr. Viswanathan (F,W,Sp)

M258A-M258B-M258C. LSI in Computer System Design. (Same as Computer Science M258A-M258B-M258C.) Prerequisites: graduate standing in computer science or electrical engineering and consent of instructor. A three-quarter interdepartmental graduate course on LSI/VLSI design principles and application in computer systems.

Mr. Viswanathan (F, M258A; W, M258B; Sp, M258C)

375. Teaching Apprentice Practicum (¼ to 1 course). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading.

Mr. Viswanathan (F,W,Sp)

Engineering Systems

7619 Boelter Hall, 825-8486

Professors

John A. Dracup, Ph.D.
John H. Lyman, Ph.D., *Chair*
Herbert B. Nottage, Ph.D.
Philip F. O'Brien, M.S.
Russell R. O'Neill, Ph.D.
Richard L. Perrine, Ph.D.
Allen B. Rosenstein, Ph.D.
Moshe F. Rubinstein, Ph.D.
Allen R. Stubberud, Ph.D.
William W. G. Yeh, Ph.D.
Ralph M. Barnes, Ph.D., *Emeritus*
Edward P. Coleman, Ph.D., *Emeritus*
J. Morley English, Ph.D., *Emeritus*
Warren A. Hall, Ph.D., *Emeritus*
W. Julian King, M.E., *Emeritus*
Russell L. Perry, M.E., *Emeritus*
Arthur F. Pillsbury, Engineer, *Emeritus*

Associate Professors

Bonham Spence-Campbell, E.E.
Michael K. Stenstrom, Ph.D.

Professors

Norman C. Dalkey, Ph.D., *Adjunct*
Amos Freedy, Ph.D., *Adjunct*
Don Lebell, Ph.D., *Adjunct*
Robert V. Phillips, B.S., *Adjunct*
Arnold M. Ruskin, Ph.D., *Adjunct*

Lecturers

Gary L. Gasca, B.A., *Visiting*
Jean D. Gasca, M.S., *Visiting*
Julius Glater, M.S., *Adjunct*
Melvin W. Lifson, Ph.D., *Visiting*
Kenneth R. Pfeiffer, Ph.D., *Visiting*

Graduate Courses

270A. Synthesis of Industrial Engineering Systems. Prerequisites: design background and Engineering 173, or equivalent. The logic and quantitative formulations for the transdisciplinary design of engineering systems to meet advanced industrial requisites in productivity, profitability, environments, and resource conservation. Facilities, energy, processes, equipment, operations, cost-benefit, and safety considerations. Application areas vary from year to year.

Mr. O'Brien

274J. Multiattribute Decision Making with Conflicting Objectives. Prerequisite: Engineering 174A 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 strategies under conflict situations. The theory of metagames and metarationality. Mr. Pearl, Mr. Rubinstein (W)

274K. Perspectives on System Representation. Prerequisite: Engineering Systems 274J or consent of instructor. Mathematical and conceptual models used in analysis and synthesis of engineering, sociotechnical systems. Mathematical representations of interpretative models. Decomposition using tools of graph theory and information theory. Guides to choice of models. Interaction of human and computer in the modeling process. Mr. Rubinstein (Sp)

276A. Computer-Aided Design. Prerequisites: Engineering 106B or equivalent. Seminar in computer-aided design of engineering systems and products. Organization of the design process, its decision points, and backup information for automatic machine processing of the specifications to provide full design data for a family of products.

Mr. Rosenstein

277A. Advanced Engineering Economics I. Prerequisites: Engineering 177A and 177B or equivalent or consent of instructor. Optimal investment decisions. Advanced theory of capital and its relationship to economic growth. Role of technology in economic development. Theoretical basis for cost of capital and discount rates in private and public sectors. Working capital decisions. Applications to engineering projects.

277B. Advanced Engineering Economics II: Seminar. Prerequisite: Engineering Systems 277A or equivalent or consent of instructor. The economics of engineering and social systems. Long-range investment concepts. Physical analogy to Walras' model. An entropy approach to financial decision making. Term projects.

280A. Advanced Biotechnology. Prerequisite: Engineering 180A or 180B or consent of instructor. Review and analysis of contemporary bioscience research which bears on problems of engineering component and system design. Emphasis is on methodological and scientific factors underlying man-machine-environment interactions.

Mr. Lyman, Mr. O'Brien (W)

280B. Advanced Biotechnology. Prerequisite: Engineering 180A or 180B or consent of instructor. Specialized coverage of "human factors" and "human engineering," with orientation toward obtaining design optimization of the functions of humans in relation to engineering parameters of environment, communication, and control. Mr. Lyman (Sp)

284A. Surface Water Hydrology. Prerequisite: Engineering 184A or consent of instructor. In-depth study of the surface water components of the hydrologic cycle. Instantaneous units hydrograph, dynamic wave equations, rainfall-runoff models using system investigation and physical hydrology. Stochastic hydrology: time-series analysis, Markovian streamflow generating models, and generation of multivariate synthetic streamflows. Applications.

Mr. Dracup, Mr. W. Yeh (W)

284B. Groundwater Hydrology. Prerequisite: Engineering 184A or consent of instructor. Theory of the movement and occurrence of water in subterranean aquifers. Steady flow in confined and unconfined aquifers. Mechanics of wells; steady and unsteady radial flows in confined and unconfined aquifers. Theory of leaky aquifers. Seawater intrusion. Numerical methods. Applications.

Mr. Dracup, Mr. W. Yeh (Sp)

284C. Water Resources Systems Engineering. Prerequisite: Engineering 184B. Application of mathematical programming techniques to water resources systems. Topics include reservoir regulation, optimal timing, sequencing and sizing of water resources projects, and real-time conjunctive operations of ground water and surface water resource systems. Emphasis is on the management of water quantity.

Mr. Dracup, Mr. W. Yeh (Sp)

284D. Advanced Water Quality Control Systems. Prerequisite: Engineering 184D. Physical, chemical, and biological bases for design of advanced water and wastewater quality control systems. Includes treatment processes, standards, and requirements; concepts in physical, organic, and colloidal chemistry; bacteriology and limnology; reservoir, stream, estuary, and ocean outfall management; water quality modeling. Field trip. Mr. Stenstrom (W)

284E. Saline Water Conversion. Prerequisites: Engineering 137A and Chemistry 110A and 110B, or equivalent. Current research and development in saline water conversion, in the fields of distillation, electrodialysis, freezing, reverse osmosis, and chemical extraction. A study of process optimization and economics of combined water power systems.

Mr. Stenstrom (W)

284F. Selected Topics in Water Resources (½ course). Prerequisites: graduate standing, consent of instructor. Review of recent research and development in the management of water resources. Water and hydroelectric supply systems. Water quality management. Water law and institutions. Economic planning and optimization of water resources development. May be repeated once for credit.

Mr. Dracup, Mr. Stenstrom (F)

284G. Engineering Economics of Water and Related Natural Resources. Recommended prerequisites: 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 related natural resources; application of price theory to water resource management, electric power supply, petroleum and natural gas management, and renewable resources; benefit-cost analysis with applications to water resources planning.

Mr. Dracup (F)

284H. Mathematical Models for Water Quality Management. Prerequisite: Engineering 184D. Development of mathematical models relating pollutant inputs to water quality. Scheduling of treatment plants capacity expansion. Regional water quality system models. Emphasis is on use of analytical and simulation techniques to manage water quality in streams, lakes, and estuaries. Mr. Stenstrom (Sp)

M288A. Urban Transportation Planning I. (Same as Architecture and Urban Planning M241A.) 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. O'Neill, Mr. Wachs (F)

M288B. Urban Transportation Planning II. (Same as Architecture and Urban Planning M241B.) Prerequisites: Engineering Systems M288A and Architecture and Urban Planning 207 and 220B, 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. O'Neill, Mr. Wachs (W)

M288C. Urban Transportation Planning III. (Same as Architecture and Urban Planning M241C.) Prerequisites: Engineering Systems M288A, M288B and Architecture and Urban Planning 207, 220B, 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. O'Neill, Mr. Wachs (Sp)

375. Teaching Apprentice Practicum (¼ to 1 course). 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. Lyman (F,W,Sp)

Environmental Science and Engineering (Interdepartmental)

This interdisciplinary graduate program, which leads to the Doctor of Environmental Science and Engineering degree (D.Env.), 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

6531 Boelter Hall, 825-5534

Professors

Alan J. Ardell, Ph.D., *Chair*
Rointan F. Bunshah, D.Sc.
David L. Douglass, Ph.D.
William J. Knapp, Sc.D.
John D. Mackenzie, Ph.D.
Kanji Ono, Ph.D.
Aly H. Shabaik, Ph.D.
George H. Sines, Ph.D.
Christian N. J. Wagner, Dr.rer.nat., *Assistant Dean*
Alfred S. Yue, Ph.D.
Daniel Rosenthal, Ph.D., *Emeritus*

Associate Professors

Bruce S. Dunn, Ph.D.
William Klement, Jr., Ph.D.

Professors

Samuel B. Batdorf, Ph.D., *Adjunct*
Ryoichi Kikuchi, Ph.D., *Adjunct*
Frederick F. Lange, Ph.D., *Adjunct*
Morris A. Steinberg, D.Sc., *Adjunct*

Associate Professors

Ilhan A. Aksay, Ph.D., *Adjunct*
Keh-Jim Dunn, Ph.D., *Adjunct*

Graduate Courses

240A. Principles of Materials Science A (Microstructural Thermodynamics). Prerequisites: Engineering 105A and 141, or equivalent. Thermodynamical equilibrium criteria for multicomponent systems of materials. Phase transformations and chemical reactions. Properties of solutions; the quasichemical approach. Free energy of binary systems and the construction of phase diagrams. Constitution of melts. Thermodynamics of interfaces and defects.
Mr. Knapp (F)

240B. Principles of Materials Science B (Structure of Materials). Prerequisite: Engineering 145A or equivalent. Atomic, electronic, and crystalline structure of materials; particles and waves, free electron model, binding in solids; crystal structure, real and reciprocal lattices; amorphous solids, kinematical theory of scattering, electrons in a periodic potential, pseudopotentials, conduction of electrons in solids.
Mr. Wagner (W)

241. Oxidation of Metals. Prerequisite: Engineering 141 or equivalent or consent of instructor. The kinetics and mechanism of gas-solid reactions. Absorption and phase-boundary reactions. Nucleation of reaction products, defect structure of oxides, crystal structure and morphology of oxide films, factors influencing adherence of surface films. Mr. Douglass (F)

242A. Plasticity Theory Applied to Metalworking I. Prerequisite: Engineering 158A. Fundamental concepts describing the mechanics of plastic deformation of homogeneous solids. Yield criteria. Methods of solution, including slip line field, of problems involving plastic deformation, with examples involving plane strain and axisymmetric deformation. Extrusion problem. Application of methods of solution.
Mr. Shabaik (F)

243A. Fracture of Structure Materials. Prerequisite: 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 Engineering 143A, 156A, and 158A, or equivalent. Prediction of fatigue life of machines, structures, and vehicles with statistical confidence. Design concepts and fabrication techniques to prevent premature failure. Low-cycle, long-life, and crack growth. Effects of environment, residual stress, over-stressing, and surface treatments. Air Force specifications. Mr. Sines (Sp, odd years)

243C. Dislocations and Strengthening Mechanisms in Solids. Prerequisite: Engineering 143A or 158A. Elastic and plastic behavior of crystals, the geometry, mechanics, and interaction of dislocations, mechanisms of yielding, work hardening, and other strengthening. Mr. Ono (Sp)

244. Electron Microscopy. Prerequisite: Engineering 145A or equivalent. Essential features of the electron microscope, geometry of electron diffraction, kinematical and dynamical theories of electron diffraction, including anomalous absorption, applications of theory to defects in crystals. Moire fringes, direct lattice resolutions, Lorentz microscopy, laboratory applications of contrast theory.
Mr. Ardell (Sp)

245C. Diffraction Methods in Science of Materials. Prerequisite: Engineering 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)

246A. Mechanical Properties of Nonmetallic Crystalline Solids. Prerequisite: Engineering 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, Mr. Sines (F, odd years)

246B. Structure and Properties of Glass. Prerequisite: Engineering 146A. Structure of amorphous solids and glasses. Conditions of glass formation and theories of glass structure. Mechanical, electrical, and optical properties of glass and relationship to structure. Mr. Mackenzie (W, even years)

246D. Electronic and Optical Properties of Ceramics. Prerequisite: Engineering 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. Mackenzie (Sp, odd years)

247A. Solid-State Reactions. Prerequisite: Engineering 142A. Phenomenology and atomistic mechanisms of solid-state diffusion. Nucleation theory. Theory of diffusional growth processes, kinetics of diffusional transformations in solids. Precipitation in solids. Spinodal decomposition. Mr. Ardell (W)

247C. Advanced Solidification. Prerequisite: Materials Science and Engineering 247A or equivalent. Liquid state concept of constitutional supercooling; nucleation from the liquid phase; solute redistribution during liquid-solid transformation; fluid motion; interface morphology; eutectic growth; determination of phase diagrams. Students report on current topics in solidification. Mr. Yue (Sp, odd years)

248A. Experimental Methods in Materials Synthesis. Prerequisite: bachelor's degree in chemistry, physics, or engineering. Techniques used in materials synthesis temperature measurement, vacuum techniques, methods of heating and quenching, consolidation and refining of metals, crystal growth, thin film deposition and thick film deposition. Laboratory experiments and demonstrations.
Mr. Bunshah (F)

375. Teaching Apprentice Practicum (¼ to 1 course). 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. Ardell (F,W,Sp)

Mathematics/ Computer Science (Interdepartmental)

For details on this undergraduate program, see Chapter 5 on the College of Letters and Science.

Mathematics/ System Science (Interdepartmental)

For details on this undergraduate program, see Chapter 5 on the College of Letters and Science.

Mechanics and Structures

5732 Boelter Hall, 825-1161

Professors

Mohamed A. Abdou, Ph.D.
Ivan Catton, Ph.D.
Andrew F. Charwat, Ph.D.
Julian D. Cole, Ph.D.
Robert W. Conn, Ph.D.
Vijay K. Dhir, Ph.D.
Stanley B. Dong, Ph.D.
Steven Dubowsky, Sc.D.
Kurt Forster, Ph.D.
Michael E. Fourney, Ph.D., *Chair*
Peretz Friedmann, Sc.D.
Gary C. Hart, Ph.D.
William E. Kastenberg, Ph.D., *Assistant Dean*
Robert E. Kelly, Sc.D.
Poul V. Lade, Ph.D.
Cornelius T. Leondes, Ph.D.
Chung Yen Liu, Ph.D.
Ajit K. Mal, Ph.D.
William C. Meecham, Ph.D.
Anthony F. Mills, Ph.D.
D. Lewis Mingori, Ph.D.
Rokuro Muki, Ph.D.
Richard B. Nelson, Sc.D.
David Okrent, Ph.D.
Gerald C. Pomraning, Ph.D.
Lucien A. Schmit, Jr., M.S.
Lawrence G. Selna, Ph.D.
George H. Sines, Ph.D.
Richard Stern, Ph.D.
Russell A. Westmann, Ph.D.
Joseph S. Beggs, D.Ing., *Emeritus*
Harry Buchberg, M.S., *Emeritus*
C. Martin Duke, M.S., *Emeritus*
Walter C. Hurty, M.S., *Emeritus*
Tung Hua Lin, D.Sc., *Emeritus*
Antony J. A. Morgan, Ph.D., *Emeritus*
Edward H. Taylor, M.S., *Emeritus*
William T. Thomson, Ph.D., *Emeritus*

Associate Professors

George E. Apostolakis, Ph.D.
Lewis P. Felton, Ph.D.
Nasr M. Ghoniem, Ph.D.
James S. Gibson, Ph.D.
Mete Oner, Ph.D., *Acting*
Dixon Rea, Ph.D.
Sanford B. Roberts, Ph.D.

Assistant Professors

Ann R. Karagozian, Ph.D.
Peter A. Monkewitz, Ph.D.
Daniel C. H. Yang, Ph.D.

Senior Lecturer

George J. Tauxe, M.S., *Emeritus*

Professors

Leslie Cave, B.Sc., *Adjunct*
Robert C. Erdmann, Ph.D., *Adjunct*
B. John Garrick, Ph.D., *Adjunct*
Salomon Levy, Ph.D., *Adjunct*
Milton S. Plesset, Ph.D., *Adjunct*
Chauncey Starr, Ph.D., *Adjunct*
George E. Warren, Ph.D., *Adjunct*
Edward R. Wood, D.Engr., *Adjunct*
Harold T. Yura, Ph.D., *Adjunct*
C. Pierre Zaleski, Ph.D., *Adjunct*

Associate Professors

Robert E. Englekirk, Ph.D., *Adjunct*
Kenneth A. Solomon, Ph.D., *Adjunct*

Lecturer

Charles Ashbaugh, M.S., *Adjunct*

Graduate Courses

201. Mechanics and Structures Seminar (½ course). Prerequisite: graduate standing in engineering. Lectures on current research topics in mechanics and structures. May be repeated for credit. S/U grading.
Mr. Fourney (Sp)

231A. Convective Heat Transfer Theory. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 231A.) Prerequisite: Engineering 131A. The conservation equations for flow of real fluids. Analysis of heat transfer in laminar and turbulent, incompressible and compressible flows. Internal and external flows; free convection. Variable wall temperature; effects of variable fluid properties. Analogies among convective transfer processes.
Mr. Catton (W)

231B. Radiation Heat Transfer. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 231B.) Prerequisite: Engineering 131A. Radiant intensity and flux. Radiation properties of walls, gases, and particulates. Heat transfer by combined conduction, convection, an radiation in nonabsorbing and absorbing media. Applications to industrial, aerospace, energy conversion, and environmental problems.
Mr. Catton (Sp)

231C. Boiling and Condensation. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 231C.) Prerequisites: Engineering 131A and 150A, or equivalent. Phenomenological theories of boiling. Hydrodynamic instability of liquid-vapor interfaces and their application to predict maximum and minimum heat fluxes. Forced flow boiling and boiling crisis in pipes. Pool and forced flow boiling of liquid metals. Film and dropwise condensation.
Mr. Dhir (W)

231D. Application of Numerical Methods to Transport Phenomena. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 231D.) Prerequisite: Engineering 132A or consent of instructor. Numerical techniques for solving selected problems in heat and mass transfer. Applications include free convection, boundary layer flow, two-phase flow, separated flow, flow in porous media. Effects of concentration ad temperature gradients, chemical reactions, radiation, electric and magnetic fields.
(W, Sp)

231E. Two-Phase Flow Heat Transfer. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 231E.) Prerequisites: Engineering 131A, 150A. Generalized constitutive equations for various two-phase flow regimes. Interfacial heat and mass transfer. Equilibrium and nonequilibrium flow models. Two-phase flow instability. One-dimensional wave propagation. Two-phase heat transfer applications: convective boiling, pressure drop, critical and oscillatory flows.
Mr. Dhir (Sp)

231F. Advanced Heat Transfer. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 231F.) Prerequisite: Mechanics and Structures 231A. Advanced topics in heat transfer from the current literature. Linear and nonlinear theories of thermal and hydrodynamic instability; variational methods in transport phenomena; phenomenological theories of turbulent heat and mass transport.
Mr. Catton (Sp)

232B. Advanced Mass Transfer. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 232B.) Prerequisites: Engineering 131A, 132A. The formulation of the general 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 hypersonic boundary layer, ablation and transpiration, cooling combustion.
Mr. Catton (W)

233A. Advanced Power Production and Propulsion. (Formerly numbered Chemical Nuclear, and Thermal Engineering 233A.) Prerequisite: Engineering 133A or equivalent. Thermodynamic cycle analysis. Fluid mechanics and thermodynamics of compressors and turbines. Component matching. Atomization and vaporization. Flow and mixing in combustion chambers. Flame stabilization and combustion instabilities. Turbojet and ramjet engines and gas turbines. Rocket propulsion and stability of combustion processes.

234A. Topics in Thermal Design. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 234A.) Prerequisites: Engineering 131A, 132A. Consideration of thermal design problems selected from applications such as heat exchangers, heat shields, heat pipes, thermal environment control, spacecraft temperature control, and solar thermal conversion. Presentations will be made by the staff and occasionally by invited off-campus specialists.
Mr. Dhir (Sp)

235A. Neutron Transport Theory. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 235A.) Prerequisite: Engineering 135B. The analytical and computational methods used in one-speed neutron transport theory. Spatial and angular dependent problems in various approximations; P_N, S_N, and diffusion theory; the use of variational and singular eigenfunction methods. Introduction to energy dependence and neutron thermalization.
Mr. Pomraning (W)

235B. Energy and Time Dependent Reactor Analysis. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 235B.) Prerequisite: Mechanics and Structures 235A or consent of instructor. The analytical and computational methods used in energy and time dependent reactor analysis. Multigroup and energy dependent transport theory; B_N, finite difference and variational methods applied to slowing down, and resonance phenomena. Time dependent analyses of the reactor as a lumped and distributed parameter system. Mr. Kastenberg (Sp)

235C. Methods of Nuclear Reactor Analysis. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 235C.) Prerequisite: Mechanics and Structures 235A or consent of instructor. The analysis of nuclear reactor systems by approximation techniques, analytical methods, and numerical methods. A synthesis of reactor physics and engineering, with applications to various systems.
Mr. Pomraning (F)

236A. Nuclear Fuel Element Behavior. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 236A.) Prerequisite: Engineering 136C. Void swelling of cladding materials, fuel swelling due to fission gases, pore migration and fuel restructuring, fission gas release, computer codes for swelling and gas release, densification, and hot pressing, modeling of the structural behavior of fuel elements and assemblies. Mr. Okrent (F)

236B. Radiation Damage in Reactor Materials. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 236B.) Prerequisite: Engineering 136C. Fundamentals of radiation damage; energy loss and Linhard's theory, atom displacement, the collision cascade; focusing and channeling effects, computer simulations and experiments on cascades, damage simulation techniques for material testing, bulk effects of radiation; void swelling and irradiation creep, surface effects; blistering and sputtering of surface atoms. Mr. Ghoniem (W)

236C. Nuclear Reactor Safety. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 236C.) Prerequisite: Engineering 135B. Safety-related characteristics of thermal and fast nuclear power reactors; design criteria and siting considerations; methods of accident analysis; general risk considerations. Analysis of specific accidents; anticipated transients without scram, loss-of-coolant accidents, and reactivity transients. Mr. Okrent (W)

236D. Probabilistic Risk Assessment. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 236D.) (Not the same as Chemical, Nuclear, and Thermal Engineering 236D prior to Winter Quarter 1982.) Prerequisite: Engineering 136A. Basic concepts of risk benefit; low probability — high consequence events; methods for the evaluation of risk; fault/event tree analysis; dependent failures; data evaluation; decision theory; applications to large technological systems (e.g., nuclear power reactors, chemical process systems, dams, etc.).
Mr. Apostolakis

236E. Advanced Problems in Reactor Design. (Formerly numbered Chemical, Nuclear, and Thermal Engineering 236E.) Prerequisites: at least four courses from Mechanics and Structures 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)

239BA-239BZ. Seminar: Current Topics in Transport Phenomena (½ to 1 course each). (Formerly numbered Chemical, Nuclear, and Thermal Engineering 239BA-239BZ.) Prerequisite: consent of instructor. Lectures, discussions, student presentations, and projects in areas of current interest in transport phenomena. May be repeated for credit. S/U grading.

239DA-239DZ. Seminar: Current Topics in Nuclear Engineering (½ to 1 course each). (Formerly numbered Chemical, Nuclear, and Thermal Engineering 239DA-239DZ.) Prerequisite: consent of instructor. Lectures, discussions, student presentations, and projects in areas of current interest in nuclear engineering. May be repeated for credit. S/U grading.

239FA-239FZ. Special Topics in Transport Phenomena (½ to 1 course each). (Formerly numbered Chemical, Nuclear, and Thermal Engineering 239FA-239FZ.) Prerequisites: consent of instructor and additional prerequisites for each offering as announced in advance by the department. Advanced and current study of one or more aspects of heat and mass transfer, such as turbulence, stability and transition, buoyancy effects, variational methods, and measurement techniques. May be repeated for credit with topic change.

239GA-239GZ. Special Topics in Nuclear Engineering (½ to 1 course each). (Formerly numbered Chemical, Nuclear, and Thermal Engineering 239GA-239GZ.) Prerequisites: consent of instructor and additional prerequisites for each offering as announced in advance by the 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. Mr. Pomraning

M250. Principles of Magnetic Confinement Fusion. (Formerly numbered Chemical, Nuclear, and Thermal Engineering M250.) (Same as Electrical Engineering M214C.) Prerequisites: Engineering M118, and Electrical Engineering 214A and 214B or Physics 222A-222B, or consent of instructor. Plasma requirements for controlled fusion. Structure of magnetic fields. Theory of MHD equilibrium and stability. Shear and minimum-B stabilization. Resistive and microinstabilities. Neoclassical diffusion physics of tokamak and tandem-mirror plasmas. Neutral beams and auxiliary heating. Alternate concepts.
Mr. Conn, Mr. Pomraning (F)

250A. Foundations of Fluid Dynamics. Prerequisite: Engineering 150A or consent of instructor. The course develops and applies the fundamental theorems of fluid dynamics. Ideal fluids, potential flow, vortex motion, and viscous flow are treated. The history of fluid dynamics is illustrated, with problems drawn from mechanics, aerodynamics, and geophysics. Mr. Kelly (F)

250B. Viscous and Turbulent Flows. Prerequisite: Engineering 150A or consent of instructor. The course applies the fundamental principles of fluid dynamics to the study of fluid resistance. States of fluid motion are discussed in order of advancing Reynolds number; wakes, boundary layers, instability, transition, and turbulent shear flows.
Mr. Meecham (W)

250C. Compressible Flows. Prerequisite: Engineering 150A or 150B or consent of instructor. Effects of compressibility in viscous and inviscid flows. Steady and unsteady inviscid subsonic and supersonic flows; method of characteristics; small disturbance theories (linearized and hypersonic); shock dynamics.
Mr. Charwat (Sp)

M251. Fusion Reactor Analysis. (Formerly numbered Chemical, Nuclear, and Thermal Engineering M251.) (Same as Electrical Engineering M214D.) Prerequisite: Engineering M118 or consent of instructor. Fusion reactions, fuel cycles, reactor plasma performance requirements. Methods for burning plasma analysis in, for example, tokamaks, tandem mirrors, and laser fusion plasmas. Point plasma kinetics, space-time multifluid hydrodynamics, and kinetic theory models. Driven reactor plasmas. Atomic radiation processes and plasma-wall interactions.
Mr. Conn (W)

251A. Stratified and Rotating Fluids. Prerequisite: Engineering 150A or equivalent or consent of instructor. Fundamentals of fluid flows with density variations or rotation, illustrated by examples with environmental, geophysical, or technical importance. Linear and finite amplitude wave motion. Flow past bodies; blocking phenomena. Viscous effects. Instabilities. Turbulent shear flows, wakes, plumes, and gravity currents. Mr. Kelly (F, even years)

251B. Marine Hydrodynamics. Prerequisite: Engineering 150A, 193A, and 193B, or equivalent, or consent of instructor. Basic hydrodynamics; small amplitude and shallow water theories; waves on beaches; ship waves; mathematical hydraulics; breaking of a dam. Mr. Kelly (Sp, odd years)

251C. Fluid Dynamics of Pollution. Prerequisite: Engineering 150A or consent of instructor. The course is designed to introduce to engineers and/or scientists of various disciplines the fluid mechanical aspect of pollution problems. The lectures will discuss in depth the fluid dynamics of photochemical smog, oil slicks, and pollution in waterways.
Mr. Liu (Sp, even years)

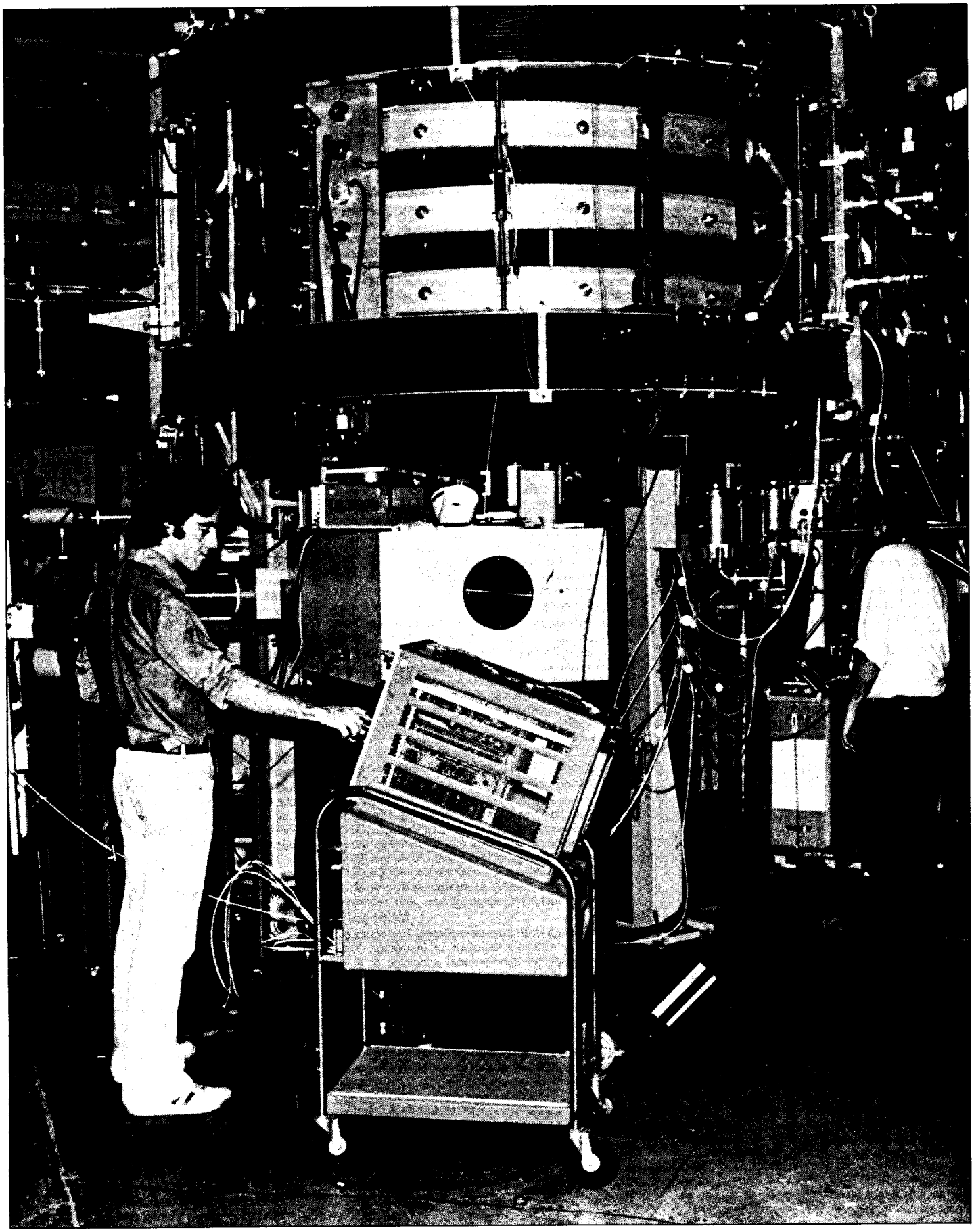
M252. Fusion Reactor Technology and Design. (Formerly numbered Chemical, Nuclear, and Thermal Engineering M252.) (Same as Electrical Engineering M214E.) Prerequisite: Engineering 135A or consent of instructor. Fusion reactors, both magnetic and inertial. Operating conditions, power balance, system Q. Drivers for inertial confinement, magnet systems; blanket and shield design and analysis, induced radioactivity, tritium breeding and processing; radiation damage effects, design of reactors for electricity production or as hybrid systems. Mr. Conn (Sp)

252A. Stability of Fluid Motion. Prerequisite: Engineering 150A or equivalent or consent of instructor. Mechanisms by which laminar flows can become unstable and lead to turbulence of secondary motions. Linear stability theory; thermal, centrifugal, and shear instabilities; boundary layer instability. Nonlinear aspects: sufficient criteria for stability, subcritical instabilities, supercritical states, transition to turbulence.
Mr. Kelly (W, odd years)

252B. Statistical Theory of Turbulence. Prerequisite: Engineering 150A or consent of instructor. The course develops statistical methods of wide utility in engineering, then applies them to turbulent flows. Topics include stochastic processes, kinematics of turbulence, energy decay. Kolmogorov similarity, analytical theories, and origins of Reynolds stress.
Mr. Meecham (Sp, even years)

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. Stern (F)

253AA-253Z. Special Topics in Fusion Physics, Engineering, and Technology (½ to 1 course). (Formerly numbered Chemical, Nuclear, and Thermal Engineering 253A-253Z.) Prerequisites: consent of instructor and additional prerequisites for each offering as announced in advance by the department. Advanced treatment of subjects chosen from research areas in fusion science and engineering, such as instabilities in burning plasmas, alternate fusion confinement concepts, inertial confinement fusion, fission-fusion hybrid systems, and fusion reactor safety. May be repeated for credit with topic change.
Mr. Conn (F,W,Sp)



UCLA's experimental fusion machine is a crucial step toward the development of an unlimited energy source.

253B. Fundamentals of Aeroacoustics. Prerequisite: Engineering 150A or consent of instructor. Detailed discussion of plane waves, point sources. Nonlinearity, layered and moving media, multiple reflections. Inhomogeneous wave equation. Monopole, dipole, quadrupole source fields from scattering inhomogeneities and turbulence; Lighthill's theory; moving sources. Similarity methods. Selected detailed applications. Mr. Meecham

253C. Sound and Vibration. Prerequisite: Engmeering 153A or 155A or consent of instructor. Theoretical analysis of the interaction of sound and structures; acoustic transmission through fluid layers and walls; structural wave propagation; multidimensional 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. Prerequisites: Engineering 150A, 150B and 192A, 192B, 192C, or equivalent, or consent of instructor. Special topics of current interest in advanced aerodynamics. Examples are transonic flow, hypersonic flow, sonic booms, and unsteady aerodynamics.
Mr. Cole (W)

255A. Advanced Dynamics. Prerequisites: Engineering 155 and 169A, or consent of instructor. Variational principles and Lagrange's equations. Kinematics and dynamics of rigid bodies; procession and nutation of spinning bodies. Mr. Mingori (F)

255B. Mathematical Methods in Dynamics. Prerequisite: Mechanics and Structures 255A. Concepts of stability; state-space interpretation; stability determination by simulation, linearization, and Liapunov's direct method; the Hamiltonian as a Liapunov function; nonautonomous systems; averaging and perturbation methods of nonlinear analysis; parametric excitation and nonlinear resonance. Application to mechanical systems. Mr. Gibson (W)

256A. Mechanics of Deformable Solids. Prerequisites: Engineering 158A and 166, or consent of instructor. Kinematics of deformation, strain tensors, invariance, compatibility; conservation laws; stress tensors; equations of motion; boundary conditions; constitutive equations: general theory, linearization, anisotropy; reciprocity linear isotropic elastic problems, plane and generalized plane problems; dynamic problems. Mr. Mal (F)

256B. Elasticity. Prerequisite: Mechanics and Structures 256A or consent of instructor. Formulation of elastostatic problems; general, plane strain, plane stress. Reciprocal theorems and variational theorems. Airy's stress function and Papkovich-Neuber solution. Fundamental singular solutions, stress concentration, thermal stresses, elastic contact, load transfer, St. Venan's principle and applications.
Mr. Muki (W)

256C. Plasticity, Creep, and Thermal Stresses. Prerequisite: Engineering 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: Materials Science and Engineering 243A and Engineering 156A, 158A, or 166. Review of modern fracture mechanics, elementary stress analyses; analytical and numerical methods for calculation of crack tip stress intensity factors; engineering applications in stiffened structures, pressure vessels, plates, and shells. Mr. Westmann (Sp, odd years)

M257A. Elastic Wave Propagation I. (Same as Earth and Space Sciences M224A.) Prerequisite: Engineering 158A or 166 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)

M257B. Elastic Wave Propagation II. (Same as Earth and Space Sciences M224B.) Prerequisite: Mechanics and Structures M257A. 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, even years)

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).
Mr. Charwat

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 cover dynamics, elasticity, plasticity, and stability of solids.
Mr. Muki (W,Sp)

262A. Advanced Mechanisms and Mechanical Systems. Prerequisite: Engineering 162A. The kinematic analysis and synthesis of mechanisms and mechanical systems, with special emphasis on use of modern analytical methods, are considered. The use of computer techniques is discussed. A broad group of example systems is studied.
Mr. Yang (Sp, even years)

263A. Dynamics and Control of Machines and Electromechanical Systems. Prerequisite: Engineering 163 or consent of instructor. The analysis of complex machines and electromechanical systems. Emphasis on the performance and dynamic response of systems containing gears, elastic compliances, active feedback elements, and other complex components and subsystems. Both classical methods and modern computer-based techniques are applied. Mr. Yang (Sp, odd years)

263B. Topics in Modeling and Dynamics of Aerospace Vehicles. Prerequisites: Engineering 171A, Mechanics and Structures 255A. Recommended: Engineering 154A, Mechanics and Structures 255B, 269A. Modeling, dynamics, and stability of aerospace vehicles; improvement of performance using active control; applications to spinning and dual-spin spacecraft, space structures, rotordynamics and coupled rotor/fuselage dynamics of helicopters, active control of aircraft modes.
Mr. Mingori (Sp, even years)

263C. Current Topics in Design, Dynamics, and Control of Industrial Robots. Prerequisite: Engineering 163 or equivalent. Theory and implementation of industrial robotic manipulator systems. The modeling of kinematic structure, trajectory planning, and systems dynamics. Control concepts and control computer algorithms. Mechanical and electromechanical design considerations. Lectures and seminars on current literature. Individual student study projects. Mr. Yang (W)

264A. Theory of Plates and Shells. Prerequisite: Engineering 158A, 166, or consent of instructor. Small and large deformation theories of thin plates; energy methods; free vibrations; membrane theory of shells; axisymmetric deformations of cylindrical and spherical shells, including bending.
Mr. Roberts (W)

265A. Advanced Structural Analysis. Prerequisite: Engineering 165B. Review of elasticity theory; theorem on virtual work, stationary value of potential and complementary potential; Castigliano, Maxwell-Betti theorems; stiffness, flexibility matrices for truss, beam elements; matrix force and displacement analysis of trusses, frames; introduction to finite element methods. Mr. Nelson (F)

265B. Finite Element Analysis of Structures. Prerequisites: Engineering 166 and Mechanics and Structures 265A, or consent of instructor. Direct energy formulations for deformable systems; solution methods for linear equations; analysis of structural systems with one-dimensional elements; introduction to variational calculus; discrete element displacement force and mixed methods for membrane, plate, shell structures; instability effects. Mr. Dong (W)

265C. Nonlinear Structural Analysis. Prerequisite: Mechanics and Structures 265B or consent of instructor. Classification of nonlinear effects; material nonlinearities; conservative, nonconservative material behavior; geometric nonlinearities, Lagrangian, Eulerian description of motion; finite element methods in geometrically nonlinear problems; postbuckling behavior of structures; solution of nonlinear equations; incremental, iterative, programming methods. Mr. Nelson (Sp)

266A. Stability of Structures I. Prerequisites: Engineering 165B and 166, or equivalent. Elastic buckling of bars. Different approaches to stability problems. Inelastic buckling of columns and beam columns. Columns and beam columns with linear, nonlinear creep. Combined torsional and flexural buckling of columns. Buckling of plates. Mr. Schmit (Sp)

267A. Optimum Structural Design. Prerequisite: Mechanics and Structures 265A. Synthesis of structural systems; analysis and design as optimization problems; techniques for synthesis and optimization; application to aerospace and civil structures.
Mr. Schmit (W)

267C. Advanced Reinforced Concrete Design. Prerequisite: Engineering 167B. Ultimate strength and seismic design considerations. Concrete mechanical properties. Columns: stability, biaxial bending. Slab design. Slab yield line theory. Footings. Joint design. Bracing systems: diaphragms, trusses, and shear walls. Braced and unbraced frame design for gravity, wind, and earthquake loads.
Mr. Selna (Sp)

267E. Structural Loads and Safety for Civil Structures. Prerequisites: Engineering 167A or 167B or 167C, and 169A (may be taken concurrently). Concept of structural safety. Factors of safety and quantification of loads in building codes. Probability of failure and quantification of loads in probabilistic approaches to structural safety. Relationships between factor of safety and probability of failure.
Mr. Hart (F, odd years)

267S. Advanced Steel Design. Prerequisite: Engineering 167A. Working and ultimate load methods. Emphasis on seismic design. Brittle fracture, fatigue, and local buckling. Compression members. Element design for complex loading, including torsion. Braced and unbraced frames. Drift requirements. Steel frame design for gravity, wind, and earthquake loads.
Mr. Rea (W)

268A. Experimental Structural Analysis. Prerequisite: consent of instructor. Study of modern techniques in experimental mechanics, including dimensional analysis, measurement theory, and measurement techniques. Emphasis will be placed on techniques of modern optics (e.g., holography). Moire analysis, photoelasticity and speckle interferometry.
Mr. Fourney

268B. Failure of Structural Systems. Prerequisite: Engineering 165B. Philosophy of structural safety. Principles of design for prevention of failure (other than buckling). Fatigue, brittle failure, delayed cracking, creep, design of efficient joints, environmental effects. Emphasis on current problems in actual structures. Mr. Sines (F, even years)

269A. Dynamics of Structures. Prerequisite: Engineering 169A. Principles of dynamics. Determination of normal modes and frequencies by differential and integral equation solutions. Transient and steady state response. Emphasis on derivation and solution of governing equations using matrix formulation.
Mr. Dong (F)

269B. Advanced Dynamics of Structures. Prerequisites: Mechanics and Structures 265A, 269A. 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. Prerequisite: Engineering 169A. Response of structural and mechanical systems to random vibrations. Stationary and nonstationary excitations. Response of systems with random parameters. Discrete and continuous linear systems. Applications to earthquakes, wind sway of buildings, gust response, vibrations due to gearing inaccuracies, train vibrations. Mr. Hart (Sp, even years)

269D. Aeroelastic Effects in Structures. Prerequisite: Mechanics and Structures 269A. 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 (Sp, odd years)

271A. Dynamic Systems Optimal Control. (Formerly numbered Engineering Systems 271A.) Prerequisite: Engineering 171C or consent of instructor. Optimal control problem formulation. Performance criteria for deterministic dynamic systems. Variational methods and Pontryagin's maximum principle for continuous and discrete-time models. Inequality constraints. Sensitivity analysis. Numerical computation methods for solving boundary value problems of optimal control. Applications in various fields. Mr. Gibson (F)

271B. Dynamic Systems Stochastic Estimation and Control. (Formerly numbered Engineering Systems 271B.) Prerequisites: Engineering 171C, 193A, Mechanics and Structures 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. Stochastic optimal controllers; the separation principle. Emphasis on efficient numerical computations. Applications in various fields. Mr. Leondes (W)

271C. Dynamic Systems Identification, Stability, and Adaptive Control. (Formerly numbered Engineering Systems 271C.) Prerequisite: Mechanics and Structures 271A or consent of instructor. Recommended: Mechanics and Structures 271B. Nonlinear system stability. Dynamic systems modeling, identification, and parameter estimation techniques. Combined identification and control and self-adaptive control. Mr. Leondes (W)

271D. Seminar and Special Topics in Dynamic Systems Control. (Formerly numbered Engineering Systems 271D.) Prerequisite: consent of instructor. Seminar on current research topics in dynamic systems modeling, control, and applications. Topics selected from process control, differential games, nonlinear estimation, adaptive filtering, industrial and aerospace applications, etc. Mr. Leondes (Sp)

285A. Shear Strength of Soil and Stability of Slopes. Prerequisite: Engineering 185A. 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)

285B. Foundation Engineering. Prerequisites: Engineering 185A, Mechanics and Structures 285A. Principles of foundation design, including theory of consolidation, impeded drainage, stress distribution, settlement analysis, allowable bearing capacity for shallow foundations, piles, and piers; laterally loaded piles. Mr. Oner (W)

285C. Soil Dynamics. Prerequisites: Engineering 185A, Mechanics and Structures 285A. Design of foundation for vibrating equipment. Strength and stress-strain relations for soil under cyclic loading conditions. Fundamentals of earthquakes as applied to seismic response of earth structures and foundations. Design of embankments, retaining walls, and foundations for earthquake loading. Mr. Lade (Sp)

285D. Earth Pressures and Earth Retaining Structures. Prerequisites: graduate standing, Engineering 185A. The basic concepts of the theory of earth pressures behind retaining structures are presented, with special application to the design of retaining walls, bulkheads, and excavation bracing; the effects of flexibility of bulk bulkheads, creep in soils, and construction techniques are also discussed in detail. Mr. Lade (W)

285E. Seminar on Advanced Topics in Soil Mechanics. Prerequisites: graduate standing in engineering and consent of instructor. Topics may vary from term to term to cover subjects such as earth dam design, seepage through soils, consolidation, constitutive laws, finite difference and finite element methods with special application in soil mechanics, theories of elasticity and plasticity, and case histories. Mr. Lade

285L. Advanced Soil Mechanics Laboratory. Lecture, one hour; laboratory, six hours. Prerequisites: Engineering 185A, 185B, Mechanics and Structures 285A, 285B. Lectures and laboratory studies of advanced aspects of soil properties and their application to design. Permeability, consolidation, strength testing, pore water pressure measurements, advanced instrumentation and measurement techniques. Preparation of engineering reports. Mr. Lade (Sp)

286A. Earthquake Engineering. Prerequisite: Engineering 169A or Mechanics and Structures 256A or 265A or 285A. Engineering seismology: strong earthquake motion, microtremors, wave velocity and damping, induced vibrations, spectral analysis. Risk of earthquakes and fault breaks. Site evaluation. Structure-earth system response. Introduction to earthquake resistive design of buildings, bridges, and dams. Theory and field experiments. Mr. Selna (W)

286B. Structural Response to Ground Motions. Prerequisite: Mechanics and Structures 269A or consent of instructor. 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 evalution of contemporary design standards. Limitations due to idealizations. Mr. Rea (Sp)

M291A. Analytical Methods of Engineering I. (Same as System Science M291A.) Prerequisites: Mathematics 131A and 132. Application of abstract mathematical methods to engineering problems. Review of elements of measure and integration, L2 theory — linear spaces and operators. Eigenvalue problems. Introduction to spectral theory — elementary distribution theory. Applications to problems in engineering. Mr. Gibson (F,W)

M291B. Analytical Methods of Engineering II. (Same as System Science M291B.) Prerequisite: Mechanics and Structures 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. Initial and boundary value problems. Mr. Gibson (Sp)

M292A. Asymptotic and Perturbation Methods I. (Same as Mathematics M274A.) Prerequisites: Engineering 192A and Mathematics 132, 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. Mr. Muki (F)

M292B. Asymptotic and Perturbation Methods II. (Same as Mathematics M274B.) Prerequisites: Engineering 192A and Mathematics 132, or equivalent. The fundamental mathematics of asymptotic analysis, limit process expansions, regular and singular perturbation problems, matching of asymptotic expansions, multiple-scale methods, application to partial differential equations, near and far fields. Mr. Muki (W)

375. Teaching Apprentice Practicum (¼ to 1 course). 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. Fourney (F,W,Sp)

System Science

4532 Boelter Hall, 825-6830

Professors

Masanao Aoki, Ph.D.
A. V. Balakrishnan, Ph.D., *Chair*
Hector O. Fattorini, Ph.D.
Stephen E. Jacobsen, Ph.D.
Nhan Levan, Ph.D.
Bruce L. Miller, Ph.D.
Jimmy K. Omura, Ph.D.
Izhak Rubin, Ph.D.
Paul K. C. Wang, Ph.D.
Donald M. Wiberg, Ph.D.
Kung Yao, Ph.D.

Associate Professor

Richard E. Mortensen, Ph.D.

Assistant Professors

Eduardo J. Subelman, Ph.D.
Denham S. Ward, Ph.D.

Associate Professor

George J. Ruzicka, Ph.D., *Adjunct*

Assistant Professor

Thomas M. Simundich, Ph.D., *Adjunct*

Graduate Courses

200A. Linear Dynamic Systems. (Formerly numbered System Science 228A.) Prerequisite: Engineering 128A or equivalent. State-space description of dynamic systems. Deduction of state spaces from input-output data. State controllability and observability. Stability and state feedback stabilizability; state observer. Mr. Balakrishnan, Mr. Levan (F,Sp)

200B. Nonlinear Programming. (Formerly numbered System Science 272B.) Prerequisite: System Science 272A or equivalent. Basic graduate course in nonlinear programming. Convex sets and functions and their basic properties. Kuhn-Tucker points, saddle points, and nonlinear or conjugate duality theory. Development of algorithms and convergence theory. Mr. Jacobsen, Mr. Miller (W)

200C. Stochastic Processes. Prerequisite: Engineering 120B or equivalent. Fundamentals and applications of second-order theory stochastic processes. Correlation and spectral density. Gaussian process, processing by dynamic systems, Bayes rule and conditional expectation; mean-square estimation and Kalman filtering. Mr. Balakrishnan, Mr. Mortensen, Mr. Yao (F,W)

200D. Discrete Stochastic Processes. Prerequisite: Engineering 120A or equivalent or consent of instructor. Discrete stochastic process models in systems involving Poisson counting processes, renewal point processes, discrete-time Markov chains, Markov jump processes; applications to communication systems and networks, queueing systems, information processing, control and operations research. Mr. Miller, Mr. Rubin, Mr. Subelman (F,Sp)

201A-201ZZ. Seminars in System Science. Prerequisites: consent of instructor and additional prerequisites for each offering as announced in advance by the department. Lectures, discussions, student presentations, and projects in areas of current interest. Some sections are intended for advanced students in a particular field and for students undertaking doctoral dissertations in the field. May be repeated for credit. S/U grading.

220A. Stochastic Theory of Queueing Systems I. Prerequisite: System Science 200D or consent of instructor. Stochastic point processes. Topics in the theory of queues; the imbedded Markov chain method; equilibrium results for multiple server queues; method of stages; applications to communication, control, and systems optimization, operations research. Mr. Balakrishnan, Mr. Miller, Mr. Rubin (W)

220B. Stochastic Theory of Queueing Systems II. Prerequisite: System Science 220A. Advanced topics in queueing theory and systems; transient behavior, virtual waiting time and busy period, integral equation method, series of queues and priority queues. Inventories, communication, control, and systems problems. Mr. Balakrishnan, Mr. Rubin, Mr. Subelman (Sp)

220G. Graphs and Network Flows. Prerequisite: Engineering 129A or consent of instructor. Solution to analysis and synthesis problems which may be formulated as flow problems in capacity constrained (or cost constrained) networks. Tools of network flow theory are developed using graph theoretic methods and are applied to communication, transportation, and transmission problems. Mr. Rubin, Mr. Subelman (W)

221. Linear Optimal Control. Prerequisites: Engineering 122A (may be taken concurrently) or equivalent and 128A, or consent of instructor. An introduction to optimal control, with emphasis on detailed study of LQR, or linear regulators with quadratic cost criteria. Relationships to classical control system design. Mr. Levan, Mr. Mortensen (W,Sp)

222A. Nonlinear Control. Prerequisite: System Science 221. Techniques for studying nonlinear control systems, with emphasis on their stability; Liapunov's direct method; input-output stability; Popov's method; linearization. Mr. P.K.C. Wang, Mr. Wiberg (F)

222B. Stochastic Control. Prerequisites: Engineering 120B and System Science 221. Estimation and control of linear discrete-time and continuous-time stochastic systems; separation theorem and applications; Kalman filtering. Mr. Balakrishnan (Sp)

222C. Optimal Control. Prerequisite: System Science 221. Applications of variational methods. Pontryagin's maximum principle, dynamic programming and nonlinear programming to problems of optimal control theory and practical systems. Mr. Mortensen, Mr. P.K.C. Wang (F,Sp)

222EA-222EZ. Topics in Control. Prerequisites: consent of instructor and additional prerequisites for each offering as announced in advance by the department. Thorough treatment of one or more aspects of control theory and applications, such as computational methods for optimal control; stability of distributed systems; identification; adaptive control; nonlinear filtering; differential games; applications to flight control, nuclear reactors, process control, biomedical problems. May be repeated for credit with topic change. Mr. Balakrishnan, Mr. P.K.C. Wang (F,Sp)

M222F. Biological Control Systems. (Same as Anesthesiology M222.) Prerequisite: Engineering 122A 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

M222G. Control and Coordination in Economics. (Same as Economics M240.) Prerequisites: graduate standing in economics or engineering, consent of instructor. Recommended: appropriate mathematics course. Stabilization policies, short- and long-run dynamics and stability analysis; decentralization, coordination in teams; certainty equivalence and separation theorems; stochastic and learning models. Bayesian approach to price and output rate adjustment. Mr. Aoki

227A. Signal Detection and Digital Communication. Prerequisite: Engineering 120B or consent of instructor. Applications of statistical decision theory to signal detection in radar and communication; coherent and noncoherent detection of known signals in noise; detection of stochastic signals; binary and multiple-signal digital communication; sequential detection. Mr. Omura, Mr. Yao (F,Sp)

227B. Information Theory and Coding. Prerequisite: System Science 227A. Information theory and coding from the viewpoint of digital communication systems; digitial transmission and block coding; linear codes; convolutional codes, maximum likelihood decoding, and sequential decoding; ensemble error performance bounds of block and convolutional codes. Mr. Omura, Mr. Rubin, Mr. Yao (W)

227C. Estimation and Filtering. Prerequisite: Engineering 120B. Recommended: System Science 227A. Methods of determination of optimal statistical estimators applied to problems in stochastic processes, communication systems, analog modulation and demodulation. Mr. Balakrishnan, Mr. Mortensen, Mr. Yao (Sp)

227EA-227EZ. Topics in Communication. Prerequisites: consent of instructor and additional prerequisites for each offering as announced in advance by the department. 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. Mr. Omura, Mr. Rubin, Mr. Yao (W,Sp)

227F. Algebraic Coding Theory. Prerequisite: System Science 227B or consent of instructor. Fundamentals of linear or parity-check codes and decoding algorithms based on the algebraic theory of finite groups and fields; cyclic codes; Hamming; Reed-Muller, Bose-Chaudhuri-Hocquenghem, and Reed-Solomon codes, and corresponding decoding algorithms. Mr. Omura, Mr. Yao (F)

227G. Rate Distortion Theory and Data Compression. Prerequisite: System Science 227B or consent of instructor. Sources and distortion measures, rate distortion function and its evaluation for discrete and continuous sources, source coding theorems, block and tree source encoding techniques, and application to data compression. Student presentations of current research. Mr. Omura, Mr. Yao

227S. Signal Processing in Communications. Prerequisites: System Science 227A and 227C, 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, NTT, Winograd DFT, systolic array; spectral analysis-windowing, AR, and ARMA; system applications. Mr. Yao (Sp)

227T. Telecommunication Networks and Multiple-Access Communications. Prerequisites: System Science 220A, 227B, or consent of instructor. Performance analysis and design of telecommunication networks and multiple-access communication systems. Topics include architectures, multiplexing and multiple-access, message delays, error/flow control, switching, routing, protocols. Applications to local-area, packet-radio, local-distribution, computer and satellite communication networks. Mr. Rubin (Sp)

229A. Numerical Techniques in Systems Optimization. Prerequisite: System Science M291A. Recommended: Engineering 129A or System Science 272A or similar background. Computational methods for constrained extrema of functionals.
Mr. Balakrishnan, Mr. Karplus

229B. Functional Analysis and Optimization. Prerequisites: System Science M291A and consent of instructor. Functional analysis approach to optimization problems for dynamic systems — lumped and distributed. Emphasis on computational aspects.
Mr. Balakrishnan, Mr. Levan

229C. Stochastic Differential Systems. Prerequisites: Engineering 120B, System Science 273B, and M291A, or equivalent, and consent of instructor. Integration with respect to continuous-parameter martingales; Radon-Nikodym derivatives in metric spaces; applications to filtering and stochastic control.
Mr. Balakrishnan, Mr. Mortensen

229EA-229EZ. Topics in Optimization. Prerequisites: consent of instructor and additional prerequisites for each offering as announced in advance by the department. Comprehensive treatment of one or more selected topics in such areas as system optimization theory and numerical techniques, system identification, stochastic systems, finite graphs, network flows, queueing systems, etc. May be repeated for credit with topic change.
Mr. Balakrishnan, Mr. Jacobsen (F,W)

229J-229K-229L. Public Systems Analysis. Prerequisite: graduate standing or consent of instructor. Exploration of the relevance of system science methodologies to research activities directed toward improvements in the systems that provide education, health care, transportation, communication, housing, environmental quality, and public safety services in urban areas. Mr. Jacobsen, Mr. Rubin

272A. Linear Programming. (Not the same as System Science 272A prior to Fall Quarter 1980.) 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, Mr. Subelman (F)

272BA-272BZ. Topics in Operations Research. Prerequisites: consent of instructor and additional prerequisites for each offering as announced in advance by the department. 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.
Mr. Jacobsen, Mr. Miller, Mr. Subelman (W,Sp)

272C. Optimization Methods for Large-Scale Systems. Prerequisite: System Science 200B. 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 concave functions on convex polyhedra, reverse convex programming. Mr. Jacobsen (Sp)

273A. Dynamic Programming. Prerequisite: System Science 200D or equivalent. 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. Miller, Mr. Subelman (F, Sp)

273B. Probability Theory for Applications. (Formerly numbered System Science M273B.) Prerequisites: System Science 200C, 200D, and consent of instructor. Designed to prepare students for graduate courses in communication, control and operations research. Measure and integration; conditioning; convergence; stochastic processes and measures on function spaces. The Wiener process, Poisson process, Markov processes, Markov times, and martingales. Applications. Mr. Balakrishnan (W)

275A. Statistical Design of Engineering Experiments. Prerequisites: Engineering 193A, 193B. Matrix treatment of linear hypotheses in engineering experimentation. Statistical estimation, tests of hypotheses, analysis of variance, regression models. Randomized blocks, factorial, Latin square, multiple factor and level experiments. Principles of orthogonality, confounding, fractional replication, incomplete block designs with engineering applications.
Mr. Balakrishnan, Mr. Subelman

275B. Reliability Theory with Applications. Prerequisite: Engineering 120A or equivalent. Basic graduate course in reliability theory. Reliability models for complex systems, coherent structures, modular decomposition, reliability bounds. Constant, monotone hazard functions. Optimization problems in reliability: redundancy allocations, maintenance policies, stress-strength and safety considerations in engineering design. Statistical problems, current topics. Mr. Miller, Mr. Subelman (Sp)

M291A. Analytical Methods of Engineering I. (Same as Mechanics and Structures M291A.) Prerequisites: Mathematics 131A and 132. Application of abstract mathematical methods to engineering problems. Review of elements of measure and integration, L2 theory — linear spaces and operators. Eigenvalue problems. Introduction to spectral theory — elementary distribution theory. Applications to problems in engineering. Mr. Levan (F,W)

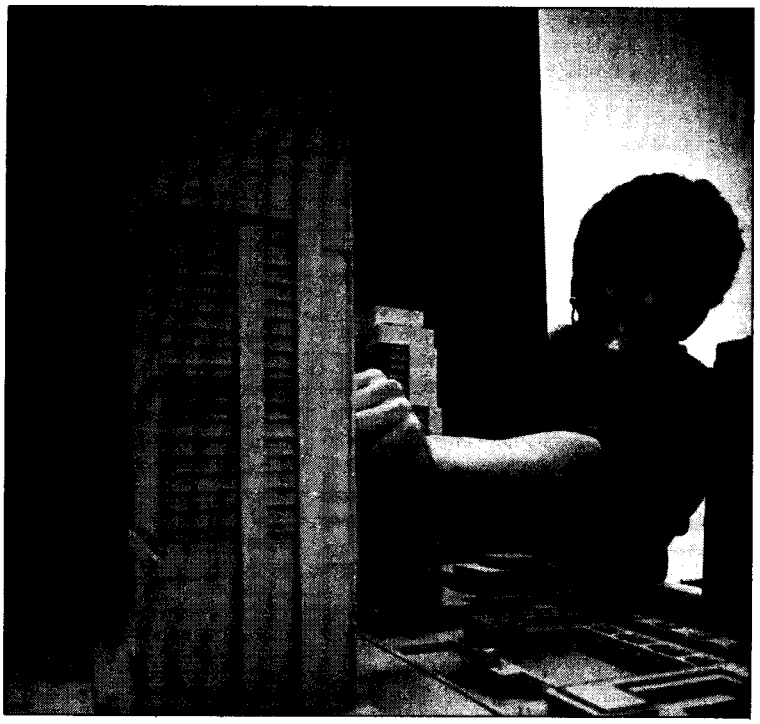
M291B. Analytical Methods of Engineering II. (Same as Mechanics and Structures M291B.) Prerequisite: System Science M291A or consent of instructor. Application of modern mathematical methods to engineering problems. Review of spectral theory. Green's functions and eigenvalue problems for second-order ordinary differential equations and their adjoints. Discrete and continuous spectra for ordinary and partial differential equations. Initial and boundary value problems. Mr. Levan (Sp)

375. Teaching Apprentice Practicum (¼ to 1 course). 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. Balakrishnan (F,W,Sp)

8

Graduate School of Architecture and Urban Planning

Harvey S. Perloff, Dean



Professional education is the central concern of UCLA's Graduate School of Architecture and Urban Planning (GSAUP). Our belief is that a small, high-quality school of architecture and urban planning can make a greater contribution to professional education — under conditions of rapid professional change and experimentation — than can a large one in which the "distances" between members of the school grow unwieldy. Programs can be started — and ended — more readily and problems solved through informal means. It is important that our school functions as a *community,* and that is more readily achieved in a small school. Community has to be nourished; toward this end, we have encouraged measures ranging from democratic governance to a variety of schoolwide activities.

For a relatively young school, GSAUP enjoys an impressive position among the top schools in the country. It also enjoys a considerable international reputation. 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 340, GSAUP encourages close interaction between faculty and student to maximize the educational 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. In addition, the school has created the Urban Innovations Group (UIG) as a clinic or practice arm where faculty and students undertake professional projects on a contract basis to provide opportunities for students to gain practical professional experience.

Graduate School of Architecture and Urban Planning

1317 Architecture, 825-3791

The Graduate School of Architecture and Urban Planning at UCLA offers programs of study leading to the degrees of Master of Architecture (M.Arch.), M.A. in Architecture and 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.

Degrees Offered

Architecture/Urban Design .... M.Arch. I, M.Arch. II, M.A., Ph.D., Certificate of Specialization
Urban Planning ..... M.A., Ph.D.

Architecture/ Urban Design

B315 Architecture, 825-0525, 825-7857

Professors

Marvin Adelson, Ph.D.
Samuel Aroni, Ph.D.
Baruch Givoni, Ph.D.
Thomas S. Hines, Ph.D.
Murray A. Milne, M.Arch.
William J. Mitchell, M.E.D.
Charles W. Moore, Ph.D.
Barton Myers, M.Arch.
Thomas R. Vreeland, Jr., M.Arch.

Associate Professors

F. Eugene Kupper, M.Arch.
Jurg Lang, Dipl.Arch. ETH.
George Rand, Ph.D., *Associate Dean*
Richard Schoen, M.Arch.
George Stiny, Ph.D.

Assistant Professors

Brit Andresen, B.Arch.
Robin Liggett, Ph.D.

Lecturers

Berge Aran, Ph.D.
Franklin Israel, M.Arch.
Kuppuswamy Iyengar, M.Arch.
Charles Jencks, Ph.D.
Anthony Lumsden, B.Arch.
Robert Mangurian, B.Arch.
Robert Yudell, M.Arch.

Professor

Edgardo Contini, Dottore in Ingegneria, *Adjunct*

Assistant Professors

Christopher B. Johnson, B.Arch., *Adjunct*
Barton Phelps, M.Arch., *Adjunct, Assistant Dean*

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 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 baccalaureate 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 many students have had experience in this field prior to admission.

Applicants are required to submit three letters of recommendation, academic transcripts, a statement of purpose, and a "creative" portfolio. No admissions 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.

Major Fields or Subdisciplines

No in-depth specialization is required within the context of the M.Arch. I program. However, you are required to concentrate several elective courses within a single curricular area. A minimum of three elective courses must be taken within this curricular area, including two courses in theory and one studio application, during the second year of study.

Specializations are currently available in the following areas: urban design; policy, programming, and evaluation (including social building); technology (including energy conserving design); design theory and methods (including computer-aided design); history, analysis, and criticism of architecture.

Course Requirements

You must complete a minimum of 27 courses in order to graduate, of which at least 24 must be taken at the graduate level. The total number of units required is 108. The required courses, listed below, must be taken in the sequence indicated.

First Year

Fall: 411, 421, 191
Winter: 412, 437, 431
Spring: 413, 442, 432

Second Year

Fall: 414, 433, 291, elective
Winter: 415, 441, elective
Spring: Elective studio/project, plus two other electives

Third Year

Fall: 416, two electives
Winter: Elective/studio, 461, elective
Spring: 598A

Elective courses allow you to explore in depth specific subject areas and to gain exposure to a variety of topics. You are required to take a minimum of seven elective courses. At least four of these must be taken within the school. During the second year at least two electives must be in preparation for undertaking a specific studio or project in the Spring Quarter of the second year.

If you can demonstrate that you already have adequate background in topics covered by specific required courses, you may petition to

waive those courses and replace them with electives. However, permission to waive required courses does not reduce the minimum number of 27 courses required for the M.Arch.I degree nor does it reduce the nine-quarter residence requirement. The petition should be addressed to the faculty member responsible for that course and may be granted at the faculty member's discretion, possibly by means of a special examination.

Students with undergraduate degrees in architecture or undergraduate degrees with majors in architecture may, at the end of their first quarter, petition the curriculum committee for advanced standing. You are then permitted to waive specified required courses and may enter second-year courses at the beginning of your second quarter. A petition for advanced standing should include a transcript documenting relevant prior academic work, a portfolio demonstrating level of design competence, and a plan showing how waived courses will be replaced by a program of elective work in specified areas of specialization. Advanced standing requires the concurrence of both the curriculum committee and the faculty member in charge of each specific course to be waived. It does not reduce the number of courses (27) required for the M.Arch. I degree nor does it reduce the nine-quarter residence requirement.

You must enroll in at least four and no more than eight units of course 598. You may also apply eight units of course 596 toward the unit requirements for graduation with prior consent of your adviser. No more than eight units may be applied without consent of the curriculum committee; application of more than 16 units requires Graduate Division approval. A maximum of eight units of course 596 taken outside the school may be applied toward graduation. All independent work will be graded on an S/U basis.

Thesis or Comprehensive Examination Plan

M.Arch. I students generally present a large-scale design project that functions as a design thesis at the end of their three-year course of study. Occasionally, students who have already demonstrated superior design skills will elect to do more research-oriented work instead. Because of the format required by the nature of an architectural presentation, the projects are all classified as "comprehensive examinations."

You should obtain faculty approval of project topics at least three months, and preferably six months, before presentation dates.

Master of Architecture II

Admission

The M.Arch. II program emphasizes advanced studies in architecture and requires that applicants have completed a five-year professional degree in architecture and hold a B.Arch. degree.

Applicants are required to submit three letters of recommendation, academic transcripts, a statement of purpose, and a "creative" portfolio. No admissions 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.

Major Fields or Subdisciplines

You are required to choose both a primary and secondary field of specialization. Specializations are the same as those for the M.Arch. I, with the addition of architectural design.

Course Requirements

(1) You 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 project is required. When the committee members have signed the thesis proposal, you may sign up for course 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 18 courses, of which at least 15 must be taken at the graduate level. A total of at least 72 units are required. The courses must be distributed in the following way: (a) one core sequence (three courses) from the area of theory and methods; (b) one core sequence (three courses) from the area of professional application.

One of the sequences should be your primary area of specialization and the other a secondary area. You are advised to enroll in all of the recommended courses in your primary area of specialization. The secondary area may be taken as a sequence of core courses only. In certain primary areas of specialization a Letter of Certification is conferred at graduation.

(4) Eleven courses are to be electives. Among these are the recommended courses in your area of primary specialization. Three electives may be taken from upper division or graduate courses offered campuswide. If you require greater interdisciplinary study, consent may be granted by the curriculum committee to increase this number.

(5) At least five of the above courses must be numbered in the 400 professional series. Three of these must be studios.

(6) You must enroll in at least four and no more than eight units of course 598. You may also apply 12 units of course 596 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 will be graded on an S/U basis.

Thesis or Comprehensive Examination Plan

M.Arch II students can choose to present a design project as a comprehensive examination or to do a research thesis. They should make this determination at least three months prior to the anticipated date of graduation.

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 baccalaureate 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 admissions 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.

Major Fields or Subdisciplines

You are required to focus your work on a specific academic area or professional issue. See "Major Fields" under the M.Arch. I 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 project is required. When the committee members have signed the thesis proposal, you may sign up for course 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 these courses must be taken at the graduate level.

(4) You must choose 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 598. You may also apply 12 units of course 596 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 will be 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.

Certificate of Specialization in Architecture/Urban Design

Admission

This one-year post-professional certificate program is designed to enable qualified and experienced professionals to pursue in depth a particular area of specialization. Applicants are required to hold a B.Arch. or M.Arch. degree from an accredited school.

Applicants are required to submit three letters of recommendation, academic transcripts, a statement of purpose, and a "creative" portfolio. No admissions 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.

Major Fields or Subdisciplines

You are required to focus your work on a specific academic area or professional issue. See "Major Fields" under the M.Arch. I for specializations currently available.

Course Requirements

(1) You must take a course of study in an approved field of specialization.

(2) The course of study must include 36 units (nine courses) in the 200 to 500 series.

(3) The minimum residence requirement is three quarters as a full-time student.

(4) No work completed for another graduate degree or certificate may be applied toward the work required for this certificate.

(5) You must be recommended for the certificate by the head of the Architecture/Urban Design Program and the Dean of the school.

Ph.D. in Architecture

For information on requirements for this new program, contact the graduate adviser at 825-0525 or 825-7857.

Upper Division Courses

187. Planning and Designing Our Cities. An introduction to urban planning and urban design with an emphasis on methods and tools used in practice. Starting with an overview of the planning field, the course addresses itself to physical planning for redevelopment, for projects in expanding areas, and for new towns. Lectures (with illustrated examples), field visits, and presentation of the students' own projects create the framework for expanding the understanding of the urban planning and design process. Mr. Kamnitzer

189. Pre-Modern and Post-Modern Architecture. Consideration of 19th-century revivalism and the response of architects to a growing historical awareness. Issues of eclecticism within the Beaux Arts and Art Nouveau movements will be studied. These same themes will be reconsidered in terms of the post-modern era. Mr. Jencks (W)

190. The Human Environment: An Introduction to Architecture and Urban Planning. This course aims to introduce students to 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. Students are exposed to 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. Perloff (F)

191. Modern Architecture. A brief examination of the tenets of Western architecture after the Renaissance, the accelerating eclecticism of the 19th century, the basis of the revolutionary movements of the 20th century in Germany, Holland, Austria, Italy, France, Russia, and the United States, and the subsequent extension and rejection of those movements after World War II. Though the "International Style" is the central figure of this drama, its ancestors occupy the stage as well. (F)

199. Special Studies (½ to 2 courses). Prerequisite: consent of instructor. Independent research or investigation on a selected topic to be arranged with a faculty member. May be repeated for credit.

Graduate Courses

201A. Architectural Theory (½ to 1 course). Lecture, three hours. Varying present-day and historical descriptive and normative frameworks for the discussion of architecture and its relation to other aspects of the environment. The effects of literary, art, and other forms of criticism on architectural theory. Epochs and styles, ideologies, and social settings for architecture.

203A-203B. Decision Making in Planning and Design. Lecture, three hours. Statistical decision theory and alternative design solutions for coping with different degrees of future uncertainty in planning; nature of models for rational behavior in presence of conflicts of interest; individual and group decision making under uncertainty. Mr. Adelson

204. Imaging the Future. Lecture, 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

218A-218B. Urban Structure: Analysis and Modeling. Discussion, three hours. Prerequisite: consent of instructor. Generation of conceptual frameworks on the urban structure based on empirical data, urban theories, and mathematical models. Individual and group research on selected aspects of urban systems. Application of models in decision making, particularly in urban design projects. Mr. Lang

219. Special Topics in the Built Environment (½ to 2 courses). Lecture, three hours. Seminar on topics in the built environment selected by the faculty. May be repeated for credit.

224. Methodology: Design Theory. Lecture, three hours. A survey of the literature on systematic methods and design, including problem solving, information handling, artificial intelligence, and decision making in the design process. May be repeated for credit. (F,W)

226A. Computer Applications in Architecture and Urban Planning (Introductory). Lecture, three hours. Introduction to electronic computers and the Fortran IV programming language, with emphasis on writing and executing programs specifically applicable to architecture, urban design, and planning. The course will also provide an introduction to computer mapping techniques. No prior knowledge of computing is required. Ms. Liggett

226B. Computer Applications in Architecture and Urban Planning (Advanced). Lecture, three hours. Prerequisite: course 226A or equivalent. Seminar on advanced computing techniques and modeling as applied to architecture and urban planning. The course will introduce the PL/1 programming language but will assume students have previous computing experience in another language. Ms. Liggett and the Staff

227A. Computer Graphics. Discussion, three hours. Prerequisite: consent of instructor. Assuming a basic familiarity with computer programming, the course provides an introduction to the theory, techniques, and applications of computer graphics in architecture. It consists of a series of lecture/seminars on technical topics, plus intensive practical work conducted on two storage-tube graphics terminals. Ms. Liggett, Mr. Mitchell (F)

227B. Computer-Aided Design. Discussion, three hours. Prerequisite: consent of instructor. An examination of existing computer-based systems for aiding decision making. Topics include artificial intelligence, self-organizing systems, and hardware capabilities and limitations. An attempt will be made to develop and test components of a computer design partner. Ms. Liggett, Mr. Mitchell (W)

228A. Mathematical Models in Architectural Design. Lecture, three hours. Prerequisite: consent of instructor. An introduction to concepts and techniques of mathematical modeling in architecture. Basic mathematics is needed to develop models. The formal description of built form: data structures. Practical case studies and exercises dealing with the use of mathematical models in architectural design. (F)

228B. Research in Design Methods. Lecture, three hours. Prerequisite: consent of instructor. Developmental work in a specific method of design. Theoretical and operational problems of a design method: degree of systemization, man-machine relationships, areas of application, problems of translation, and compatibility with other methods. (W)

238. Research in Architectural and Urban Analysis. Discussion, three hours. Prerequisite: consent of instructor. Selected topics in architectural and urban systems. Documentation and project work; fieldwork.

255. Urban Morphology: Definitions and Consequences. Lecture, three hours. An analysis of urban spatial form and its socioeconomic and behavioral bases and consequences. Special emphasis is on ecological approaches (e.g., social area analysis, urban growth models, factorial ecology) and behavioral analysis (cognitive mapping, urban imagery, attitudes toward human and material resources).

258. Research in Human-Environment Relations (½ to 2 courses). Selected topics for research in social and behavioral relations to the environment. The course is intended to provide a teaching space for visiting teachers in the social and behavioral sciences. May be repeated for credit.

271. Elements of Urban Design. Lecture, three hours. Introduction of basic knowledge of elements and methods of urban design. A multidisciplinary approach leading to an understanding of the political, socioeconomic, and technological framework of urban systems and its dynamic interrelations.
Mr. Lang (F)

272. Real Estate Development for Planners and Architects. Introduction to the real estate development process specifically geared to students in planning, urban design, and architecture. Financial decision model, market studies, designs, loan package, development plan, and feasibility study. Lectures and projects which integrate the development process with proposed design solutions which are iteratively modified to meet economic feasibility tests.
Mr. Kamnitzer

274. Introduction to Physical Planning. Lecture, three hours. Overview of the influence of planning determinants upon the design of urban areas, with illustrations of the consequences for urban design. Generally taken in the first year.

275. Urban Form. Seminar on recent and historical urban design projects, elucidating the planning objectives, structuring principles, operational characteristics, physical components, and environmental consequences of each project. Development of a definitional framework, analytical criteria, and practical direction in the examination of urban form.

278. Research Methods in Human-Environment Relations (½ to 1 course). Lecture, three hours; discussion, two hours. A survey of a variety of research methods applicable to problems on the human-environment interface, including both those now frequently employed (survey research) and others not so well known (ecological psychology, ethnomethodology). The course will emphasize the application of research methods to selected exercises and specific field situations.

279A. Housing for Developing Countries. Discussion, three hours. Considerations of sociocultural, economic, and political factors, materials, structural systems, shelter accessories, and manufacturing technologies related to the priorities of developing countries in housing policies and the planning and design of shelter. Mr. Aroni (Sp)

281. Introduction to the History of the Built Environment in the United States. Lecture, three hours. This course is an introduction to American urban, environmental, and architectural history, a survey of the main economic, political, social, and aesthetic forces forming the built environment. It covers the Colonial period to the present, emphasizing the importance of the spatial design of cities and buildings to public policy. Open to advanced undergraduates by consent of instructor. 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. The concerns of professional architects and planners will be discussed, as well as the activity of bankers, builders, and homemakers. Ms. Hayden

284. The Ideal City in History. Prerequisite: course 281 or consent of instructor. Since the time of Thomas More's *Utopia*, creating the ideal city has been a favorite device used by novelists, political theorists, economic and social critics, and architects to criticize existing society and demonstrate the dramatic possibilities of thoroughgoing reform. This seminar will deal with the utopian tradition in its literary, political, and aesthetic forms, examining satirical cities, moral cities, and urban fantasies from the 16th century to the present. Ms. Hayden

286. History of Specific Building Types. Lecture, three hours. Consideration of socioeconomic and historical factors involved in the development of a specific building type (i.e., theaters, schools, museums, and hospitals). May be repeated for credit.
Mr. Aran

287. Ancient and Islamic Architecture in the Mediterranean Area. Prerequisite: consent of instructor. The aim of this course is to study the influence of the physical and social environments on building activity throughout the history of societies around the Mediterranean. Special consideration is given to architectural development in Greece. Mr. Aran

288. Architectural History: Medieval Period. Prerequisite: consent of instructor. A survey of European architecture from the year one thousand, with selected buildings and environments considered in terms of the cultural contexts. Mr. Aran

289. Special Topics in Architecture and Urban Design (½ to 1 course). Prerequisite: consent of instructor. Selected academic topics initiated by students, student teams, or faculty and directed by a member of the faculty. May be repeated for credit.

291. Architectural Programming and Theory. The first part of the course explores concepts and methods of architectural programming and its interrelation to the design process; planning of the design process; various techniques for the determination of program contents, basic conditions, resources, and constraints; the identification of solution types for given situations. In the second part of the course, the theoretical background is applied in the development of a program for the thesis. (F)

292. Social Building Theory. Prerequisite: consent of instructor. Review of basic literature on application of social science theory and data to the design and development of sociotechnical systems.
Mr. Rand

294. Environmental Psychology and Sociology. Prerequisite: consent of instructor. Environmentally based and interpreted approach to psychological states and individual and social behavior. Territoriality, density, stress and adaptation, environmental cognition, aesthetics, and preferences are considered. Mr. Rand

296. Social Analysis of Buildings and Settings. Prerequisite: consent of instructor. The class will conduct a ten-week evaluation of a building in Los Angeles, designed and built within the past five years, where the architect, builder, initiator, or other parties involved in the inception process are available for cooperative review of the facility. The structure of the course involves a review of evaluation theory in the first three weeks and a series of exercises performed on a single building, looking at its effectiveness and character through a variety of approaches to evaluation. The class will produce a comprehensive evaluation using multiple methods for each building evaluated. Mr. Rand

297. Group Process in Design. Prerequisite: consent of instructor. This course aims to equip students with the knowledge and skills needed to work effectively in design processes with other professionals and with client and user groups in organizational and other settings where interaction is important in determining design outcomes. Mr. Adelson

298. Social Meaning of Space. Discussion, three hours. Traces the evolution of the concept of space from its origins in ritual and primitive social organizations. Concentrates on the child's evolving conception of space, literature on perceptual development, and studies of adaption to the spatial order of the human-made environment. Mr. Rand

299. Application of Behavioral Research to the Design Process. Lecture, three hours. Prerequisite: course 258 or consent of instructor. Application of behavioral research to the design process. This course attempts to begin the difficult task of bridging the gap between research and design by building upon the ideas and techniques generated in course 258, applying them to research in a field situation, and translating the results of this research into a preliminary design solution in a selected community. Emphasis will be on problem definition, the generation of meaningful research questions and understandable results, iterative approaches to the research/design interface, and novel ways of presenting design ideas. May be repeated for credit.

375. Teaching Apprentice Practicum (¼ to 1 course). 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. Projects in Architecture. Laboratory, three hours. Prerequisite: consent of instructor. Students may choose from a number of different projects in relevant problem areas to be offered by faculty members. May be repeated for credit. (F,W,Sp)

402. Projects in Urban Design. Laboratory, three hours. Prerequisite: consent of instructor. Students may choose from a number of different projects in relevant problem areas to be offered by faculty members. May be repeated for credit. (Sp)

403. Project Studio with Specific Topic (½ to 1 course). Studio, eight hours. Prerequisites: prior courses of particular sequence or consent of instructor. May be repeated for credit:

403A. Projects in Systems Building.

403B. Projects in Energy Conserving Design.

403C. Projects in Man-Environment Relations.

403D. Projects in Educational Facilities.

403E. Projects in Housing.

403F. Projects in History.

403G. Projects in Design Methodology.

403H. Projects in Computer-Aided Design. (Sp)

411. Introductory Design Studio. Studio, twelve hours. Prerequisite: consent of instructor. Architectural composition is initially studied in terms of its separate elements. After each is studied by means of a manipulative exercise which allows for experimentation of its intrinsic possibilities, the student then undertakes a series of closely controlled exercises dealing with combining the elements. The latter part of the course is spent in the design of a small building in which previously acquired knowledge is synthesized into a single design. (F)

412. Building Design Studio. Studio, twelve 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 program requirements and to support and further develop the intended forms and concepts. (W)

413. Building Design with Landscape Studio. Studio, twelve hours. Prerequisites: courses 411 and 412, or consent of instructor. Building design and site planning in relation to water, landforms, and plants in natural landscape, with special attention to natural light, heat, and ventilation. (Sp)

414. Major Building Design I. Studio, twelve hours. Prerequisite: second-year standing. Design projects which enable students to concentrate on specific architectural issues, with emphasis either on treatment in breadth of large-scale projects or exploration in depth and detail of smaller-scale projects. Students will 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, twelve hours. Prerequisite: course 414. Design projects which enable students to concentrate on specific architectural issues, with emphasis either on treatment in breadth of large-scale projects or exploration in depth and detail of smaller-scale projects. Students will 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 will be on integration of environmental control systems. (W)

416. Comprehensive Design Studio. Studio, twelve hours. Prerequisites: completion of required coursework up to first quarter of third year and consent of instructor. Course will complete the regular required sequence of design work, preparing students for the third-year thesis preparation course. Comprehensive design projects will be 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 sketching, diagraming, freehand drawing, drafting techniques, introduction to axonometric projection and perspective. (F)

422. Advanced Architectural Drawing (½ to 1 course). Discussion, three hours; laboratory, three hours. Prerequisite: course 421 or consent of instructor. The course continues with an emphasis on the exploration of the interrelationship between drawing and design. More advanced design strategies and modes of graphic exploration and presentation are developed.

431. Structures I. Lecture, three hours. Prerequisites: basic algebra, geometry, trigonometry, and consent of instructor. Introduction to structural behavior and structural statics. Operations with forces and vectors, both algebraically and graphically. Equilibrium of force systems; polygon of forces and funicular polygon. Internal actions: axial force and bending moment. Reactions, stability, and statical determinacy. Determinate frames. Plane trusses: analysis and design. Mr. Aroni (W)

432. Structures II. Lecture, three hours. Prerequisites: course 431, consent of instructor. Mechanics of structures and structural elements. Elastic materials: stress, strain, and stress-strain relations. Theory of bending: curvature, stress and strain distributions, centroid, moments of inertia, resisting and plastic moments. Design of beams for bending, shear, and deflections. Torsion members. Instability and design of columns. Design for combined bending and compression. Tensile structures; cables, pneumatic structures. Slabs and plates; shells and folded plates. Mr. Aroni (Sp)

433. Structures III. Lecture, three hours. Prerequisites: course 432, consent of instructor. Introduction to statically indeterminate analysis. Structural materials and loads. Wind loads: distribution with height, design for comfort, structure behavior under lateral loads. Steel construction and concepts for high-rise structures. Structural case studies in timber and steel. Introduction to earthquakes: seismology, magnitude, intensity, history. Seismic instrumentation. Case studies of recent earthquakes and damage. Earthquake design concepts and seismic code requirements. Mr. Aroni (F)

434. Structures IV. Lecture, three hours. Prerequisites: course 433, consent of instructor. Considerations of concrete structures. Materials of construction: cement aggregates, concrete mix design. Construction methods and structural systems. Reinforced concrete theory: elastic and ultimate strength analysis and design of beams, columns, and slabs. Case studies of concrete structures. Economics of high-rise concrete apartment buildings. Mr. Aroni (W)

436. Construction Documents. Laboratory, eight hours. This course considers the relationship of the design processes from schematic design through the production of all of the documents for the construction contract. A simple structure will be designed, and the design development will be carried through working drawings and an outline form of specifications. (Sp)

437. Building Construction. Introduction to the first principles of structure and building construction. Building elements are not only explored for their structural qualities and possibilities of their production and assembly, but also for their formal and functional properties and, particularly, their application and role within a building. (W)

438. Systems Building. Prerequisite: consent of instructor. Discussion and survey of past and present developments in Europe, the USSR, and the USA. Impacts, demands, socioeconomic and legal constraints, user needs, performance specifications. Systems engineering and design. Measurement regulation, modular coordination, closed systems, open systems, design of systems, subsystems, components, elements, and materials.

439. Methods in Building Systems Development. Base for open building systems: reference system, component compatibility, measurement regulation, modular coordination. In-depth study of past and present research and developments, such as SCSD, SAR.

441. Environmental Control Systems. Lecture, three hours. Prerequisite: consent of instructor. The design of the mechanical systems necessary for the functioning of large buildings: air handling, fire and life safety, plumbing, vertical and horizontal circulation, communication and electrical power distribution, analysis of the interaction of these systems and their integrated effects on the architectural form of a building. Mr. Johnson (W)

442. Building Climatology. Lecture, three hours. Prerequisites: basic physics, completion of first year in M.Arch. I, consent of instructor. The design of buildings which specifically respond to the local climate; utilization of natural energies, human thermal comfort; sun motion and sun control devices; use of plant materials and landform to modify microclimate. Mr. Givoni, Mr. Milne (Sp)

443. Passively Integrated Solar Systems. Prerequisites: course 442, consent of instructor. The course will analyze the different passively integrated solar systems for heating and cooling and will consider their anticipated performance and suitability for different climates and building types. The course will be focused on quantitative aspects, including calculations of performance in terms of energy saving and expected indoor comfort conditions. Mr. Givoni (Sp)

444. Light and the Visual Environment. Lecture, two to four hours. Prerequisite: course 432 or consent of instructor. Explores the extent to which the physical form of a building controls the luminous environment of its occupants; the design of naturally and artificially illuminated environments; parameters of human visual comfort. Mr. Milne

445. Sound and the Auditory Environment. Lecture, two to four hours. Prerequisite: course 432 or consent of instructor. Explores the extent to which the physical form of a building controls the acoustic environment of its occupants; the design of spaces for auditory privacy and for auditory enhancement; parameters of human audition.

446. Introduction to Energy Conserving Design. Prerequisite for M.Arch. I students: course 442 or equivalent; for others: consent of instructor. A professional practice-oriented view of introductory energy flow and thermal comfort concepts. Review of existing and developing Energy Conserving Design and Management "active" and "passive" techniques. Application of solar technology to architectural design within the ECD/M context. Explanation of historical as well as current and proposed energy/resource consuming, climate responsive buildings, and cities. May be repeated for credit. Mr. Schoen (F,W)

460. Architectural Management. Lecture, three hours. Problems of land development and real estate. The professions of architecture and planning: traditional and innovative organizational forms. Manufacture, distribution, transport, and on-site construction/assembly. Controls and resources: government programs and restrictions; financing and administration; costs estimation; materials and labor availability.

461. Professional Organization and Practice. Lecture, three hours. The profession of architecture: historical development, relation to other professions and disciplines, the changing role of the architect. Architecture and professional societies: the American Institute of Architects, state and national registration boards, educational accreditation. Legal and ethical questions relating to the practice of architecture. Emerging forms of architectural practice. Mr. Phelps

490. Urban Innovations Group Workshop (1 to 2 courses). 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 technical problems of the physical environment. May be repeated for credit.

496. Special Projects in Architecture (½ to 2 courses). Prerequisite: consent of instructor. Projects initiated by either individual students or student teams and directed by a member of the faculty. May be repeated for credit.

497. Special Projects in Urban Design (½ to 2 courses). Prerequisite: consent of instructor. Projects initiated by either individual students or student teams and directed by a member of the faculty. May be repeated for credit.

596A. Directed Individual Research and Study in Architecture and Urban Design (½ to 2 courses). May be repeated for credit.

598A. Preparation in Architecture/Urban Design for Master's Thesis (½ to 2 courses). Prerequisite: consent of instructor. May be repeated for credit.

Urban Planning

1125J Architecture, 825-7331, 825-8957

Professors

Leland S. Burns, Ph.D.
John Friedmann, Ph.D.
Dolores Hayden, M.Arch.
Peter Kamnitzer, M.Pl.
Peter Marris, B.A.
Harvey S. Perloff, Ph.D., *Dean*
Donald Shoup, Ph.D.
Edward W. Soja, Ph.D.
Martin Wachs, Ph.D.

Associate Professors

Leo Estrada, Ph.D.
J. Eugene Grigsby, III, Ph.D.
Allan Heskin, Ph.D., LL.B.

Assistant Professors

Robin Liggett, Ph.D.
Rebecca Morales, M.A.

Lecturers

Berge Aran, Ph.D.
Margaret FitzSimmons, M.A.

Professor

Edgardo Contini, Dottore in Ingegneria, *Adjunct*

Associate Professor

Karen Hill Scott, Ed.D., *Adjunct*

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, 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 and articulated degree programs are available which enable students to combine study for an M.A. in Urban Planning with work toward an M.B.A. in the Graduate School of Management, a J.D. in the School of Law, or an M.A. in Latin American Studies.

The Urban Planning Program at UCLA takes pride in its collegial atmosphere. It features a lively mix of students from diverse academic backgrounds, drawn from many foreign countries and from every avenue of American life. It includes many members of racial and ethnic minority groups. A number of student organizations provide an interesting program of extracurricular activities.

Requirements for Graduate Degrees

Admission

The Urban Planning Program admits students in the Fall Quarter only, and the application process should begin a year in advance of the quarter for which you are applying. Students who are admitted but do not enroll are not guaranteed admission at a later date.

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, UCLA, Los Angeles, CA 90024.

A statement of purpose, letters of recommendation, grade-point averages, and relevant experience are all considered in the review process for admission. Applicants must submit transcripts from each college attended and are encouraged to submit 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 maximum of two work samples may be submitted in support of the application (e.g., reports, papers, slides, etc.). If team reports are submitted, the applicant's individual contribution must be clearly indicated. Samples written in a foreign language cannot be considered. Work samples will be returned only upon request. (Applicants in the U.S. must enclose a self-addressed, stamped envelope.)

Areas of Concentration

You should choose an area of concentration by the end of your first quarter in the program. The areas of concentration distinguish between different kinds of issues and contexts in which planners characteristically become engaged, as a professional career or a field of research. They are not meant to be mutually exclusive. The four areas of concentration are:

Urban and Regional Development: Rural poverty and urban migration, unemployment, the problems of economically depressed areas, and the deterioration of inner city neighborhoods all present problems which call for comprehensive analysis and integrated solutions. Within this area, you are expected to choose an emphasis either on developments within the United States and other advanced industrial nations or on problems of development in newly industrializing countries.

Social Policy and Public Services: 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: Planning actions almost always have some effect on, or are affected by, the natural environment. Environmental planners are specifically concerned with developing environmental policy, interpreting the appropriate technical information for use in planning decisions, and contribution from an economic/ecological perspective to the process for resolving trade-offs among social priorities.

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 choose one of three specializations: history, theory, and criticism of the built environment; public policy and the built environment; or urban design and 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.

Comparative Development Studies: A number of students have a major interest in planning, teaching, and research in developing countries. Possibilities include direct hire by governments and educational institutions abroad, employment by international agencies, and private consulting. A number of courses on the problems of urban and regional development in industrializing countries and the transition to a global economy are offered each year. Invited lecturers and special seminars complete this program emphasis, which is articulated with one of the regular areas of concentration (see also articulated degree program with Latin American Studies).

Students wishing to pursue development studies at either the M.A. or Ph.D. level should contact either Professor John Friedman or Professor Edward Soja.

Master of Arts in Architecture/Urban 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: 220A (waiver by examination), 220B, 207, two core courses in theory and context, two additional courses (three if course 220A is waived) from a selection of 14 remaining core courses in methods, theory and context, and/or practice.

Upon 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 will be 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 220A and 207 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 choose at least five; two are generally specified.

Two field projects 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

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 choose this option, in order to meet established deadlines, you are urged to begin thesis work not later than the Fall Quarter of the second year. Academic credit for thesis preparation is given through course 598P.

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 course 597P.

As an alternative under Plan A, you are encouraged to take courses 217A-217B, offered each year, 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. Each area-of-concentration faculty constitutes a committee for offering, reading, and grading the examination. No course credit is received.

Fieldwork

Master's students who come to the Graduate School of Architecture and Urban Planning without prior experience in planning are required to complete a minimum of eight units of fieldwork. Fieldwork is defined as some type of 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 from the program office.

Cooperative Degree Programs

J.D./M.A.-Architecture and Urban Planning

The School of Law and the Graduate School of Architecture and Urban Planning offer a concurrent plan of study providing an integrated curriculum for those 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 concurrent degree program must apply and be admitted to the School of Law, the Urban Planning Program, and the Graduate Division. For additional information, contact the graduate counselor in the Urban Planning Program.

M.B.A./M.A.-Architecture and Urban Planning

The Graduate School of Management and the Graduate School of Architecture and Urban Planning offer a three-year concurrent degree program designed for students who seek careers which draw on general and specialized skills in urban planning and management. By providing knowledge of the workings of both the private and public sectors, the program enables individuals who have acquired these skills to move easily between careers in private industry and public service.

Students should request all application materials from the M.B.A. Admissions Office, Graduate School of Management. Further details may be obtained from the graduate counselor in the Urban Planning Program.

M.A.-Latin American Studies/ M.A.-Architecture and Urban Planning

The Latin American Studies Program and the Urban Planning Program offer a 2½- to 3-year articulated plan 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 articulated 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. Master's students in urban planning at UCLA should inform the graduate counselor before March 1 of their second year if they wish to be considered for the Ph.D. program for the following Fall Quarter.

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 an area of concentration (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 at least six units of courses 208A-208B to aid in preparation of dissertation research and writing.

Planning Theory Examination

Planning theory is concerned with the question of how scientific and technical knowledge can be effectively joined to organized actions that are intended to produce a social benefit.

You must pass the examination in planning theory which will probe your understanding of the literature, as well as your ability to apply theoretical notions in a creative way to typical problem-solving and planning situations. It is recommended that you take courses 201B and 201C in preparation for the examination. An extensive reading list is available to aid you in preparing for the examination, which should be taken in the Spring Quarter of your first year in the Ph.D. program, and in any case 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. The 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 ethnomethodology, historiography, 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, you must take course 220B or equivalent. The courses must be approved by the adviser and should begin during the first year in the Ph.D. program.

Major Field Examination

The major field examination is designed to test your in-depth knowledge and understanding of your major field (area of concentration). You are expected to demonstrate a level of competence equivalent to teaching a beginning course in that field and should be prepared to analyze and justify major policy options for the solution of those problems you define as being critical in the area covered by the examination. The examination has two parts (one written, one oral) and requires submission of an acceptable written statement of interest.

The major field examination is given twice a year for each major field and should be taken by the end of your second year of study. You may receive academic credit for the preparation of the examination by enrolling in course 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 flexible and closely adjusted to your dissertation focus. It can be fulfilled in two ways:

(1) Twelve units of coursework which (a) constitute a coordinated package of courses in the subject of the minor field, (b) are taken in an area of concentration other than the major field and/or in another department (not necessarily in a single department), and (c) in which a grade of B or better must be received or

(2) Passing the written portion of a major field examination in an area other than the major field.

Oral Qualifying Examination

After successful completion of the planning theory examination, research methods requirement, and the major and minor field requirement, 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 six units of courses 208A-208B.

The University Oral Qualifying Examination should be 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 (½ to 2 courses). 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.

187. Planning and Designing for Our Cities. See listing under "Architecture/Urban Design."

190. The Human Environment: An Introduction to Architecture and Urban Planning. See listing under "Architecture/Urban Design."

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.
Mr. Merifield (F)

197. Planning for Minority Communities. Lecture, three hours. This course will introduce the student to inner city policy issues on three separate levels: (1) each student will develop a comprehensive inner city urban 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.
Mr. Estrada

199. Special Studies (½ to 2 courses). See listing under "Architecture/Urban Design."

Graduate Courses

201B. Introduction to Planning Theory. The course provides a broad overview of the history of planning theory and focuses on current theories concerning the linkage of a scientific-technical intelligence to organized social actions. Open to juniors and seniors by consent of instructor.
Mr. Friedmann and the Staff (F)

201C. Colloquium in Planning Theory. Open to Ph.D. students only. An in-depth and critical examination of major issues in planning theory. Faculty and students jointly select topics of importance for discussion. S/U grading. Mr. Friedman and the Staff (W)

M202A. Public Control of Land Development (¾ to 1 course). (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. Mr. McGee

M202B. Governance: State, Regional, and Local (¾ to 1 course). (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.

M202C. Seminar: Urban Affairs (¾ course). (Same as Law M526.) Lecture, two hours. The purpose of the course is to explore in a concrete case setting the application of legal tools to the solution of planning and land use problems. Real situations are selected in which significant planning problems exist that appear to be amenable to solution by careful analysis and application of legal tools. A number of case studies are selected so that students may choose one issue which directly interests them. For each case, a specific client works with the class in presenting the problem that client is facing and remains available through the course of the project for consultation; the end product for each case is the presentation of a formal report. Clients include the City Planning Commission, the Environmental Quality Board, the Housing Authority, and others.

M205C. Urban Government. (Same as Political Science CM229.) An analysis of the policies, processes, interrelations, and organization of governments in heavily populated areas. Mr. Bollens

206. Urban Data Analysis. The course will review research methods integrated by a common planning theme. Among the methods covered are observational methods, data collection techniques (including survey methods), and the use of available data (i.e., census data, administrative data, etc.). Analytical techniques, such as index construction, standardization, and trend analysis, will also be discussed. Each method/technique will involve exercises by students. Generally taken in the first year.
Mr. Levine and the Staff

207. Public Resource Allocation. Lecture, three hours. Prerequisite: passing score on a microeconomics examination given the first day of class. The course emphasizes the practical use of economics in analyzing public resource allocation problems. Topics include a review of marginal analysis, the difference between equity and efficiency, public goods and the free rider problem, environmental pricing, public service pricing, and conflicts between individual and collective rationality. Mr. Shoup (F)

208A-208B. Seminar in Advanced Research Methods (1 course, ½ course). Prerequisites: doctoral standing, consent of instructor. Required of Ph.D. students. **208A** will consist of (1) lecture-discussions on research methods, (2) lecture-discussions by visitors (mostly members of the urban planning faculty) leading to the identification of dissertation topics, and (3) potential topics developed by each student. During Winter Quarter each student is required to participate in an individual study course (from two to four units) to develop, in close collaboration with a potential dissertation adviser, the topics to be discussed in course 208B. **208B** will consist of the presentation and discussion of dissertation topics, developed in detail (with bibliographies, etc.). May be repeated for credit. S/U grading. (F, 208A; Sp, 208B)

209. Special Topics in Planning Theory (½ to 2 courses). Lecture, three hours. Seminar on topics in planning theory selected by the faculty. May be repeated for credit.

211. Law and the Quality of Urban Life. Lecture, three hours. The course is an introduction to law as an urban system and is directed primarily toward those interested in social and advocacy planning. The course will be organized around a number of urban problems, such as employment, housing, social welfare, and land use, and will examine the law's role as a partial cause and cure of these problems. Although certain legal principles will be stressed, the course examines law as a changing process rather than a collection of principles. It is a goal of the course that the students develop a facility to interact with law and lawyers in a positive and forceful manner.
Mr. Heskin

212. Planning Theory: Time and the Future. Analyzes how time is, and can be, used as a factor in urban decisions and actions. Focuses on concepts and methods for dealing with the middle- and longer-range future, including asset accounting, time- and goal-oriented systems analysis, and different approaches to "planning for a better future."
Mr. Perloff (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 for evaluating and reporting the performance of complex urban systems. Mr. Grigsby, Mr. Perloff

M215A. Advanced Quantitative Analysis. (Same as Geography M270.) Lecture, two hours; laboratory, two hours. Prerequisite: Geography 171 or equivalent or consent of instructor. Advanced topics in the utilization of mathematical and statistical techniques for geographic research. Emphasis on linear models, factor analysis, and grouping procedures as applied to geographic data bases. Mr. Clark

M215B. Spatial Statistics. (Same as Geography M272.) Lecture, two hours; discussion, one hour; laboratory, one hour. Prerequisites: Geography 171 or Mathematics 50B and 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

217A-217B. Comprehensive Planning Project. Prerequisite: second-year standing. The comprehensive project is offered by at least two faculty members representing different areas of policy concentration in the urban planning program and brings together students of varying backgrounds and interests in joint solution of a problem in urban planning and development. Each project counts the equivalent of eight units total and will span two quarters. Because of the time required for the completion of project work, it is expected that students enrolled in a project will choose the comprehensive examination plan option in place of the master's thesis. Credit to be given upon completion of course 217B.
(W, 217A; Sp, 217B)

219. Special Topics in the Built Environment (½ to 2 courses). 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. The course will review basic mathematical concepts fundamental to planning methods and will cover descriptive statistics, probability, and sampling techniques. The course will also include an introduction to the use of the computer as a tool in analysis of planning-related data. Ms. Liggett (F)

220B. Quantitative Analysis in Urban Planning II. Lecture, three hours. Prerequisite: course 220A or equivalent (demonstrated by passing score on mathematics proficiency examination given the first day of course 220A). An introduction to concepts of statistical inference and modeling with an 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 populations. Case studies will be presented which cover the design and analysis of typical urban planning research projects. The course will also include use of the computer as a tool in statistical analysis and modeling.
Ms. Liggett (W)

221A. Evaluation Research. Lecture, three hours. Prerequisites: courses 207 and 220A. The course focuses on the conceptual approach, methods, and problems encountered in conducting program evaluations. Topics include purposes of evaluations, steps involved in the evaluative process, and uses of evaluation research in planning. Case studies and exercises are used as teaching techniques along with lectures provided by the instructor. Mr. Shoup

221B. Project Evaluation Methods. Lecture, three hours. Prerequisite: course 207. The course examines ways of estimating the economic worth of public programs and investment projects. The major topics include cost/effectiveness analysis, cost/benefit analysis, sensitivity analysis, distribution analysis, and implementation. Mr. Shoup

223A. Professional Development Series. Lecture, three hours. A lecture-seminar-project course offering an introduction to the planning profession and, more specifically, to the urban planning program at UCLA. An overview of the forces that shaped its practice over time and an exploration of various professional roles for planners. Planning education will be viewed as a response to changing needs and as a catalyst for emerging roles for professional planners. Several short projects are designed to expose students to "real world" planning problems and to the various viewpoints and methods that the areas of policy concentration specialties would bring to bear. Course 223A is generally taken Fall Quarter of the first year as an introduction to courses 223B-223C.
Mr. Heskin (F)

223B-223C. Professional Development Series. Course 223A is highly recommended, but not required. A two-quarter sequence concerned with problems of professional practice. Students must be working in a field setting to enroll in the course. A job fair will be 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 by consent of instructor. **223B** focuses on developing methods which integrate theory and practice through readings and individual and collective analyses of each student's experience. **223C** continues the processes of course 223B, with the addition of a larger look at the planning profession by bringing noted professionals to the classroom to dialogue with the students. Students may wish to combine either course 223B or 223C with one quarter of course 496F or 490 to meet their fieldwork requirement.
(W, 223B; Sp, 223C)

226A. Computer Applications in Architecture and Urban Planning (Introductory). See listing under "Architecture/Urban Design."

226B. Computer Applications in Architecture and Urban Planning (Advanced). See listing under "Architecture/Urban Design."

229. Special Topics in Planning Methods (½ to 2 courses). Seminar on topics in planning methodology selected by the faculty. May be repeated for credit.

M231. Urban Housing and Community Development (¾ to 1 course). (Same as Law M287.) Lecture, three hours; discussion, one hour. The course will comprehensively consider the rebuilding and construction of American cities, with the major emphasis upon 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 an emphasis on field research in lieu of a substantial portion of the final examination.
Mr. McGee (W)

232. 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. Soja

233. The Political Economy of Urbanization. An introduction to the basic concepts and analytical approaches of urban political economy, with a major emphasis on American urban problems. Topics include 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

234. Seminar in Spatial Development Policy. Prerequisite: course 232 or prior background in analytical human geography or consent of instructor. An advanced course dealing with the analysis, measurement, and interpretation of spatial change in developing countries, particularly in East and West Africa. It combines an in-depth examination of spatial development theory (especially with regard to spatial diffusion and settlement systems models), comparative studies in the geography of development, and a detailed assessment of some current African regional development plans. Generally taken in the second year. Mr. Soja

235A-235B. Regional Approaches to National Development. Prerequisite: consent of instructor. A two-quarter sequence dealing with questions of urbanization and rural development in industrializing Third World countries. Generally taken in the second year.
Mr. Friedmann

236A. Urban and Regional Economic Development I. Lecture, three hours. An introduction to basic principles of urban and regional economics as they bear upon public policy formation and urban and regional planning, especially in the U.S. context. The course examines 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 is given to economic growth policies and development planning in cities and regions. Case studies and exercises will use input-output, shift-share, and other methods of analysis. Ms. Morales, Mr. Soja (F)

236B. Urban and Regional Economic Development II. Lecture, three hours. Prerequisites: courses 207, 236A. 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 are covered. Topics include labor market considerations in economic development planning; incentives to private enterprise investment; alternative institutions for local economic development; and financing public and private investment. Ms. Morales (W)

236C. Urban and Regional Economic Development III. Discussion, three hours. Prerequisites: courses 236A, 236B. An advanced seminar for students wanting to design or critically evaluate programs in economic development. First part of course consists of two- to three-week intensive workshops on financing techniques and economic development law. Remainder of course is devoted to individual student projects. Ms. Morales (Sp)

237. Introduction to Regional Planning: The Evolution of Regional Planning Doctrines. Lecture, three hours. A critical and historical survey of the evolution of regional planning theory and practice, with a particular emphasis on the relations between regional planning and developments within Western social and political philosophy. Major concepts include regions and regionalism, the territorial community, and the social production of space.
Mr. Friedmann, Mr. Soja

239. Special Topics in Urban and Regional Development Policy (½ to 2 courses). Lecture, three hours. Seminar on topics in urban and regional development policy selected by the faculty. May be repeated for credit.

M241A. Urban Transportation Planning I. (Same as Engineering Systems M288A.) 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. O'Neill, Mr. Wachs (F)

M241B. Urban Transportation Planning II. (Same as Engineering Systems M288B.) Prerequisites: courses 207, 220B, and M241A, 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. O'Neill, Mr. Wachs (W)

M241C. Urban Transportation Planning III. (Same as Engineering Systems M288C.) Prerequisites: courses 207, 220B, M241A, and M241B, 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. O'Neill, Mr. Wachs (Sp)

244. Introduction to Housing Markets. Prerequisite or corequisite: course 207 or equivalent. 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 is emphasized, 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

245. Finance of Local Public Services. Lecture, three hours. Prerequisite: course 207 or consent of instructor. This course introduces the theory and practice of local public finance and provides experience on state and local fiscal planning issues. Some of the topics are fiscal impact analysis, public service distribution, local revenue sources, municipal bonds, pollution taxes, intergovernmental contracting, and tax incentives for historic preservation and economic development. Mr. Shoup

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 a 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

249. Special Topics in Social Policy and Public Services (½ to 2 courses). Lecture, three hours. Seminar on topics in social policy and public services selected by the faculty. May be repeated for credit.

251. Planning for Multiple Publics. Lecture, three hours. Prerequisite: prior background in statistics and research design. Course is designed to explore the planning needs of various social groups in urban settings. Students will be required to explore existing literature and research studies to determine appropriate mechanisms of planning for multiple publics. Students will analyze communities in the Los Angeles metropolitan area as a means of gaining insights into the practical, theoretical, and methodological problems of planning for multiple publics. Generally taken in the first year. Mr. Grigsby

252A. Human Lives in Development. Lecture, three hours. This course covers the growth and development of the individual throughout the life cycle. Attention is given to four major schools of thought regarding human development, drawing implications to planning approaches. The emphasis is on the psychosocial basis of individual development and its relationship to planning. Ms. Hill Scott

252B. Social Policy in Human Development. Prerequisite: course 252A or consent of instructor. This seminar examines the applications of human development information on the formulation of child care and family policy. Students are given the opportunity to examine how a wide variety of data on child development, family structure, female labor force participation, and the economics of public investments are used in developing policies regarding the organization and supply of child care services.
Ms. Hill Scott

253. Social Theory for Planners. Lecture, three hours. Prior knowledge of sociological theory would be useful but is not essential. The course relates the sociological tradition to issues of change, the role of the state, and the relationship between knowledge and values as they affect planning. The course concentrates on insights and crucial issues which have arisen from social theory as they relate to the concerns of planning and social policy. Contemporary developments in urban sociology will also be discussed. Mr. Marris

254. Social Research Methods. Lecture, three hours. Prerequisite: course 220B or equivalent. Course reviews basic methods commonly used in planning and applied social research and, in particular, survey research. Topics include conceptualizing the research problem; developing a research plan; sampling, instrumentation, and data collection; and time management of a research study.
Mr. Estrada, Mr. Levine

256. Social Impact Analysis. Lecture, three hours. Prerequisite: consent of instructor. Recommended: courses 220A and 220B, a course in advanced statistics, a course in survey research and methodology. Limited enrollment. This course will explore ways of creating methods for assessing and determining social impacts on communities. Intent will be to develop both methodologies and policy formulation for assisting in community development. Generally taken in the second year. Mr. Grigsby

260. Advanced Seminar on Natural Environment and Resources (½ to 1 course). Discussion, three hours. Prerequisite: consent of instructor. Discussion and organized individual and group research. Exploration of broad issues related to environmental and resource planning. Generally intended for second-year M.A. students specializing in natural environment and resources and for Ph.D. students. May be repeated for credit. Ms. FitzSimmons

261A. Introduction to Environmental Analysis. Lecture, three hours. Discussion of basic ecological principles relevant to environmental planning, including characteristics of ecosystems, energy transfer, biogeochemical cycles, dominance and niche theory, diversity and stability, species-area relations, etc. Attention will be drawn to the human role in modifying ecosystems. Generally taken in the first year. Ms. FitzSimmons

261B. Environmental Management: Politics and Institutions. Lecture, three hours. Planners face some important dilemmas in designing institutions and policies intended to correct or prevent disruptions of the environment. The course is an introduction to these problems, focusing on the essential theoretical questions that must be addressed in attempts to control environmental problems in our society. Recent developments in environmental policy in light of the growing environmental movements will be reviewed, and current approaches to environmental problems will be evaluated, considering their institutional forms and epistemological foundations.

262. Residuals Management (½ to 1 course). Lecture, three hours. Prerequisite: course 207 or consent of instructor. Advanced seminar covering a selected topic (to be announced) in the management of atmospheric emissions or solid wastes or nuclear radiation, etc. Intended for, although not restricted to, students specializing in natural environment and resources. May be repeated for credit.

263. Natural Resource Conservation. Lecture, three hours. This seminar explores, through presentations, readings, and discussion, the meaning of resource conservation, its desirability, and ways of achieving it. The focus is generally on minerals, although other resources (e.g., water, timber, wilderness) may be considered.

M264. Environmental Law and Policy (¾ to 1 course). (Same as Law M290.) Lecture, three hours. The course first examines, from perspectives meaningful to legal institutions, the nature of environmental problems. It then considers the means by which law has responded, and can and should respond, to problems of environmental quality. Both common law and legislative and administrative measures are considered. The course uses the air pollution problem as the primary vehicle for study.

266. Seminar on Land-Use Planning. Lecture, three hours. Prerequisite: consent of instructor. A seminar-discussion course that builds on the basic planning concepts and knowledge discussed in other planning courses. Topics include the current practice of land-use planning, issues and problems, land-use planning as a tool for environmental protection and enhancement, and evolving policy. Ms. FitzSimmons

267. Site Planning. Introduction to principles of site planning for urban areas, including new towns, new towns-in-town, shopping centers, industrial parks, office parks, housing, and recreation areas. Discussion of case studies in Southern California; exercises at the scale of the small city, the urban neighborhood, and the superblock. Mr. Kamnitzer

269. Special Topics in Natural Environment and Resources (½ to 2 courses). Lecture, three hours. Seminar on topics in natural environment and resources selected by the faculty. May be repeated for credit.

272. Real Estate Development for Planners and Architects. See listing under "Architecture/Urban Design."

274. Introduction to Physical Planning. See listing under "Architecture/Urban Design."

276. Planning Workshop (1 to 2 courses). Laboratory, six hours. Prerequisite: course 421 or 422 or Art 32A or demonstrated background in architectural design or consent of instructor. Planning projects with a focus on physical planning. Emphasis on synthesis combined with iterative evaluation of the emerging solutions. Projects may be reality bound, hypothetical, or in the form of exploring the impact of nonphysical forces on the physical environment. Development of presentation skills, both graphic and verbal, is an essential component of this workshop. Mr. Kamnitzer

278. Research Methods in Human-Environment Relations (½ to 1 course). See listing under "Architecture/Urban Design."

281. Introduction to the History of the Built Environment in the United States. See listing under "Architecture/Urban Design."

283. History of the American Household and the American Home. See listing under "Architecture/Urban Design."

284. The Ideal City in History. See listing under "Architecture/Urban Design."

285. Private Life, Public Life, and the Built Environment: Planning for the Changing Household and the Changing Work Force. Lecture, 90 minutes; discussion, 90 minutes. An introduction to the substantial literature on the relationship between gender and urban experience. Alternative research strategies attempt to define a private/public urban split; to describe an inadequate fit between American households, housing, and services; and to document environmental inequities women and children face in contemporary cities. Students will prepare seminar papers using one or more of these approaches to explore topics in the areas of housing, neighborhood development, transportation, or social services. Ms. Hayden

286. History of Specific Building Types. See listing under "Architecture/Urban Design."

287. Ancient and Islamic Architecture in the Mediterranean Area. See listing under "Architecture/Urban Design."

288. Architectural History: Medieval Period. See listing under "Architecture/Urban Design."

375. Teaching Apprentice Practicum (¼ to 1 course). See listing under "Architecture/Urban Design."

490. Urban Innovations Group Workshop (1 to 2 courses). See listing under "Architecture/Urban Design."

494. Supervised Independent Teaching (½ to 2 courses). Supervised individual teaching experience. May be repeated for credit. S/U grading.

496F. Field Projects (½ to 2 courses). May be repeated for credit. S/U grading.

501. Cooperative Program (½ to 2 courses). Prerequisite: consent of UCLA graduate adviser and Graduate Dean and host campus instructor, department Chair, and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596P. Research in Planning (½ to 2 courses). May be repeated for credit.

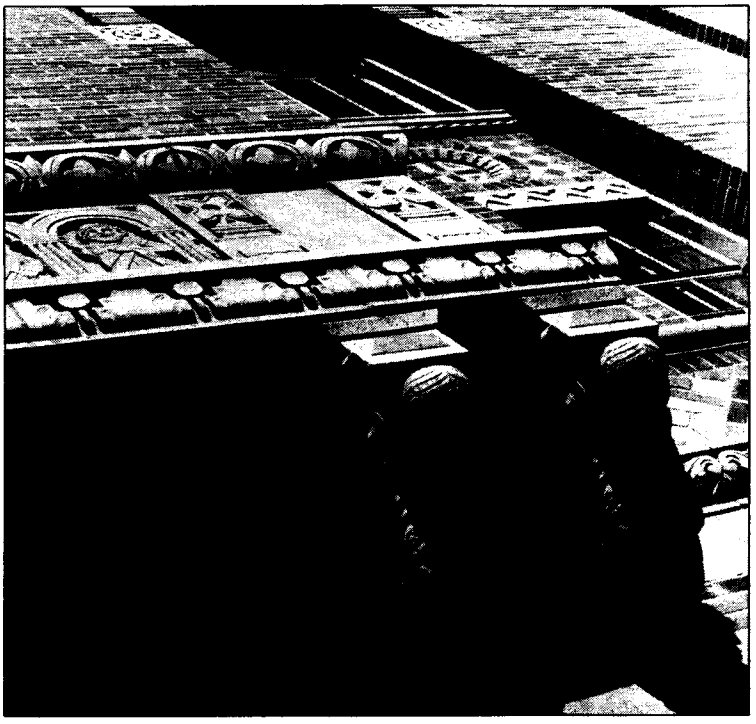
597P. Preparation for Master's Comprehensive Examination or Ph.D. Qualifying Examination (½ to 2 courses). May be repeated for credit. S/U grading.

598P. Preparation for Master's Thesis in Urban Planning (½ to 2 courses). May be repeated for credit. S/U grading.

599P. Ph.D. Dissertation Research in Planning (½ to 2 courses). May be repeated for credit. S/U grading.

9

Graduate School of Education



The primary goal of the Graduate School of Education is "the improvement of educational practice." In attainment of this goal, the functions of the school have expanded markedly in the past several decades to include a major commitment to educational research, to the advanced education of professional leaders and specialists, to the study and criticism of educational policy, and to field consultative services — all in addition to the traditional preparation of teachers. The professional studies appropriate for the school originate in the nature and management of learning, the maintenance and governance of educational institutions, and the discernment of educational purposes. There is concern for learning theory in its most important phases, for the entire realm of values as it pertains to the education of man, and for the nature and substance of education in this country as it compares with systems of education in other countries.

The UCLA Graduate School of Education, largest of its kind in the University of California system, provides a full range of academic and professional degree programs. Students may select from programmatic offerings consistent with individual goals and professional aspirations. At the master's degree level, professional Master of Education and academic Master of Arts programs are offered; at the doctoral level, qualified students may pursue the professional Doctor of Education or the academic Doctor of Philosophy degree. Additionally, several instructional and services credential sequences are available.

Photo: Gargoyles preside over the entrance to Moore Hall.

Graduate School of Education

Office of Student Services:
201 Moore Hall, 825-8325

Professors

Marvin C. Alkin, Ed.D.
Alexander W. Astin, Ph.D.
Helen S. Astin, Ph.D.
Eva L. Baker, Ed.D.
Gordon L. Berry, Ed.D.
Nicholas Blurton Jones, Ph.D.
James E. Bruno, Ph.D.
Burton R. Clark, Ph.D., *Allan M. Cartter Professor of Higher Education*
Arthur M. Cohen, Ph.D.
Sol Cohen, Ph.D.
Charlotte A. Crabtree, Ph.D.
Aimee Dorr, Ph.D.
Donald A. Erickson, Ph.D.
Lawrence W. Erickson, Ed.D.
Norma J. Feshbach, Ph.D.
John I. Goodlad, Ph.D., L.H.D., LL.D.
C. Wayne Gordon, Ph.D.
Frank M. Hewett, Ph.D.
Evan R. Keislar, Ph.D.
Barbara K. Keogh, Ph.D.
Frederick C. Kintzer, Ed.D.
Marilyn H. Kourilsky, Ph.D.
Thomas J. LaBelle, Ph.D.
John D. McNeil, Ed.D.
W. James Popham, Ed.D.
Richard J. Shavelson, Ph.D.
Harry F. Silberman, Ed.D.
Rodney W. Skager, Ph.D.
Lewis C. Solmon, Ph.D.
A. Garth Sorenson, Ph.D.
Louise L. Tyler, Ph.D.
Carl Weinberg, Ed.D.
Merlin C. Wittrock, Ph.D.

Emeritus Professors

Melvin L. Barlow, Ed.D.
Jesse A. Bond, Ed.D.
Wilbur H. Dutton, Ed.D.
Claude W. Fawcett, Ph.D.
Clarence Fielstra, Ph.D.
John A. Hockett, Ph.D.
David F. Jackey, Ph.D.
B. Lamar Johnson, Ph.D.
George F. Kneller, Ph.D., Litt.D., LL.D., D.Sc.
Dorothy M. Leahy, Ed.D.
Erick L. Lindman, Ph.D.
William H. Lucio, Ph.D.
Lynne C. Monroe, Ed.D.
C. Robert Pace, Ph.D.
Rosemary Park, Ph.D., LL.D., Litt.D., L.H.D.
Paul H. Sheats, Ph.D., LL.D.
Lorraine M. Sherer, Ed.D.
Samuel J. Wanous, Ph.D.

Associate Professors

Leigh Burstein, Ph.D.
Simon Gonzalez, Ed.D.
John N. Hawkins, Ph.D.
Charles C. Healy, Ph.D.
Antoinette Krupski, Ph.D.
David O'Shea, Ph.D.
Val D. Rust, Ph.D.
Geoffrey Saxe, Ph.D.
Deborah J. Stipek, Ph.D.
Romeria Tidwell, Ph.D.
James W. Trent, Ph.D.
Richard C. Williams, Ph.D.
Julia C. Wrigley, Ph.D.
Watson Dickerman, Ph.D., *Emeritus*
Wendell P. Jones, Ph.D., *Emeritus*
Frances M. Obst, Ed.D., *Emeritus*

Assistant Professors

James S. Catterall, Ph.D.
Frederick S. Ellett, Jr., Ph.D.
David P. Ericson, Ph.D.
Sandra Graham, Ph.D.
Carollee Howes, Ph.D.
Harold G. Levine, Ph.D.
Bengt Muthen, Ph.D.
Don Nakanishi, Ph.D.
Laura M. Pope, J.D., Ed.D.
Concepcion Valadez, Ph.D.
Noreen M. Webb, Ph.D.
Wellford Wilms, Ph.D.

Assistant Professors

Barbara Hecht, M.S., *Acting*
Judith Margolis, Ph.D., *Adjunct*
Carol Mock, M.S., *Acting*

Lecturers

Marjorie S. Day, Ph.D., *Adjunct*
Philip Ender, Ph.D., *Adjunct*
Madeline Hunter, Ed.D., *Visiting*
Virginia Kennedy, Ph.D., *Visiting*
Robert Lamborn, Ed.D., *Visiting*
Ann Phelps, Ph.D., *Visiting*
Burtis Taylor, Ed.D., *Visiting*

Degrees Offered

Master of Education (M.Ed.)
Master of Arts in Education
Doctor of Education (Ed.D.)
Doctor of Philosophy in Education

Requirements for Graduate Degrees

Admission

Qualifications for admission to a program of study in education, in addition to the University requirements for admission, are:

(1) A minimum total score of 1000 on the combined quantitative and verbal sections of the Graduate Record Examination. (Note: The Miller Analogies and Doppelt Mathematical Reasoning Test may be substituted for the Graduate Record Examination; minimum scores are 48 and 19 respectively.)

(2) Acceptance in a particular specialization is dependent upon the availability of openings in that field; preference may be given to applicants with related backgrounds and/or experience.

Admission to an initial advanced degree program occurs simultaneously with admission to graduate standing and to the Graduate School of Education. No screening examination (other than described above) and no specific coursework are required for admission to a degree program.

Note: Applicants who do not meet the University minimum grade average and/or GRE score requirements may be admitted to the school on the basis of relevant work 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 Graduate Admissions.

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.

Major Fields or Subdisciplines

Area I — Social and Philosophical Studies in Education

Comparative and International Education — 204A, 204B, 204C, 204D, 204E, 204F, 253A, 253B, 253C, 253D, 253E, 253F, 253G, 253H

Education and the Social Sciences — M108, 200B, 200C, 203, 207, 208A, 208B, M229A-M229B, 252A, 252B, 275, M281A-M281B-M281C

Philosophy and History of Education — 200A, 201B, M201C, 206A, 206B, 206C, 206D, 206E, 250A, 251A, 251C, 251D, 251E

Area II — Educational Psychology

Counseling — 213A, 213B, 213C, 214A, 214B, 214D, 216, 257, 413A-413B-413C, 415A, 415B

Early Childhood Development — 217A, 217B, M217C, 217D, 217F, 256B, 261A, 421A, 421C, 421D

Learning and Instruction — 113, 205, 212A, 212B, 212C, M215, 236, 237, 256A, 258A, 258B, 267, 418, 419A, 419B, 433A, 433B

Research Methods and Evaluation — 210A, 210B, 210C, 210D, 211A, 211B, 211C, 218A, 218B, 218C, 219, 221, M222A, 222B, 222C, 228, 230, 255, 411A, 411B, 411C, 460

Special Education — 125A, 125B, 225A, 225B, 226, 227A, 227B, 227C, 280A, 280B, 325A, 325B, 425, 501

Area III — Organizational and Administrative Studies in Education

Administrative and Policy Studies in Education — 240A, 241, 242, 244, 246A, 440C, 442B, 443, 444A, 444B, 447, 448A, 448B, 470A, 470B

Curriculum and the Study of Schooling — 220A, 220B, 223, 224, 260, 261C, 262A, 262B, 262F, 262J, 420A, 420D, 422, 423, 424A, 424B, 424C, 424G, 437A

Education and Work — 214C, M231, 232, 233, 234, 235, 248, 261E, 262G, 262I, 337A, 337B, 437B

Higher Education — M148, 180, M197, 209A, 209B, 209C, 209D, 238, 239, 249A, 249B, 259A, 259B, 261D, 261F, 334, 430, 431A, 431B, 431C, 432, 461A, 461B, 461C

Teacher Education

100A, 100B, M102, 112, 264, 312, 315A-315B, 316A-316B, 318A-318B, 320A-320B, 324A, 324B, 324C, 324D, 330A, 330B, 330C, 330D, 360, 481, 489, 490A, 491A, 492

Special Studies

199, 299A-299B-299C, 375, 498A-498B-498C, 499A-499B-499C, 596, 597, 598, 599

Fields of specialization which may be selected in completion of the specific degree programs are indicated below. Contact the Office of Student Services about faculty member(s) to be consulted with respect to enrollment and research opportunities and/or course sequencing in each field of specialization.

Master of Education — Administrative and policy studies in education; bilingual/cross-cultural education; curriculum and the study of schooling; teacher education.

Master of Arts in Education — Area I (education and the social sciences; philosophy of education); Area II (all specializations); Area III (education and work; higher education).

Doctor of Education — Area II (all specializations, except counseling); Area III (all specializations).

Note: No specializations in Area I are approved for major study in the Doctor of Education degree program. Since the Ed.D. program is oriented toward key concepts and issues in education, study will include specialized content in the selected field of specialization, as well as content from related specializations.

Doctor of Philosophy in Education — Areas I, II, III (all specializations).

Master of Education

The Master of Education degree is a *professional* master's degree designed for individuals preparing for a mid-level professional position in schooling or for advanced graduate study; it is the appropriate degree to provide professional foundation study in preparation for the Ed.D. program.

Admission

Requirements applicable in accordance with selected specializations:

(1) *Administrative and Policy Studies in Education:* Possession of a valid teaching credential is preferred. Students with a demonstrated commitment to improving American schooling will be 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.

(3) *Curriculum and the Study of Schooling:* Persons with above-average capabilities and interest in curriculum and instruction will be sought. Experience as a practitioner in the specialization field is advantageous.

Course Requirements

A minimum of nine upper division and graduate courses (36 units) is required, although no specific upper division courses are necessary. At least five courses (20 units) must be in the professional education (400) series. No 500-series courses may be applied toward the degree. Education 597 may be taken on an optional basis.

Information regarding specific course requirements in a selected M.Ed. specialization may be obtained from the Office of Student Services.

Teaching Experience

For some M.Ed. specializations, teaching experience is required. Specific information may be obtained from the Office of Student Services.

Comprehensive Examination Plan

There is no thesis plan offered in this program. Comprehensive examinations for master's degrees are offered twice yearly, once in Fall Quarter and once in Spring Quarter. They consist of:

(1) A comprehensive written examination designed to assess (a) comprehension of the professional knowledge basic to the selected field of specialization, including key concepts and principles, major theoretical positions, and fundamental issues and (b) understanding of the broad educational context in which the selected professional field resides.

(2) A performance examination designed to assess your competency in the solution of problems in the selected professional field; a test of whether knowledge can be applied in a real or simulated professional setting.

Information regarding examination foci for any selected M.Ed. specialization is available from your academic adviser.

The comprehensive examination may be taken twice. After a second failure, you will be allowed to continue in the Graduate School of Education only in highly unusual circumstances.

Master of Arts in Education

The Master of Arts degree in Education is an *academic* master's degree 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) is required, although no specific upper division courses are necessary. Six courses (24 units) must be taken in the Education 200/500 series. A maximum of two 500-series courses (eight units) may be applied toward the divisional course minimum and toward the graduate course minimum.

Two courses must be selected from Education 200A, 200B, 210A, 210B. Additional courses to complete the 36-unit requirement may be selected from offerings in Education and/or other departments upon consent of your adviser.

Thesis Plan

Under this plan, you will 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 school and the chair of your thesis committee.

The thesis committee must be formed and a Petition for Advancement to Candidacy for the Master of Arts must be filed no later than one quarter prior to completion of course requirements for the degree.

The Manuscript Adviser for Theses and Dissertations and the Graduate Division publication, *Regulations for Thesis and Dissertation Preparation,* provide guidance in the final preparation of the manuscript. The department does not require a formal examination in connection with the thesis plan.

Comprehensive Examination Plan

The comprehensive examination is concerned with central topics in the selected major area of study and field of specialization. Questions are comprehensive in nature and are designed to

measure the breadth and depth of knowledge, as well as ability to focus that knowledge on specific problems.

The comprehensive examination, offered twice yearly in Fall and Spring Quarters, may be taken twice. After a second failure, you will be allowed to continue in the Graduate School of Education only in highly unusual circumstances.

Doctor of Education

The Doctor of Education degree is a *professional* degree 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 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

The following items are required:

(1) Major specialization study and additional coursework as specified by your adviser.

(2) An approved minor sequence consisting of a minimum of three courses in a specialization other than the major field.

(3) A mininum of three courses beyond the baccalaureate degree in research methods or formal processes of inquiry. Such courses may be taken within or outside the Department of Education, but must be approved as acceptable for the research methods requirement; at least two courses must be completed at this University.

(4) A minimum of one approved breadth course, including a final examination, in each of three specified breadth categories. Breadth courses must be outside both major specialization and minor.

(5) A field experience minimally approximating a one-course requirement.

Qualifying Examinations

After all coursework is completed (or when you have no more than one required course and one practicum in progress), you must complete the following qualifying examinations:

(1) A written examination in the specialization concerned with key concepts and issues in the profession, which will draw from specialized content as well as from content of related specialization study. The examination is offered twice yearly, once in Fall Quarter and once in Spring Quarter, and may be taken a maximum of two times. After a second failure, you will be allowed to continue in the Graduate School of Education only in highly unusual circumstances.

(2) A professional competency performance examination, including demonstration of technical and artistic skills (e.g., may utilize simulated school setting or actual field setting to assess skills in decision making, interaction, information gathering, problem solving).

(3) After you have completed all courses and professional experiences which are part of the program of study, the University Oral Qualifying Examination is conducted by the doctoral committee, employing topics from education which are related to the research proposal. In case of failure, the examination may be repeated once at the recommendation of the doctoral committee.

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 degree in Education is an *academic* degree 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 a cognate field.

Admission

A master's degree or equivalent in either education or the cognate field in which you plan to work is required.

Foreign Language Requirement

There is a foreign language requirement for the Ph.D. in some specializations. Detailed information is available from the graduate adviser in the Office of Student Services.

Course Requirements

The following items are required:

(1) Major specialization study and additional coursework as specified by your adviser.

(2) An approved minor sequence consisting of a minimum of three courses in a specialization other than the major field.

(3) A minimum of three courses beyond the baccalaureate degree in research methods or formal processes of inquiry. Such courses may be taken within or outside the Department of Education, but must be approved as acceptable for the research methods requirement; at least two courses must be completed at this University.

(4) A minimum of one approved breadth course, including a final examination, in each of three specified breadth categories. Breadth courses must be outside both major specialization and minor.

(5) A coherent program of at least five graduate courses (or equivalent) in an approved UCLA cognate department. The five courses will be determined by you and your academic adviser. (Note: Cognate courses in addition to the stated minimum may be required by your adviser.)

(6) A research internship minimally approximating a one-course requirement.

Qualifying Examinations

After all required coursework is completed (or when you have no more than one required course and one practicum in progress), you must complete the following written qualifying examinations:

(1) A written major examination focusing on content derived from the major field of specialization.

(2) A written minor examination focusing on minor field content.

All courses and professional experiences which are part of the program of study must be completed before taking the University Oral Qualifying Examination. The examination is conducted by the doctoral committee employing topics from both education and the cognate discipline which are related to the research proposal.

Note: For a doctoral degree, research methodology, breadth, and Ph.D. cognate field examinations will be those given in connection with individual courses.

For further information on the written and oral qualifying examinations, see the appropriate section under the Doctor of Education degree.

Final Oral Examination

At the option of the certifying members of the doctoral committee, a final oral examination may be required.

Joint Ph.D. Program in Special Education

A joint Ph.D. program in Special Education is offered by UCLA and California State University, Los Angeles. The goals of the joint program are (1) the stimulation and preparation of research workers of high competence in the various fields of special education; (2) improved preparation for potential teachers of exceptional individuals; and (3) improved preparation of personnel for research and in policy formation in the public schools of California. Students seeking information regarding emphases and requirements should consult the joint doctoral adviser at UCLA (126B Moore Hall) or the Chair of the Department of Special Education at CSULA.

Cooperative Degree Programs

For details regarding either of these cooperative degree programs, students should 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 will be awarded both degrees upon its completion.

M.A.-Latin American Studies/ M.Ed.

The Graduate School of Education and the Latin American Studies Program offer an articulated degree program which allows students to combine study for the M.A. in Latin American Studies and the M.Ed., with a specialization in curriculum. Articulated programs do not allow credit to be applied toward more than one degree.

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 Teaching Credential, (2) the Single Subject Teaching Credential, (3) the Bilingual Emphasis Teaching Credential, (4) the Administrative Services Credential, (5) the Pupil Personnel Services Credential, and (6) the School Psychologist Services Credential, which will not be available in 1983-84.

Upper Division Courses

100A. Cultural Foundations of Education (½ course). Prerequisite: consent of instructor. Analysis of significant problems and issues in contemporary American education using historical, philosophical, sociological, and organizational perspectives. Examines the politics of schooling, the organizational structure of school systems, and philosophical concepts of the aims and functions of schooling and education.

100B. Cross-Cultural Foundations of Education (½ course). Prerequisite: consent of instructor. Analysis of significant problems and issues in the history, culture, and current affairs of particular ethnic minority groups in the United States. Patterns of intergroup and school-community relations and methods for teaching minority students. Includes field experiences.

M102. The Mexican-American and the Schools. (Formerly numbered 102.) (Same as Chicano Studies M102.) Prerequisite: consent of instructor. Review of research and teaching strategies. Analysis of school policies and practices and their effect on the development of Mexican-American and Chicano youth and communities. Mr. Gonzalez

M108. Sociology of Education. (Same as Sociology M143.) Prerequisite: Sociology 1 or 101. Study of social processes and interaction patterns in educational organizations; the relationship of such organizations to aspects of society, social class, and power; social relations within the school, college, and university; formal and informal groups, subcultures in educational systems; roles of teachers, students, and administrators.
Mr. O'Shea, Mr. Rabow, Ms. Wrigley

112. Psychological Foundations of Education. Prerequisite: consent of instructor. Analysis of learning processes in school situations. Examines 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.

113. Instructional Psychology. Major psychological approaches to teaching. Processes of learning and motivation in the instructional setting. The psychology of teaching methods. Issues in the design and evaluation of instruction. Mr. Keislar

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 and the learning characteristics of exceptional individuals and application of research and theory to special education problems. Mr. Hewett

125B. Principles for Teaching Exceptional Individuals. Prerequisite: consent of instructor. Examines approaches for teaching exceptional individuals in special and regular education programs. Principles and assumptions underlying alternative approaches. 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 course examines the education and career development of women in higher education. Specifically, it focuses 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. Focusing on institutional characteristics and students' interpersonal and intrapersonal processes, special emphasis is upon identifying and explaining the effects of the college experience upon student development and achievement.
Mr. Trent

M197. Senior Seminar in Women's Studies. (Same as Women's Studies M197). Discussion, three hours; laboratory, one hour. Prerequisites: Women's Studies 100 plus two other women's studies courses; for seniors and juniors: consent of instructor. Designed for students completing work in women's studies. Each student pursues research on a specific topic concerning women, explores frameworks for understanding female experience (biological, economic, historical, and psychological), and refines methods for research. Fulfills social science or humanities breadth requirement. Ms. Astin, Ms. Henley

199. Special Studies (½ to 2 courses). Prerequisites: senior standing and 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 report 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 nonexperimental and quasi-experimental quantitative and qualitative data. Mr. O'Shea

200C. Analysis of Survey Data in Education. Lecture, three hours; laboratory, two hours. Prerequisite: course 200B. Introduction to techniques of processing and analyzing nonexperimental and quasi-experimental quantitative data. Mr. O'Shea

201B. History of American Education to 1860. Development of American education from the 17th century to the Civil War. The emergence of the public school system in the context of social, intellectual, and political change. Mr. S. Cohen

M201C. History of American Education. (Same as History M264.) The aim is to depict the social forces impinging on American education from the 1860s to the present and to analyze the relation between these social forces and the philosophy, curriculum, structural organization, and functions of education at all levels. Mr. S. Cohen

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. Mr. LaBelle

204A. Topics and Issues in International and Comparative Education. Analysis of basic topics and issues in comparative and international education. Emphasis is placed on those topics and issues that cut across national boundaries and are at the forefront of educational policy and practice in both developed and developing nations.
Mr. Hawkins, Mr. LaBelle, Mr. Rust

204B. Introduction to Comparative Education. An examination of conceptual and methodological questions underlying comparative education. Particular attention is given to the development of the field and to styles of social analysis which may be applied to comparative and cross-national studies in education.
Mr. Hawkins, Mr. LaBelle, Mr. Rust

204C. Education and National Development. Application of social science perspectives and methodologies to education in the international context. Emphasis on relevant research literature and development processes and strategies for international development education, with concentration on so-called less developed countries.
Mr. Hawkins and the Staff

204D. Minority Education in Cross-Cultural Perspective. Historical and contemporary analyses of educational policies with regard to ethnic, religious, and linguistic minorities through selected national and international case studies. Introduction to cross-cultural education in representative countries in relation to social, political, and economic systems.
Mr. Hawkins, Mr. LaBelle

204E. International Efforts in Education. Analysis of problems and concepts related to diffusion, borrowing, and adaptation across cultural and national boundaries. Activities of bilateral and multilateral agencies in promoting international education are examined, as well as conceptual and practical curricular efforts which intend to increase international understanding. Mr. Hawkins and the Staff

204F. Nonformal Education in Comparative Perspective. A comparative and international study of organized and systematic educational activity for children, youth, and adults carried on outside of schools. Types of programs include, among others, consciousness raising, community action, skills training, literacy, and extension programs.
Mr. Hawkins, Mr. LaBelle, 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), computer-managed instruction (CMI), and the use of computers by educational administrators for scheduling, student records, and student performance assessment.

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. Weinberg

206B. Philosophy of Education: Existentialism and Humanism. Examination of existentialist ideas and their application in contemporary humanistic movements in school and society.
Mr. Ellett, Mr. Weinberg

206C. Philosophy of Education: Logic and Language. Conceptual analysis of recurrent and contemporary themes in the field. Emphasis is on the development of logical and linguistic skills used in the analysis of educational problems and issues.
Mr. Ellett, Mr. Weinberg

206D. Philosophy of Education: Ethics and Values. A study of ethics and value theory in teaching and learning, educational organization and policy, and curriculum design and validation. Mr. Ellett

206E. Philosophy of Education: Introduction to Humanism in Education. Examines the philosophical foundations of humanism and their relationships to educational theory and practice. Mr. Weinberg

207. Politics and Education. Course explores the political dimensions of both formal and nonformal educational enterprises in a national and international perspective. Political theory will be 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. Designed to introduce students to sociological perspectives on current issues in educational policy and practice. Issues include desegregation, decentralization, equality of educational opportunity, structure of educational organization, teacher-student relationships, reform in education at the elementary, secondary, postsecondary levels.
Mr. Gordon, Mr. O'Shea, Ms. Wrigley

208B. Issues in Education: Sociological Perspectives. Prerequisite: course 208A or equivalent. Exploration of educational issues and the structure and processes of formal schooling, from sociological perspectives such as functionalism, conflict theory, symbolic interactionism, ethnomethodology, and critical sociology. Mr. O'Shea

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. A. Cohen

209B. Issues in Higher Education. Identification, analysis, and discussion of current issues, innovations, trends, and policies in postsecondary education. Ms. Astin, Mr. A. Cohen, Mr. Kintzer

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 is given to the structure of the system and to 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. The language of research. Basic statistical concepts. Planning of research. Interpretation of research outcomes. Introduction to descriptive statistics: mean, median, mode, variance. Introduction to normal curve. It is strongly recommended that all students have this background as a minimum.
Mr. Levine, Mr. Skager, and the Staff

210B. Experimental Design in Educational Research. Prerequisite: prior knowledge of descriptive statistics. Inference. Randomization test or t-test. Normal curve tests. Analysis of variance: one way and factorial designs. Internal and external threats to the validity of research conclusions.
Mr. Shavelson, Mr. Skager, 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

210D. Experimental Design: Multivariate Analysis. Prerequisite: course 210C or equivalent. Review of multiple regression analysis, analysis of covariance. Introduction to matrix algebra. Introduction to multivariate normal distribution. Multivariate analysis of variance. Linear discriminant function. Analysis of repeated measurements. Canonical correlation. Principal components. Ms. Webb

211A. The Measurement of Educational Achievement and Aptitude. Prerequisite: course 210A. A critical study of tests of achievement and aptitude, with an emphasis on group tests; the relation of achievement to aptitude; social implications of the measurement of intelligence; elements of validity and reliability. Mr. Popham, Mr. Skager

211B. Measurement in Education: Underlying Theory. Prerequisite: course 211A. Measurement theory as applied to testing, focusing primarily on classical test theory; implications of theories 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 and 211B, or equivalent. Generalizability theory and other statistical theories of mental test scores; implications for the design and interpretation of generalizability and decision studies; advanced topics in validity.
Mr. Burstein, Mr. Shavelson, Ms. Webb

212A. Learning and Education. Models of learning, modeling, reinforcement, motivation, encoding, memory, transfer, individual differences, and instruction. Mr. Silberman, Mr. Wittrock

212B. Motivation and Affect in the Educative Process. Prerequisites: courses 210A and 212A. A review of the theoretical and empirical literature on motivational factors in school settings and the conditions for the acquisition of affective outcomes.
Mr. Keislar

212C. Cognition and Creativity in Education. Prerequisite: course 212B. A review of the theoretical and empirical literature on cognitive processes in school learning, including concept learning, problem solving, learning to learn, and creativity.
Mr. Wittrock

213A. Fundamentals of Student Personnel Work. Prerequisite: graduate standing or consent of instructor. Analysis and in-class application of student and pupil personnel service methods, with emphasis on task groups and evaluation.
Mr. Healy, Mr. Sorenson

213B. Legal and Ethical Bases of Student Personnel Work. Prerequisite: course 213A. Ethical and legal codes relevant to pupil personnel services; relation of value systems and personality; case studies in the implications of personal values in counseling situations. Mr. Berry, Mr. Sorenson

213C. Group Process in Education. Group productivity, leadership, social perception and attitude formation, decision making, determination of group interaction variables, and the effect of behavior changes in individuals and groups.
Mr. Berry, 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 leisure time.
Mr. Sorenson

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. 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 post-industrial society.
Mr. Healy

214D. Vocational Guidance. Depth study of current interests and needs in vocational guidance; principles, problems, and practices of vocational guidance.
Mr. Berry, Mr. Healy

M215. Personality, Motivation, and Attribution. (Same as Psychology M239.) Examines current research and theory relating personality variables (e.g., attributional styles, self-esteem) to motivational concerns such as persistence and intensity of behavior. Perceived causes of outcomes in achievement and affiliative domains also are stressed.

216. Counseling Models from a Cross-Cultural Perspective. Prerequisites: course 213A or 211A and consent of instructor. Research related to the psychological, educational, and sociological characteristics of counseling clients within a cross-cultural perspective, and the implications for counseling models. Evaluation of counseling practices through an analysis of school, community, and mental health settings will be systematically covered. Mr. Berry

217A. Social Development and Education. Biological and familial, school, and other influences on the child; development in the context of current research and theoretical models; consideration of theoretical and methodological research on family, peer group, and school; application of developmental theory and research to educational practice.
Ms. Feshbach, Ms. Howes

217B. Cognitive Development and Education. Theories of cognitive development, including Piaget, and learning theories; application of cognitive developmental theory to educational practice, preschool through high school. Ms. Stipek

M217C. Personality Development and Education. (Same as Psychology M245.) A review of research and theory of critical content areas in personality development that bear upon school performance: self-concept, aggression, sex differences, empathy, and other social behaviors; review of the status of emotional behavior in personality theory and development. Ms. Feshbach, Ms. Stipek

217D. Language Development and Education. Research and theory on how children develop their first language; sociolinguistic and psycholinguistic issues in preschool and primary years; bilingual and dialectical issues. Ms. Dorr

217F. Human Development and the Educational Process. Learning and cognitive-developmental theories of human development and learning; cultural, family, and schooling influences on human development; application of developmental theory and research to educational practice.
Mr. Howes, Ms. Stipek

218A. Multiple Regression Analysis. Prerequisite: course 210B. Regression-based techniques for analyzing quantitative data; multiple regression methods, multiple correlation, partial correlation; introduction to the general linear model, with direct application to educational inquiry.
Mr. Burstein, Ms. Webb

218B. Quasi-Experimental Models in Educational Research. Prerequisites: course 218A or equivalent and consent of instructor. Study of the assumptions and limitations inherent in quasi-experimental research designs. The time-series intervention design will be stressed. Students will be able to design an appropriate quasi-experiment to assess the impact of a particular educational intervention.
Mr. Burstein

218C. Causal Models in Nonexperimental Research. Prerequisites: course 218A or equivalent and consent of instructor. Study of the inferential bases for the construction and validation of causal models in settings where true experiments are not appropriate. Statistical models from sociology, biology, and econometrics will be discussed. Assumptions and limitations of these models will be stressed.
Mr. Burstein and the Staff

219. Laboratory: Advanced Topics in Research Methodology. Provides assistance in 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. Mr. Burstein, Mr. Shavelson, 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, Mr. Goodlad, Ms. Tyler

220B. Inquiry into Schooling: Curricular Problems. Inquiry into the curriculum of schooling. Critical analysis of the relationship of curricular decision making to social system and contextual variables.
Ms. Crabtree, Mr. Goodlad, Ms. Tyler

221. Computer Analyses of Empirical Data in Education. Lecture, two hours; laboratory, two hours. Prerequisite: course 210A or equivalent. A course 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 is given to techniques of data analysis and interpretation of results. Mr. Astin

M222A. A Laboratory for Naturalistic Observations: Developing Skills and Techniques. (Formerly numbered M222.) (Same as Anthropology M236Q and Psychiatry M235.) Lecture, three hours. Prerequisite: consent of instructor. The skill of observing and recording behavior in natural settings will be taught, emphasizing field training and practice in observing behavior. Some of the uses of observations and their implications for research in the social sciences will also be discussed. Students will be expected to integrate observational work into their current research interests. May be repeated for credit.
Mr. Gallimore, Mr. Turner (W)

222B. Design Issues in Naturalistic Research. Prerequisite: course M222A or consent of instructor. Issues in the 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.
Mr. Levine

222C. Qualitative Data Reduction and Analysis. Prerequisite: course M222A or 222B 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 process-product statements, and specific analytic perspectives. Interfacing qualitative and quantitative data is also emphasized.
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 in schooling contexts. Mr. Weinberg

224. Problems and Issues in Bilingual and Multicultural Education. Introduction to the development and implementation of bilingual and multicultural programs in the U.S. Analysis of program goals, models, typologies, and effectiveness. Ms. 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.

225B. Advanced Issues in the Education of Exceptional Individuals. Prerequisite: consent of instructor. Provides a synthesis of developmental and educational theory relevant to the study of exceptional individuals. The course also includes 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 education of individuals with learning handicaps, with emphasis on assessment and instructional modifications.

227A. Research on the Learning Characteristics of Exceptional Individuals. Prerequisite: course 225B. An overview of research and theory regarding learning characteristics of exceptional individuals and discussion of the application of this work to educational practice. Ms. Krupski

227B. Research on the Cognitive and Language Characteristics of Exceptional Individuals. Prerequisite: course 227A. Review of the empirical and theoretical literature regarding the language and cognitive development of exceptional individuals; focus on intervention programs developing language and cognition.

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. Methodology of Longitudinal Studies. Lecture, two hours; discussion, two hours. Prerequisites: course 210A or equivalent and consent of instructor. The course will examine some of the nonstatistical methodological issues in conducting longitudinal studies and interpreting their results. A central focus will be questions related to data interpretation. The range of questions that might be answered and conclusions that might be drawn which are specifically related to influences on children's development will also be considered. Mr. Blurton Jones

M229A-M229B. Seminar in Behavioral Biology. (Same as Anthropology M228A-M228B, Biology M252A-M252B, Physiology M252A-M252B, Psychiatry M291A-M291B, and Psychology M230A-M230B.) Discussion, six hours. Prerequisite: consent of instructor. Basic seminar for graduates interested in behavioral biology. An interdisciplinary course dealing with behavioral research in anthropology, biology, psychology, and the medical sciences. Proximate causation, development, and evolution in animal behavior. Physiology and the organization of behavior. Vertebrate social organization. Animal communication. The application of natural selection theory to human social behavior. In Progress grading.

230. Criterion-Referenced Measurement. (Formerly numbered 410.) An introduction to the field of criterion-referenced measurement insofar as this assessment strategy applies to research, development, and evaluation. Ms. Baker, Mr. Popham

M231. The Structure of Occupations. (Same as Sociology M231.) Lecture, two hours; discussion, two hours. Will explore 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. Industrialism, Work, and Education. Study of the relationship between education and the making of a working class in the new urban industrial America, 1860 to the present. Mr. S. Cohen

233. American Values in the Development of Vocational Education. Course traces social values that supported early vocational education, reviews relevant research, and analyzes potential future directions for vocational education. Mr. Wilms

234. Education and Social Stratification. Addresses the relationship between education and components of social stratification, including occupations and earnings. Explores competing theories used in studying education and social stratification and analyzes relevant research. Conclusions are drawn 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. Human Abilities. Prerequisite: course 210B or equivalent. The nature, development, and measurement of intellectual abilities and their relations to learning and instruction. Review of research and theory of models of ability and test development.
Ms. Webb

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, computers, and audiovisual media, in and out of school. Role of research in development of such materials.
Ms. Baker, Ms. Dorr

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, precollegiate and postsecondary, are most appropriately studied as complex, professionalized organizations. This course provides a basic understanding of the characteristics of educational institutions and systems as organizations: environmental relations, governance structures and processes, and patterns of decision making.

240A. School Administrative Practices Since 1900. An examination of school administration since 1900 as it has responded to social, political, and economic pressures exerted on schools. Development of sensitivity to current pressures and alternatives for administrative response. Mr. Williams

241. Research Methodology in School Administration. Prerequisite: consent of instructor. Examination of research problems and strategies in school administration. Mr. Williams

242. Economic Analysis for Educational Policy and Planning. (Formerly numbered 242F.) Prerequisite: graduate standing. The applications of economics-based methodologies for analysis of issues in educational policy and planning. Techniques addressing educational problems of organization of activities, classification, prediction, optimization, goal setting, and measuring inequalities are discussed.
Mr. Bruno

244. Economics of Education. An introductory course in microeconomic and macroeconomic techniques applied to education. Methodologies such as marginal analysis, linear programming, Leontief I-O models, and Lorenz curve analysis are discussed, with application to school finance, underdeveloped countries, equality of educational opportunity, and credentialing. Mr. Bruno, Mr. Solmon

246A. Seminar: Mathematical Modeling in Educational Policy Analysis. Prerequisite: course 242, two years of college-level mathematics, knowledge of computer programming, or consent of instructor. Mathematical modeling of educational processes and problems. Deterministic modeling techniques, in addition to stochastic modeling techniques, are discussed. A mathematics review and instruction in the use of the MPS 360 (Mathematical Programming Code) are provided. Mr. Bruno

246. 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 are drawn among the major proponents of lifelong learning, and implications for schooling are considered.

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 Evalustion. 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

250A. Seminar: History of Education. Selected topics in the history of education: discussion, research, and writing. Mr. S. Cohen

251A. Seminar: Philosophy of Education, Epistemology. Prerequisite: consent of instructor. Mr. Weinberg

251C. Seminar: Philosophy of Education, Behavioral Science Problems — Mathodological Perspectives. Prerequisite: course 206C or consent of instructor. Mr. Ellett, Mr. Weinberg

251D. Seminar: Philosophy of Education, Problems in Ethics and Values. Prerequisite: course 206D or consent of instructor. Mr. Ellett

251E. Seminar: Philosophy of Education, Selected Issues.

252A. Seminar: Educational Organizations. Prerequisite: course 208A or consent of instructor. Mr. Gordon, Mr. O'Shea, Ms. Wrigley

252B. Seminar: Education and Social Change. Prerequisite: course 208A or consent of instructor. Mr. LaBelle, 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. Mr. LaBelle

253E. Seminar: European Education. Mr. Rust

253F. Seminar: Education in Revolutionary Societies. A multidisciplinary and comparative study of socialist educational theory is examined through the writings of Marx, Lenin, Mao, and others. The implementation of this theory in specific case studies along with comparative assessments of nonsocialist nations will be explored. Mr. Hawkins, Mr. LaBelle, Mr. Rust

253G. Seminar: The Asian American and Education. Basic issues and topics related to Asian Americans in the field of education. Examples of these issues and topics are Asian Americans and the community, socioeconomic status, the education-to-work transition, the language and culture question. Mr. Hawkins

253H. Seminar: The Chicano/Hispanic and Education. Basic issues and topics related to the Chicano and other Hispanic groups in education. Reviews literature on specific educational levels and Chicano/Hispanic student progress (e.g., early childhood, elementary, higher education; specific topics: assessment, access, tracking, segregation; implications for schooling).

255. Seminar: Special Topics in Measurement and Research Design. Prerequisites: courses 210C and 211C, or consent of instructor. Mr. Burstein, Mr. Skager, Ms. Webb

256A. Seminar: Special Topics in School Learning. Prerequisite: consent of instructor. Mr. Keislar, Mr. Wittrock

256B. Seminar: Special Topics in Development. Prerequisite: consent of instructor.

257. Seminar: Pupil Personnel Services. Prerequisite: consent of instructor. Mr. Berry, Mr. Healy, Ms. Tidwell

258A. Seminar: Problems in Instructional Research. Mr. Keislar, Mr. Wittrock

258B. Seminar: Problems in Instructional Development. Ms. Baker, Mr. Keislar

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. Goodlad, Mr. McNeil, Ms. Tyler

261A. Seminar: Early Childhood Education. Prerequisite: course 421A.

261C. Seminar: Secondary Education. Mr. McNeil, Mr. Silberman

261D. Seminar: The Community College. Mr. A. Cohen, Mr. Kintzer

261E. Seminar: Education and Work. Mr. Silberman and the Staff

261F. Seminar: Higher Educstion. Mr. Kintzer, Mr. Trent

262A. Seminar: The Social Studies. Ms. Crabtree

262B. Seminar: Reading. Mr. McNeil

262F. Seminar: Research Topics in Bilingual/Multicultural Education. Prerequisite: consent of instructor. Ms. Valadez

262G. Seminar: Business Education. Mr. Erickson

262I. Seminar: Contemporary Issues in Education and Work. Mr. Wilms

262J. Seminar: Economic Education. Ms. Kourilsky

264. Seminar: Teacher Education. Prerequisite: consent of instructor. Examines research, issues, and practices in pre-service and in-service teacher preparation, evaluation, and certification. Social, philosophical, and methodological issues and current trends in America and abroad are studied. Opportunities to observe, participate in, and discuss teacher education programs are provided. Mr. Keislar

267. Seminar: Educational Technology. Prerequisite: course 433A. Recommended: course 433B. Ms. Baker, Mr. Silberman

275. Seminar: School Desegregation. Prerequisite: consent of instructor. Analysis of the social/political response to desegregation programs in Northern and Southern school districts; review of court decisions and development of legal policy on school desegregation. Consideration of effects of integration on school achievement and interracial attitudes. Ms. Wrigley

280A. Seminar: Selected Topics in Special Education (½ course). Prerequisite: consent of instructor.

280B. Seminar: Exceptional Individuals. Prerequisite: doctoral standing.

M281A-M281B-M281C. Seminar: Selected Topics in Human Ethology. (Same as Anthropology M229A-M229B-M229C and Psychiatry M279A-279B-279C.) Ethologists now use successful animal behavior methodology to study human behavior. When is this appropriate, how can it contribute? Each quarter will cover one level of analysis: describing and recording behavior; causation; development, especially longitudinal studies; adaptation; evolutionary origins. Mr. Blurton Jones (F,W,Sp)

299A-299B-299C. Research Practicum in Education (1 to 2 courses each). May be repeated for credit.

312. Basic Principles of Curriculum and Instruction. Prerequisite: consent of instructor. Analysis and practice of basic principles and concepts for planning, conducting, and evaluating units of curriculum and instruction. Emphasis on the study and utilization of a variety of instructional strategies and their application in elementary and secondary schools.

315A-315B. Principles and Methods for Teaching Reading for Multiple Subject Instruction (½ course 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. Ms. Kourilsky

316A-316B. Principles and Methods for Teaching Reading for Single Subject Instruction (½ course each). Prerequisite: consent of instructor. Course 316A is prerequisite to 316B. Reading instruction in the secondary school. Analysis of reading problems and programs; study of relationships between language/culture/cognition and reading. Examination and development of instructional programs; analysis and practice of alternative instructional methods. Observation and participation in schools. Ms. Kourilsky

318A-318B. Principles and Methods for Multiple Subject Instruction (½ course 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. Ms. Kourilsky

320A-320B. Principles and Methods for Single Subject Instruction (½ course each). Prerequisite: consent of instructor. Course 320A is prerequisite to 320B. Examination and development of instructional programs; analysis and practice of alternative instructional methods. Focus on subjects commonly taught in secondary schools. Observation and participation in schools. Ms. Kourilsky

324A. Observation and Participation: Multiple Subject Instruction (½ to 1½ courses). 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. Kourilsky

324B. Supervised Teaching: Multiple Subject Instruction (½ to 1½ courses). Prerequisites: course 324A and consent of instructor. Practice teaching under the daily supervision of a teacher in a classroom in which multiple subjects are taught, normally in an elementary school. S/U grading. Ms. Kourilsky

324C. Supervised Teaching: Multiple Subject Instruction (½ to 1½ courses). Prerequisites: course 324B and consent of instructor. Advanced practice teaching under the daily supervision of a teacher in a classroom in which multiple subjects are taught, normally in an elementary school. S/U grading. Ms. Kourilsky

324D. Supervised Teaching: Multiple Subject Instruction (½ to 1½ courses). Prerequisites: course 324C and consent of instructor. Advanced practice teaching under the daily supervision of a teacher in a classroom in which multiple subjects are taught, normally in an elementary school. S/U grading. Ms. Kourilsky

325A. Laboratory in the Education of Exceptional Individuals. Prerequisite: course 125A or consent of instructor. Six to eight hours per week of fieldwork in the UCLA Neuropsychiatric Institute School, other campus facilities, or public school special education programs.

325B. Advanced Laboratory in the Education of Exceptional Individuals. Prerequisite: course 325A. Six to eight hours per week of fieldwork in the UCLA Neuropsychiatric Institute School, other campus facilities, or public school special education programs.

330A. Observation and Participation: Single Subject Instruction (½ to 1½ courses). Prerequisite: consent of instructor. Six hours per week of observation and participation in classrooms in which single subjects are taught, normally in secondary schools. Preparation for supervised teaching. S/U grading. Ms. Kourilsky

330B. Supervised Teaching: Single Subject Instruction (½ to 1½ courses). Prerequisites: course 330A and consent of instructor. Practice teaching under the daily supervision of a teacher in a classroom in which a single subject is taught, normally in a secondary school. S/U grading. Ms. Kourilsky

330C. Supervised Teaching: Single Subject Instruction (½ to 1½ courses). Prerequisites: course 330B and consent of instructor. Advanced practice teaching under the daily supervision of a teacher in a classroom in which a single subject is taught, normally in a secondary school. S/U grading. Ms. Kourilsky

330D. Supervised Teaching: Single Subject Instruction (½ to 1½ courses). Prerequisites: course 330C and consent of instructor. Advanced practice teaching under the daily supervision of a teacher in a classroom in which a single subject is taught, normally in a secondary school. S/U grading. Ms. Kourilsky

334. Supervised Teaching: Higher Education. Mr. A. Cohen

337A. The Curriculum in Business Education. The curriculum in business education in secondary schools, including instructional techniques, course content, prognosis of achievement, standards, error analyses, transfer of training, remedial techniques, and evaluation. Mr. Erickson

337B. The Teaching of Secretarial Subjects. A survey and evaluation of procedures and materials used in teaching typewriting, secretarial subjects, office practice, and business machines. Mr. Erickson

360. Teaching Clinical Practicum (½ to 1 course). Prerequisites: advanced graduate standing and consent of instructor. A professional-series course designed to develop clinical skills for the preparation of teachers. The training sequence includes a directed field assignment in the school setting. May be repeated for credit. S/U grading.

375. Teaching Apprentice Practicum (¼ to 1 course). 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.

411A. Introduction to Educational Evaluation. Ways of evaluating the effectiveness of curriculum and instruction, including assessment and improvement of teacher behavior and accomplishment. Mr. Alkin, Mr. Popham

411B. Evaluation Theory. Course will provide students with a basic understanding of prevalent evaluation theories, with various of the alternative evaluation theories currently being proposed, and with the process of theory development in educational evaluation. Mr. Alkin, Mr. Ellett

411C. Procedural Problems in Evaluation. Assessment methodologies appropriate for evaluation problems. Writing evaluation proposals, developing program monitoring procedures, selecting appropriate evaluation design strategies, coping with ethical considerations in evaluation, framing the decision context, and reporting evaluation results. Mr. Alkin, Mr. Popham

413A-413B-413C. Internship in School Psychology. Lecture, two hours; field experience, sixteen hours. Prerequisite: consent of instructor. Must be completed in three consecutive quarters; limited to students enrolled in the counseling specialization. Work experience in public schools or comparable setting performing duties of a school psychologist — psychodiagnosis, integrating case material, staffing cases, developing educational plans, working with teachers and parents, and establishing evaluative criteria. Mr. Healy, Ms. Tidwell

415A. The Appraisal of Intelligence. Prerequisites: courses 210A and 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. Mr. Healy, Ms. Tidwell

415B. Human Appraisal in School Counseling and School Psychology. Prerequisites: course 415A and 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 will also be discussed. Ms. Tidwell

418. Instructional Analysis. (Formerly numbered 420B.) Prerequisite: consent of instructor. Analysis of instructional variables as they relate to diverse types of instructional strategies. The student acquires 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 and results obtained in experiments on the development of knowledge, skills, and attitudes through audiovisual communication media and other instructional programs.

419B. Experimental Analysis of Instructional Program Variables. Lecture, two hours; laboratory, four hours. Prerequisites: courses 210A, 212A, 419A. Recommended: courses 210B, and 212B or 212C. Advanced problems of methodology and rationale in the planning and conduct of experiments on the effects of psychologically defined variables in instructional programs; theory and techniques of laboratory and field experiments on instructional media.

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

420D. 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 development series and one quarter of field placement. Introduction to programs and research in early childhood; observation of preschool programs (cooperative nurseries, Headstart, private nurseries, Montessori preschools, day-care centers); the organization and evaluation of educational research and its relation to goals of early childhood education.

421C. Research and Evaluation of Early Childhood Programs. Prerequisite: course 421A or equivalent or consent of instructor. Critical review and evaluation of the various preventive and remedial programs for the young child; analysis of relevant research findings and methodological issues, with a focus on early childhood education programs.

421D. Parents and Community Agents in Childhood Development. Prerequisites: two courses from the development series and one course from early childhood education, or equivalent. A critical review of the theoretical basis and effectiveness of training programs for parents of young and elementary school-aged children; the relation of preschool parent programs to family development and the role of the programs in the community. Ms. Feshbach

422. Inquiry into Schooling: Basic Issues. Critical examination of basic issues and problems in the organization and reconstruction of precollegiate schooling. Consideration of historical development and changing functions of schooling in American society; school organization; schooling alternatives; problems in the management of educational change. Mr. Goodlad, Mr. McNeil, Ms. Tyler

423. The Humanistic Curriculum. A consideration of the philosophical and cultural foundations of humanistic curricular strategies. Reviews techniques and procedures of affective education with a view to their place in an overall theory of teaching and learning. Mr. Weinberg

424A. The Social Studies in the Curriculum. Advanced study in social studies curriculum development; problems in defining objectives and organizing single and multidisciplinary programs; critical review of literature on cognitive and affective learning in social science, with emphasis on experimental study of instructional programs. Ms. Crabtree

424B. Reading in the Curriculum. Prerequisite: course 210A. Study of reading curricula and instructional procedures, with emphasis on the rationale and research underlying their development and the research comparing their effectiveness. Mr. McNeil

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; theories 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 and 415A, or equivalent. Individual appraisal of exceptional individuals; analysis of tests and diagnostic procedures, case studies.

430. Higher Education and the Labor Market. From an economic perspective, this course deals with benefits of education; 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. Solmon

431A. Administration in Higher Education. An overview of college and university administration. Case studies of administrative problems, policies, and practices. Management information systems, resource allocations, and issues related to responsibility, authority, and participation in administrative decisions.

431B. Curriculum and Instruction in Higher Education. Principles of curriculum and instruction in postsecondary programs. Theory and practices in goal setting, testing, media selection, and related instructional responsibilities. Preparing to teach college-level students. Mr. A. Cohen

431C. Innovative Forms and Practices in Higher and Continuing Education. New institutional forms (e.g., external degree programs and other nontraditional approaches to higher education, neighborhood learning centers, and peoples' colleges). Methodological innovations such as computer-assisted instruction, credit by examination, and independent study.

432. Seminar: Professional Topics in Higher Education. Ms. Astin

433A. Instructional Product Development. Prerequisite: consent of instructor. An examination of the procedures employed in the systematic development of instructional products. Students acquire competencies associated with those procedures. Ms. Baker, Mr. Popham

433B. Technological Development in Educational Media. Lecture, two hours; laboratory, four hours. Prerequisite: course 433A. Recommended: courses 210A, 212A. Theory, current problems, and anticipated trends in instrumentation and systems development for instructional applications and research, including computer-aided instruction, communication satellites, and other advanced systems; theory and laboratory practice with instrumentation in educational research. Mr. Silberman

437A. Principles of Curriculum in Economic Education. Theories, principles, and concepts relating to an understanding of the business and economic system; 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; and in-service training of teaching staffs.

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.
Ms. Pope

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 will be issues that impact on minorities (e.g., bilingual education, desegregation, affirmative action, the role of subdominants in the policymaking process).

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.
Ms. Pope

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. Ms. Pope

447. Seminar: Educational Policy and Planning, Special Studies. Prerequisite: consent of instructor.

448A. Urban School Leadership. Prerequisite: consent of instructor. Analysis of the problems of urban school leadership. Emphasis is on the changing nature of the urban principalship; however, considerable attention is given to the role of other school and community agencies that interact with the urban school leader. Mr. Williams

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. Mr. Alkin, Ms. Baker, Mr. Popham

461A. Seminar: Adult Education.

461B. Seminar: Adult Education in Other Countries.

461C. Seminar: Community Service and Development Programs in Postsecondary Education.
Mr. Kintzer

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. Examines the logical features of instruction and demonstrates their application to inquiry techniques in teaching and learning. Analyzes various conceptions of truth, belief, fact, and opinion and studies their application to classroom learning situations.
Mr. Ellett, Mr. Weinberg

489. Instructional Strategies in Education. Prerequisite: consent of instructor. Analyzes 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.
Ms. Kourilsky

490A. Instructional Decision Making (½ to 1½ courses). 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. Ms. Baker, Ms. Kourilsky

491A. Curricular Decision Making (½ to 1½ courses). Prerequisite: consent of instructor. Examination of alternative solutions for the practical problems that classroom teachers face in making curricular decisions. Analysis of the influence of psychological, societal, and institutional factors in curricular decisions. Ms. Crabtree

492. Evaluation of Teaching and Learning. Prerequisite: consent of instructor. Examines relationship between appraisal instruments and information required for making decisions about teachers, pupils, and materials. Introduces recent developments in the evaluation of teaching and learning and demonstrates the use of modern appraisal techniques in classroom settings.
Mr. McNeil, Mr. Popham, Mr. Skager

498A-498B-498C. Directed Field Experience (1 to 2 courses each). May be repeated for credit.

499A-499B-499C. Advanced Directed Field Experience (1 to 2 courses each). May be repeated for credit.

501. Cooperative Program in Special Education (½ to 2 courses). Prerequisite: consent of UCLA graduate adviser and Graduate Dean and host campus instructor, department Chair, and Graduate Dean. Limited to UCLA doctoral students in special education. The course is used to record enrollment in practicum courses taken under cooperative arrangements with California State University, Los Angeles. S/U grading.

596. Directed Independent Study (½ to 3 courses). Individual study or research for graduate students. May be repeated for credit.

597. Preparation for Master's Comprehensive Examination or Doctoral Qualifying Examination (1½ to 3 courses). Individual study for master's comprehensive examinations or for Ph.D. or Ed.D. qualifying examinations. May be repeated for credit. S/U grading.

598. Thesis Research (1½ to 3 courses). Research for and preparation of the master's thesis. May be repeated for a maximum of 12 units. S/U grading.

599. Dissertation Research (1½ to 3 courses). Research for and preparation of the doctoral dissertation. May be repeated for credit. S/U grading.

School of Law

Susan Westerberg Prager, Dean

By any standard, the UCLA School of Law is recognized as one of the nation's great law schools. This reputation is based on excellence in scholarship, a rigorous educational program, and the quality of the faculty which includes eminent authorities in all major fields of law.

The educational program at the UCLA School of Law is rigorous and competitive, but it takes place in a humane environment where there is a genuine spirit of community. The student body of the school is intellectually distinguished, interesting, and culturally diverse.

The school's strong clinical program offers courses in lawyering skills such as interviewing, counseling, negotiation, and trial advocacy. UCLA students, alumni, and faculty have collaborated to pioneer clinical legal education. Students see more focus on the attorney/client relationship; they see more of what will ultimately face them as lawyers and policymakers.

An extensive and diversified student extern program, one of the most highly regarded moot court programs in the nation, and a basic philosophy that teaches law students to think clearly and analytically, but with compassion, all contribute to the distinction of the school.

Photo: The UCLA Moot Court Program, recognized as one of the finest in the nation, is open to all students who wish to compete.

School of Law

General Information: 1242 Law, 825-4841

Admissions: 1224 Law, 825-2080

Professors

Benjamin Aaron, LL.B.
Richard L. Abel, LL.B., Ph.D.
Norman Abrams, J.D.
William P. Alford, LL.B., J.D., *Acting*
Reginald H. Alleyne, Jr., LL.M.
Alison Grey Anderson, J.D.
Michael R. Asimow, LL.B.
John A. Bauman, LL.M., Jur.Sc.D.
David A. Binder, LL.B.
Grace G. Blumberg, J.D., LL.M.
Richard Delgado, J.D.
David Dolinko, J.D., Ph.D., *Acting*
Jesse J. Dukeminier, J.D.
Carole E. Goldberg-Ambrose, J.D.
Robert Goldstein, J.D., *Acting*
Kenneth W. Graham, Jr., J.D.
Harold W. Horowitz, LL.M., S.J.D.
Edgar A. Jones, Jr., LL.B.
Robert L. Jordan, LL.B.
Kenneth L. Karst, LL.B.
William A. Klein, LL.B.
Leon Letwin, LL.M.
Wesley J. Liebeler, J.D.
Christine Littleton, J.D., *Acting*
Gerald Lopez, J.D., *Acting*
Daniel H. Lowenstein, LL.B., *Acting*
Henry W. McGee, Jr., J.D., LL.M.
William M. McGovern, Jr., LL.B.
David Mellinkoff, LL.B.
Carrie J. Menkel-Meadow, J.D., *Acting*
Herbert Morris, LL.B., D.Phil.
Stephen R. Munzer, B.Phil., J.D.
Melville B. Nimmer, LL.B.
Patrick O. Patterson, J.D., *Acting*
Susan Westerberg Prager, M.A., J.D., *Dean*
Monroe E. Price, LL.B.
Arthur I. Rosett, LL.B.
Gary T. Schwartz, LL.B.
Murray L. Schwartz, LL.B., LL.D.
Steven H. Shiffrin, M.A., J.D.
Stanley Siegel, J.D.
James D. Sumner, Jr., LL.M., J.S.D.
Phillip R. Trimble, M.A., LL.B., *Acting*
Jonathan D. Varat, J.D., *Associate Dean*
William D. Warren, J.D., J.S.D.
John S. Wiley, J.D., *Acting*
Stephen C. Yeazell, J.D.
Richard C. Maxwell, LL.B. *(Emeritus Connell Professor of Law)*
Rollin M. Perkins, J.D., J.S.D., *Emeritus*
Ralph S. Rice, J.D., LL.M., *Emeritus*
Harold E. Verrall, LL.B., J.S.D., *Emeritus*
Kenneth H. York, LL.B., *Emeritus*

Lecturers

Paul B.Bergman, J.D.
Daniel P. Hutchinson, J.D.
William W. Patton, M.A., J.D.
Michael Rappaport, J.D., *Assistant Dean*
Barbara W. Ravitz, J.D.

Professor

Charles M. Firestone, J.D., *Adjunct*

The School of Law, the only academic unit at UCLA which operates on a semester (rather than quarter) system, offers a three-year curriculum leading to the J.D. degree. The school is accredited by the California Committee of Bar Examiners, is a member of the Association of American Law Schools, and is on the approved list of the American Bar Association. Graduates of the school are qualified to apply for admission to practice in any state of the United States.

The school is designed to produce lawyers who are well-prepared for the various private and public roles which are assigned to members of the legal profession. Students do not undertake a specific major but have the opportunity to enroll in a wide variety of courses dealing with various legal fields.

Degrees Offered
Juris Doctor (J.D.)
Master of Laws (LL.M.)

Juris Doctor Degree

Admission

Students beginning their professional work are admitted only in the Fall Semester. You must have received a baccalaureate 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. The admissions committee considers grades and test scores, and, in appropriate cases, such additional factors as ability in languages other than English; work experience or career achievement; previous positions of leadership or other special achievements; ethnic background; prior community or public service; unusual life experiences; overcoming a physical handicap or other disadvantage; career goals; economic disadvantages; and any other characteristic which may indicate that you will contribute to the educational and other benefits of a diversified student body.

For detailed information about the academic programs offered by the School of Law, and the semester-system calendar by which it operates, obtain the *Announcement of the UCLA School of Law* by contacting the Admissions Office.

Residence and Unit Requirements

The candidate for the degree of Juris Doctor must have pursued resident law school study for six semesters and successfully completed 87 units. The residence requirements may be satisfied as follows: (1) six semesters in regular session in this school or (2) two semesters in regular session (or equivalent) in a school which is accredited by the American Bar Association, coupled with four semesters in regular session (or equivalent) in this school.

Every first-year student is required to take the full schedule of required courses; second- and third-year students are required to take a minimum of twelve hours and may not take more than sixteen 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 in 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 upon regular classroom attendance. Information on the grading system, which is based on a numerical scale of 50 to 100, may be obtained from the Office of the Assistant Dean for Students. Standards for satisfactory performance and for graduation are prescribed by the faculty and are published separately. They may also be obtained from the above office.

Curriculum

The school offers courses of instruction within the school and supervised educational experiences outside it in an effort to enable its students to think intelligently and to prepare them for careers of practice and public service. To this end the school employs several instructional techniques in a variety of subject areas.

In the first year of their legal education students are exposed to an intensive study of Anglo-American legal reasoning in a series of fields which have historically dominated legal thought. In conjunction with these courses students also receive training in the use of legal bibliography and in effective legal writing and oral advocacy.

In the second and third years students have an opportunity to engage in a number of different fields of law and law-related study.

Master of Laws Degree

The school offers a graduate law program leading to the Master of Laws (LL.M.) degree to outstanding American and foreign students interested in pursuing graduate studies. Law school graduates with outstanding records who may be interested in this program should contact the Admissions Office for further information.

Other Programs

Clinical Program

The school permits students to participate in clinical training. These activities consist of fieldwork in a variety of federal and state agencies accompanied by seminars in the school which seek to analyze and expand the agency experience.

Extern Program

The school offers an extern program which gives students the opportunity to work in legal agencies away from the school for as long as six months (including the summer), for which they receive academic credit. Extern programs have been offered in Washington, D.C., Alaska, Hawaii, and on Indian reservations.

Cooperative 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 and 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 those 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 concurrent degree 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 will be awarded both degrees upon its completion.

M.B.A./J.D.

The School of Law and the 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.

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. Lopez, Mr. McGovern, Mr. Rosett, Mr. Sumner, Mr. Varat

110. Legal Research and Writing (5 units). The year-long course teaches first-year students how to find the law, how to analyze it, and how to communicate their conclusions in writing. The course focuses on the skills of analyzing legal authority, developing arguments to solve specific problems where there is conflicting 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, Mr. Dolinko, Mr. McGee, Mr. Morris, Mr. M. Schwartz

121. Criminal Law II (3 units). The criminal process insofar as it is affected by constitutional and statutory prescriptions and proscriptions. The restraints upon law enforcement officers, including such police activities as arrest, stop-and-frisk, inspection and detention of various kinds; taking of statements; 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. McGee, Mr. Morris, Mr. M. Schwartz, Mr. Shiffrin

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 refinements of negligence law, 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, Mr. Jones, 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, and the special opportunities and problems of litigations involving multiple disputants.
Mr. Bauman, Mr. Delgado, 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.

*The School of Law maintains its own course numbering system; course numbers as shown here do not correspond to Graduate Division course numbering definitions.

312. The Legal Profession (Section 1). The law of the lawyer as part of the system of justice. The role of the lawyer in society historically and today; unique professional responsibilities and ethical dilemmas; right to counsel and right to self-representation; and professional and societal measures taken to assure availability of counsel and the qualified performance of the role. A study and critique of the Code of Professional Responsibility and the California Rules of Professional Conduct; a wide and varying selection of contemporary problems facing the profession. This course satisfies the professional responsibility requirement. Mr. Mellinkoff, Mr. M. Schwartz

312. The Legal Profession (Section 2). Considers what is wrong with the legal profession and what, if anything, can be done to change it. Sociological explanations for unethical behavior in terms of the structure of practice, patterns of recruitment, socialization, and allocation to professional role, and the failure of disciplinary procedures. The allocation of lawyers' services by market mechanisms in an unequal society leads to overrepresentation of the few and underrepresentation of most. The concept of legal "need," why we might want to meet unmet need, and the multiplicity of recent reforms that speak to this problem. This course satisfies the professional responsibility requirement. Mr. Abel

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 proper role of the judiciary in limiting the action of other branches of government. Mr. Asimow, Mr. Dolinko, Mr. Karst, Mr. G. Schwartz, Mr. Shiffrin, 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. Nimmer, Mr. Shiffrin, Mr. Varat

205. Family Wealth Transactions. 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. Sumner

206. Estate Planning. Prerequisites: courses 220 and 222 or consent of instructor. A study of the tools and techniques available to plan for the medium-to-large estate. Reference is made to materials in a problem solving context involving the federal estate and gift tax aspects and federal income tax implications thereof.

207. Community Property. Community property laws of the eight states which follow the community property approach to marital property inherited from the Spanish law. Helps develop a detailed working knowledge of the California community property system and explores the debate over marital property policy choices. Ms. Blumberg, Ms. Prager

208. Real Property Secured Transactions. The use of land as security for debts, with the California cases and statutes presented as an example of an operating system. The course develops 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 appellate jurisdiction of the Supreme 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 the federal courts.

Ms. Goldberg-Ambrose, Mr. Karst, Mr. Varat

214. Civil Rights. An in-depth study of federal civil rights legislation. An examination of the history and modern development of the post-Civil War enactments, including 42 U.S.C. §§ 1983, 1985, 1986, and 1988. Modern civil rights legislation barring recipients of federal financial assistance from discriminating on the basis of race, color, national origin, sex, handicap, or age. Mr. Goldstein, Mr. Lopez, Mr. Varat

216. Administrative Law. Public law with two emphases: (1) the processes by which federal agencies define and carry out policies and (2) the possibilities and limits on control of such executive action by the other two branches of government, particularly by the judiciary. The legal doctrines that define the power of courts to review administrative action and the Constitutional, statutory, and customary forces shaping the administrative process itself. The place of individual liberties in a pervasively regulated social order.

Mr. Abrams, Mr. Asimow, Mr. Yeazell

M217. Topics in Legal Philosophy. (Same as Philosophy M256.) 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 by consent of instructor.

Mr. Morris, Mr. Munzer

220. Federal Taxation I. Fundamentals of federal income taxation, particularly as they apply to individuals. Gross income, the taxpayer to whom the income will be attributed, deductions and credits available in computing tax liability, the year in which income is properly reported and deductions properly taken, and 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

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 partner-partnership and shareholder-corporation relationships. The federal income tax consequences of the formation of partnerships and corporations, distributions to partners and shareholders, and liquidations and sales of partnership or shareholder interests. Mr. Siegel

222. Federal Tax III. Federal taxation of gifts and decedents' estates; federal income taxation of trusts and estates. Emphasis is placed on tax planning techniques. The course is of considerable importance to anyone who expects to practice in the areas of tax planning, estate planning, family law, and probate, among others. Mr. Hoffman

223. Tax Legislation and Policy. The basic policy issues in federal income taxation. The ethical justification for a progressive income tax; the possibility of basing the tax on consumption rather than income; the criteria for sound policy; and the general debate over deductions, credits, and other sources of "erosion" of the tax base.

224. Taxation of Foreign Income. Prerequisites: courses 220, 221. United States taxation of foreign persons and the effect of tax treaties. Planning aspects of, for example, organizational alternatives for doing business abroad, are also considered.

230. Business Associations. The course focuses on the issues that must be addressed when people decide to form joint economic ventures and how these issues are resolved in the law of agency, partnership, and corporation. Some attention will also be devoted to the federal securities laws and their impact on planning for an operation of business ventures.

Ms. Anderson, Mr. Klein, Mr. Siegel

234. 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 federal securities laws, and reporting for federal income tax purposes. Provides the potential lawyer with understanding and background to read, comprehend, and interpret financial statements. Mr. Siegel

235. Business Planning. Prerequisites: courses 220 and 230. Course 221 may be taken concurrently. An advanced course on the establishment, structuring, and restructuring of business enterprises, primarily in the corporate form. The class will analyze four or five realistically complex problems, examining the state and federal corporate problems, the federal income tax implications, and the financial and accounting aspects of each problem. The objective of the analysis will be to prepare specific and comprehensive plans for dealing with each problem, considering all realistic alternatives and justifying the choices made.

Mr. Siegel

236. 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.

Ms. Anderson, Mr. Jordan

238. Corporate Reorganization. Prerequisites: courses 221 and 230. A study of corporate combinations and acquisitions using equities as the medium of exchange, including mergers, sale of assets and stock for stock exchanges. Transactional point of view, combining consideration of corporate, securities regulation, tax, accounting, creditors' rights, and other problems.

239. Elements of Economic Organization. Types of economic enterprise with diverse objectives and organizational forms. The objective is to learn more about the context in which legal issues arise and about a variety of legal arrangements and devices normally not studied in law school courses. The insights gained from this inquiry will be directed to examination of basic elements of business organization, including sources of inputs, control, risk, reward, duration and termination, control of conflict, and the relationship among these. Mr. Klein, Mr. Siegel

240. Antitrust I. After covering basic theory, the course will cover the legal rules governing price fixing, market division, joint ventures, tie-in arrangements, reciprocity, requirements contracts, etc. While some attention will be given to monopoly, mergers, and concentrated industries, those subjects will be the emphasis of course 245.

Mr. Liebeler, Mr. Wiley

245. Antitrust II. Prerequisite: course 240. The course will consider 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" will also be reviewed. Mr. Liebeler

247. Law and Economics. An economics background is not required. The basic theory of voluntary exchange and the conditions necessary for a voluntary exchange system to maximize community welfare. This theoretical structure will be 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. Debtor and Creditor Law. Prerequisite: course 250. An examination of selected topics in the law of bankruptcy. Related topics in the enforcement of money judgments, claim and delivery procedures, statutory lien law, and the law of fraudulent conveyances are also covered. The relationship between the rights of a secured creditor under Article 9 of the UCC and the power of the trustee in bankruptcy to avoid certain liens is examined comprehensively. Considerable time is also devoted to nonbusiness bankruptcies, particularly Chapter 13 of the Bankruptcy Code.

Mr. Jordan, Mr. Warren

249. Business Reorganizations under Bankruptcy Laws. The reorganization of businesses under the Bankruptcy Reform Act of 1978. Topics include legislative history of the 1978 act; choice of proceedings; commencement of reorganization case; powers and duties of participants; operation of the business and the secured creditor versus the estate; formulating a plan; solicitation of acceptances confirmation; and post-confirmation matters. Mr. Klee, Mr. Warren

250. Commercial Transactions. A study of the Uniform Commercial Code. The law of negotiable instruments (Article 3 of the Code) and the related bank collection process (Article 4 of the Code). Selected aspects of the law of sales (Article 2), primarily warranty acceptance and contract cancellation, risk of loss and certain remedies for breach. Documents of title (Article 7) and letters of credit (Article 5) as they relate to sales transactions. The law governing security interests in personal property (Article 9).
Mr. Jordan, Mr. Warren

260. Labor Law I. Basic information concerning the laws and decisions which provide the framework for the national labor policy in the private sector. The National Labor Relations Act, the Labor Management Relations Act, the Railway Labor act, and the Norris-La Guardia Anti-Injunction Act. Areas include collective bargaining; selection of bargaining representatives and determination of bargaining units; unfair labor practices; emergency disputes; federal-state jurisdiction; application of antitrust laws; and grievance and arbitration procedures.
Mr. Aaron, Mr. Alleyne, 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 legislatures and of the courts to the special problems of collective bargaining in the public sector. Mr. Aaron, Mr. Alleyne

262. Law of the Collective Agreement. Prerequisite: course 260. Limited to 12 students. Enhances 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. Transcripts and exhibits of actual arbitration cases are used. Each student works with three case files, functioning as a union advocate in one, an employer advocate in a second, and an arbitrator in the third. Each student prepares two briefs, one arbitration opinion and award, and a research paper. Mr. Jones

263. Employment Discrimination Law. Laws prohibiting employers, unions, and employment agencies from discriminating on grounds of race, sex, religion, and national origin. Interplay between the federal Equal Employment Opportunity Act of 1964 (Title VII) and other related state and federal statutes and federal constitutional provisions. Employment discrimination remedies; affirmative action hiring requirements for federal and federally financed employers; affirmative defenses such as the existence of collective bargaining agreement seniority clauses.
Mr. Alleyne

264. Workers' Compensation and Workers' Injuries. The law of the workers' compensation system, developed in the early 20th century as an alternative to the tort system. The evolution of the leading concepts of workers' compensation law. Theoretical implications, the general theory of workers' compensation, and its economic impact. Legal issues raised by the federal Occupational Health and Safety Act.
Mr. G. Schwartz

265. The Employment Relation and the Law. Analysis of the legal protection furnished individual employees through workmen's compensation, unemployment compensation, social security, fair labor standards, and similar legislation. Mr. Alleyne

270. International Law. The role of law and legal institutions in international relations and in government foreign affairs decision making, particularly on the part of the United States. Nature and source of international law and how it is applied in the relations of states. The allocation of responsibility for decision making within the international system and how conflicts in the assertion of jurisdiction are resolved. Major limitations on the exercise of authority by states. The use of force by states, paramilitary groups, and international organizations. Mr. Trimble

271. International Business Transactions. Provides a critical understanding of the fundamental legal issues that arise in international trade, licensing, and investment. The legal and financial institutional framework within which international business is conducted; national and international limitations affecting the movement of goods, the transfer of technology, and the flow of capital; the organization, financing, and protection of international business undertakings; the use of agents, distributors, and licensees; problems of contract negotiation and dispute resolution in an international setting; and foreign investment. Mr. Alford, Mr. Rosett

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. Trimble

278. Comparative Law: Chinese Law. 20th-century transformations in Chinese law in the context of their jurisprudential and historical background. Provides a general introduction to the nature and function of law in China, fosters comparative legal analysis, and equips future practitioners to address legal problems arising from commercial interaction with China.
Mr. Alford

279. Admiralty Law. A study of the special jurisdictional, procedural, and substantive rules applicable to water-based activities, especially the carriage of passengers and goods by water. The allocation of disputes involving such activities between state and federal courts, the rules of practice applicable to maritime liens, the special procedures for limiting shipowners' liability, and the sources and nature of laws governing maritime torts, contracts, and property will be among topics discussed. The applicability of traditional maritime doctrines to modern phenomena such as offshore drilling, containerization, and oil spills will be addressed. Ms. Goldberg-Ambrose

280. Aviation Law. The regulation of aviation and air transport under both international and domestic law. The nature and sources of aviation law, the legal regime of the airspace and the aircraft, and the regulation of users of the airspace, including jurisdiction over hijackings and other offenses committed aboard aircraft. The role of the Civil Aeronautics Board in the regulation of domestic air transport. The regime of liability for international air carriers established by the Warsaw Convention and subsequent instruments, and the liability of aircraft manufacturers, maintenance, repair, and service facilities, and air traffic control and advisory services. Mr. Margo

M285. Governance: State, Regional, and Local (2 to 3 units). (Same as Architecture and Urban Planning M202B.) 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.

M286. Public Control of Land Development (3 units). (Same as Architecture and Urban Planning M202A.) 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 M231.) The course will comprehensively consider the rebuilding and construction of American cities, with the major emphasis upon 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 an emphasis on field research in lieu of a substantial portion of the final examination. Mr. McGee (W)

M290. Environmental Law and Policy (2 to 3 units). (Same as Architecture and Urban Planning M264.) The course first examines, from perspectives meaningful to legal institutions, the nature of environmental problems. It then considers the means by which law has responded, and can and should respond, to problems of environmental quality. Both common law and legislative and administrative measures are considered. The course uses the air pollution problem as the primary vehicle for study.

291. Taxation and Finance in Subnational Governments. The taxes of state, regional, and local governments in America constitute about 45 percent of total American taxes. Property and sales taxes, including some aspects of income and corporate taxation that are not encountered under federal taxation, other types of taxes, intergovernmental transfers, charges, and debt are discussed.

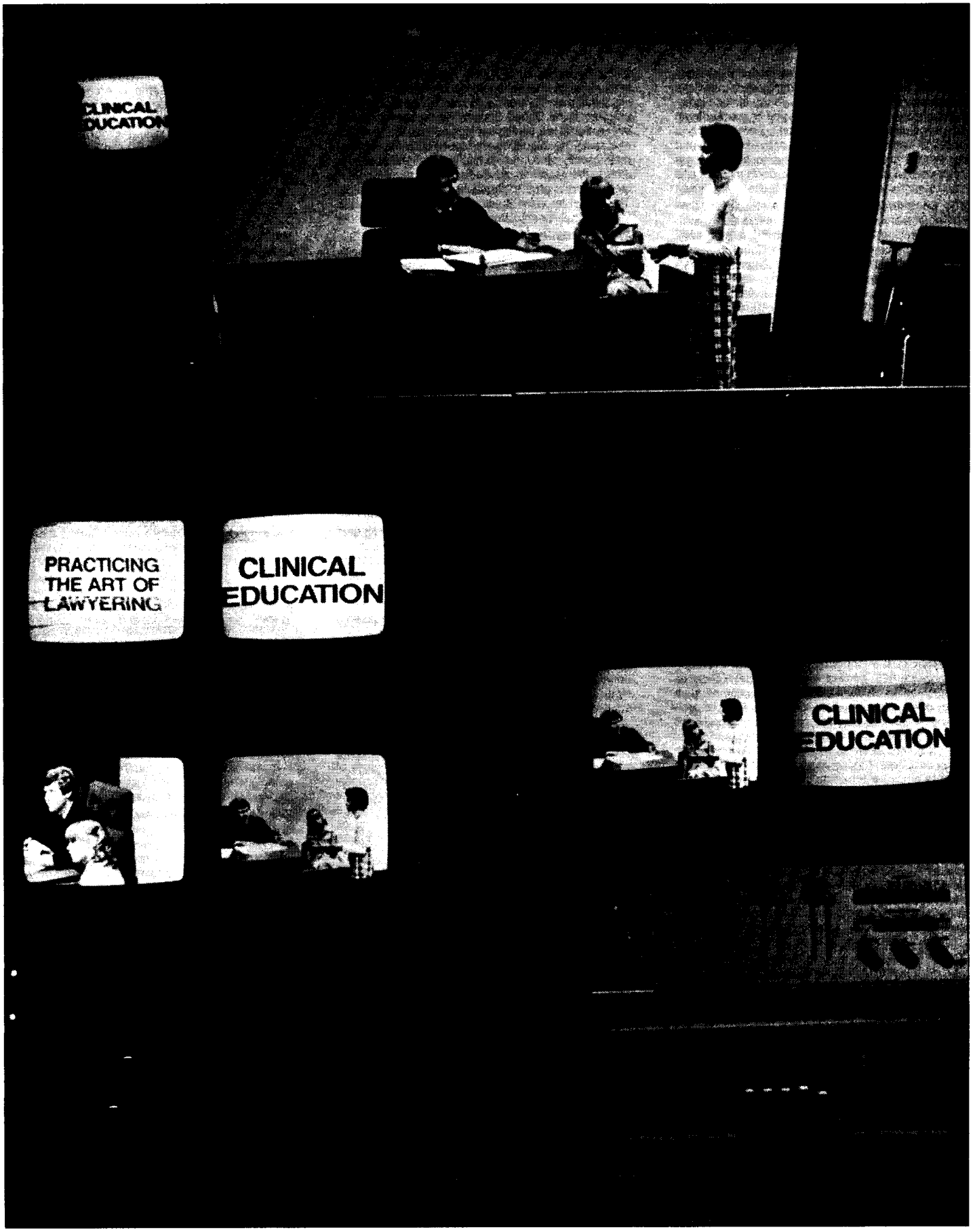
292. Water Law. The basic components of United States water law; the riparian system of allocating water used in the Eastern United States, the appropriation system of allocating water used in the Western United States, and the federal overlay of reserved rights, navigation power, and reclamation. Water use efficiency and conservation, protection of instream water uses, groundwater management, public rights to water-based recreation, and water pollution.
Mr. Thompson

295. Criminal Procedure. The process by which courts decide the guilt or innocence of those accused of crime and the selection of an appropriate penalty. The right to bail and other devices by which accused persons can be released following arrest and pending trial. The process by which the prosecutor decides what charges to file and the limits on charging power, including the grand jury and the preliminary hearing. Criminal pleading, including the process of plea bargaining. The trial process, including the right to trial by jury and sentencing procedures.

299. Federal Criminal Law Enforcement. The special nature of federal criminal law enforcement and how state and federal systems of criminal justice relate to each other. Limits on federal criminal jurisdiction; how federal enforcement priorities are determined and by whom; enforcement techniques; witness protection programs; extradition and removal; double jeopardy and the *Petite* policy; and the problems involved in prosecutions under federal criminal statutes such as those relating to mail fraud; civil rights; Hobbs Act and RICO (Racketeer-Influenced and Corrupt Organizations). Mr. Abrams

300. Remedies. The kinds and nature of relief afforded by courts to litigants in civil litigation. The theory and general principles governing the award of compensatory damages, equitable remedies, and restitution. The substantive law of restitution and the history of equity jurisdiction. Mr. Bauman

305. Entertainment Law. The law of copyright in connection with literary, musical, and artistic works, including originality, types of works protected, duration and renewal, assignments, infringement actions, and remedies. Unfair competition in literary, musical, and artistic works, the protection of ideas by property, quasi-contract, express and implied contract theories, defamation and invasion of privacy, the right of publicity, and performers' rights. Mr. Nimmer



School of Law students sharpen their trial advocacy skills using the facilities of a clinical education classroom.

306. Patent and Trademark Law. Designed for the future general or business lawyer who needs a general understanding of the patent and trademark laws and their relation to other intellectual property laws such as copyrights. The requirements for patentability and procedures for obtaining a patent which have a major effect on the eventual scope of protection obtained. Business arrangements involving patents and their relation to the antitrust laws; patent litigation.
Mr. Pretty

313. Conflict of Laws. Problems resulting from multistate (both sister state and foreign nation) disputes. The choice of law problem, constitutional limitations on state choice of law, recognition of foreign judgments and jurisdiction. Analysis of the governmental interests implicated in the dispute.

317. Family Law. The *de jure* and *de facto* husband-wife relationship. Legal principles and social policies governing the creation, maintenance, and dissolution of the conjugal relationship. Property and support issues, divorce-related child custody, and the legal status of extramarital children. Ms. Blumberg

319. Law and the Political Process. Recommended prerequisite or corequisite: course 201. Ways in which the laws governing the political process affect and reflect political power relationships. Statutory reforms enacted in the past 10-15 years at the federal and state levels. Right to vote, reapportionment, political parties, bribery, campaign finance, incumbency, ballot propositions, lobbying, and conflict of interest.
Mr. Lowenstein

323. Biotechnology and the Law. Legal, moral, and economic analysis of problems posed by advances in biomedical technologies. Examination of problems raised by (1) behavior control through psychosurgery, psychoactive drugs, and electrical stimulation of the brain; (2) genetic engineering; (3) amplification of human powers and faculties by organ transplantation, man-machine symbiosis, and pharmacologically induced enhancement of mental functioning; (4) death control; and (5) regulation of experimentation with human subjects. Mr. Delgado

M325. Law and Psychiatry. (Same as Psychiatry M262.) Prerequisite: consent of instructor. Introduction to the ethical and legal implications of the orientation, premises, functioning, and potential contributions of psychiatry. Review of the practical and theoretical aspects of collaboration between law and psychiatry. Mr. Winslade

327. Communications Law. Legal issues associated with the regulation of electronic mass media. First Amendment differences between print and broadcasting, broadcast licensing and the content-oriented regulations and policies of the Federal Communications Commission. Industry structures, networking, access to the media, public broadcasting, political broadcasting, fairness doctrine, and entertainment format changes. Regulation of cable TV and the merging of the media with new technologies, including telecommunications carriers, satellites, and fiber optics. Options for rewriting the Communications Act.
Mr. Firestone

329. Women and the Law. A study of ways in which court decisions, statutes, and the operation of the legal system reflect ideas about what women and men are like and what their roles in life should be. "Protective" labor legislation, voting rights, equal protection of the laws, the Equal Rights Amendment, control of childbearing, employment discrimination, and either topics in criminal law (rape, prostitution) or topics in family law (the marriage obligation and grounds for divorce).
Ms. Goldberg-Ambrose, Ms. Littleton

330. Language of the Law. A critical examination of the language lawyers use, how it got that way, and how it works out in the practice. Analysis of validity for a special language of the law; the myth of precision; the limited role of terms of art; tautology and unintelligibility as professional habit; writing law for lawyers and for nonlawyers; law usage that is better or worse than the common language. Mr. Mellinkoff

331. Immigration Law. An overview of the immigration and naturalization process from the practitioner's point of view. Nonimmigrant and immigrant visas, consular practice, deportation/exclusion proceedings, naturalization and citizenship, constitutional issues related thereto, and specific remedies available.
Ms. Ibarra

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

335. Religious Legal Systems. The literature and institutions of a religious legal system. The course is offered from time to time by different instructors in Canon law, Islamic law, and the Rabbinic legal tradition. While the content of the course varies depending on the particular tradition under study, all emphasize 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. Dorff, Mr. Rosett

336. English Legal History. Particular attention will be devoted to the growth of the Common Law and Trial by Jury in the period from 1187 to 1765.
Mr. McGovern

337. Legal History: Histories of Contract. The different accounts offered of this basic legal and economic institution with an eye to deciding who is right or what the major disagreements are. The role of consideration, tort, and contract, the doctrine of fair price, contract in a pre-industrial economy, the role of procedure in contract enforcement. In a system that gives authority to precedent, is *all* legal writing a form of legal history? If not, what is special about legal history and what makes good legal history? Changes in basic substance or outer form of contract.
Mr. Yeazell

400. Pretrial Lawyering Process (Clinical). Provides training and practical experience in the full range of skills used by lawyers during the pretrial phases of the civil litigation process. The development of interviewing, 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. Patterson

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 prosecutorial and defense offices at the federal and state level 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, Mr. Patterson

403. Interviewing, Counseling, and Negotiation (Clinical). Basic interviewing and counseling concepts in the areas of litigation, business, and estate planning. The extent to which these principles require modification in the areas of estate and business planning. In the business area, the course also explores the relationship between negotiation and counseling.
Mr. Binder

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 emphasizes the development of courtroom advocacy and other lawyering skills. Specific topics include case planning, direct and cross-examination of witnesses, and closing argument. Classes also focus on client and witness interviewing, case investigation, negotiation, and examination of expert witnesses. During Spring Semester students actually appear in court and represent indigent clients under the direct supervision of instructors. Mr. Bergman, Ms. Menkel-Meadow

408. Legal Negotiation (Clinical). The theoretical and practical aspects of the process of negotiating transactions and disputes in our legal system. Negotiation theory, using both legal and behavioral science materials; differences between litigation and transactional negotiations; the context in which particular negotiation strategies and tactics are successfully employed; ethical and normative implications of negotiating; the role negotiation plays in our legal system, both in dispute resolution and in legal planning; negotiating, both from planning and behavioral perspectives. Ms.Menkel-Meadow

420. Administrative Law (Clinical).
Ms. Vanaman

445. Planning and Drafting Small Estates (Clinical). The substantive law of estates, wills, trusts, and tax as those laws relate to testamentary disposition of small estates. Interviewing, drafting, and counseling techniques. In fieldwork, students are assigned clients and interview them to determine their estate planning needs. Students discuss with a supervising probate attorney the kind of estate plan needed and then draft an appropriate plan and review it with the attorney. Mr. Bergman, Mr. Binder

500. Seminar in Constitutional Law. Selected topics in constitutional law. Mr. Karst, Mr. Varat

501. Seminar in Tax Planning. The objective of this seminar is to develop approaches to the financial analysis of problems of tax planning with the aid of computers. Background in the use of computers is not required. The challenge will be to figure out the effect of all the variables that determine the financial effect of a tax planning decision over time. Students will be instructed in the development of models for tax analysis and in computer use and will be expected to produce a tax analysis of a problem. Access to a computer will be provided.
Mr. Anderson, Mr. Klein

502. Seminar in Copyright Law. Prerequisite: course 305. Each student will be assigned a specific topic relating to some aspect of copyright law, which will be the subject of an in-depth study. The student will first make an oral presentation of the topic to the seminar and will thereafter submit a fully researched paper dealing with the topic. Mr. Nimmer

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 rape offenses. In order to determine and critically evaluate the empirical and moral responsibilities of prosecutors and defense attorneys, rape cases will also be examined, as will civil alternatives to rape prosecutions. Ms. Goldberg-Ambrose

504. Seminar in Theory of Property. A philosophical examination of labor defenses of property; property and economic structure; justifiability of gifts and bequests; property and human nature; takings. Readings from Locke, A. Smith, Mill, Hegel, Marx, contemporary writers, and instructor's work in progress. Some familiarity with philosophy would be an advantage. Mr. Munzer

507. Seminar in Current Issues in Labor Law.
Mr. Aaron, Mr. Alleyne

M524. Seminar: Philosophy of Law. (Same as Philosophy M257.) Prerequisite: consent of instructor. Selected topics in the philosophy of law. May be repeated for credit by consent of instructor.
Mr. Morris

525. Seminar in Communications Law. Prerequisite: course 327. Students will select specific topics in communications law, with an emphasis on the effect of new technologies on the legal issues associated with a particular problem, and will prepare one or more papers designed to address legislative or litigative solutions to the problem. Students' work may be used in ongoing litigation or in current legislative deliberations. Mr. Firestone

M526. Seminar: Urban Affairs. (Same as Architecture and Urban Planning M202C.) The purpose of the course is to explore in a concrete case setting the application of legal tools to the solution of planning and land use problems. Real situations are selected in which significant planning problems exist that appear to be amenable to solution by careful analysis and application of legal tools. A number of case studies are selected so that students may choose one issue which directly interests them. For each case, a specific client works with the class in presenting the problem that client is facing and remains available through the course of the project for consultation; the end product for each case is the presentation of a formal report. Clients include the City Planning Commission, the Environmental Quality Board, the Housing Authority, and others.

M533. Seminar on Law, Medicine, and Human Values (2 units). (Same as Psychiatry M261.) Prerequisite: consent of instructor. The seminar deals with legal, philosophical, and psychological issues arising in the context of the doctor-patient relationship. Emphasis is on an analysis of the value conflicts underlying and manifested in medical practices and legal policies. Course material is taken from legal, medical, and philosophical literature, legislation, case law, and medical case histories. Mr. Winslade

555. Seminar in Critical Legal Theory. In the last five years a body of legal theory has emerged, here and in Europe, that draws upon other radical traditions. This seminar will survey that literature, including the bourgeois legal form, the relation of law and capitalism, the theory of the capitalist state, the meaning of the "rule of law" under capitalism and socialism, and law and ideology. It will apply these theoretical insights to concrete issues in contemporary American law (e.g., in torts, contract, labor, family, and criminal law). It will conclude with questions of the role of law in the transition to, and under, socialism. Mr. Abel

560. Seminar in Law and Management (Agency Law). Prerequisite: course 230. Recommended: familiarity with economics or the law and economics literature. A brief review of agency law and various aspects of the agency relationship drawing on both legal and nonlegal material. The emphasis will be on a theoretical consideration of the major aspects of the agency relationship: creation of the relationship, vicarious liability, authority and fiduciary obligation. Ms. Anderson

566. Seminar in Administration of Criminal Justice. Recent American decisions in criminal procedure concerning the rights of persons suspected or accused of criminal offenses will be contrasted with the administration of justice in Civil Law legal systems, particularly those of Mexico and Spain. Comparison will be made 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 Constitution while simultaneously attempting to suppress politically motivated violence. Finally, the gap between theory and practice, partcularly in Mexico and Latin America, will be considered. Mr. McGee

567. Seminar in Antitrust Law. Mr. Liebeler

568. Seminar in Political Theory and the Law. Concentrates on the theory of public choice. Since World War II, much democratic theory had tended to center around two questions: (1) On what basis should it be decided whether a type of decision should be made collectively through the government or individually through the market? (2) In what sense are government institutions "representative"? While some earlier writers such as Edmund Burke and James Madison may be considered, attention will focus on contemporary writers, including David Truman, Anthony Downs, Richard Musgrave, Buchanan and Tullock, Moncur Olson, and Brian Barry. Mr. Lowenstein

571. Seminar in Law, Foreign Policy, and National Security. Various legal considerations and restraints, both national and international, affecting the formulation of foreign policy and protection of national security. The decision making process, including the constitutional balance between the executive and legislative branches, the foreign relations power of the President, the War Powers Resolution and the Treaty Power, as well as the role of bureaucratic politics. Congressional regulation of foreign policy; protecting national security information in a free society and other bill of rights issues; the role of international law affecting national security, including the UN Charter, and multilateral and bilateral arms control obligations. Mr. Trimble

572. Seminar in American Legal Education. Prerequisite: consent of instructor. The purpose of this class is to study law schools as institutions in the legal establishment. Historical development of legal education; teaching methods; law school politics; recruitment of students and faculty; research and publications; class stratification in legal education; testing and evaluation of students and faculty; advanced legal education; comparative legal education; and the curriculum. Mr. Graham, Mr. Lopez

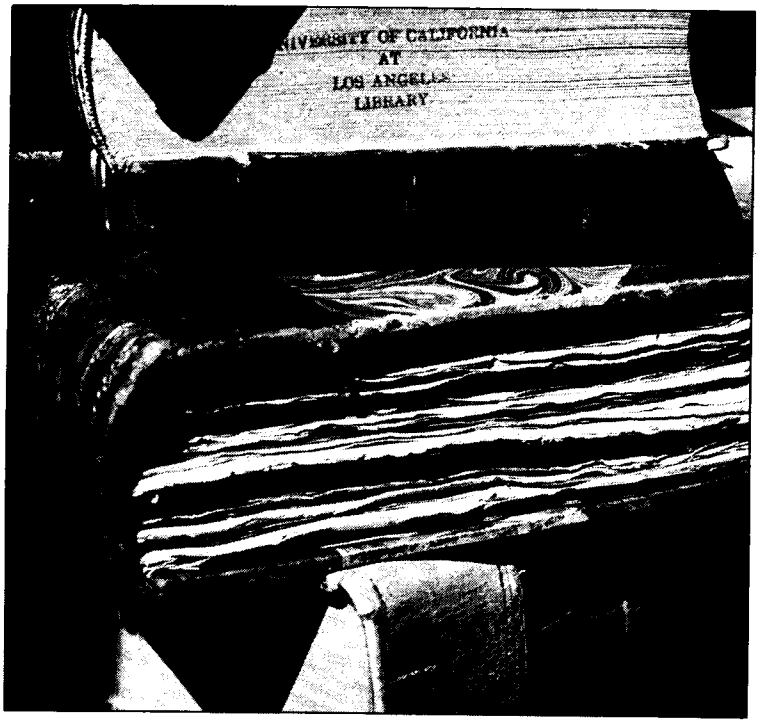
573. Seminar in International Regulation of Military Power. The role of international law in the regulation of the use of force and the containment of military solutions to world problems. The original United Nations' plan, its invocation in resisting aggression, and its role in various peacekeeping ventures. Multilateral and bilateral arms control negotiations (such as the Comprehensive Nuclear Test Ban negotiations and SALT), the role of law in restraining military buildups and in achieving other national security objectives. Mr. Trimble

574. Seminar in European Economic Community. The structures and institutions of the European communities, their lawmaking processes, and administration. The interaction and conflict between community law and national law and the growing role of the European court in mediating between the nations and the communities. The processes of the court and parallels between American constitutional development and that in Europe. Mr. Rosett

575. Seminar in Business Planning. Prerequisites or corequisites: courses 220 and 230. The tax and corporate implications of business transactions such as corporate formation, recapitalization, repurchase of shareholder's interest, and corporate acquisitions. The seminar is exclusively based on a set of problems and is on a practical, law-office-oriented level. Students will prepare and discuss short papers based on these problems. Mr. Asimow

Graduate School of Library and Information Science

Robert M. Hayes, Dean



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 upon 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 new methods for the processing of information 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,
825-4351

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Robert M. Hayes, Ph.D., *Chair*
Russell Shank, D.L.S.
Robert Vosper, M.A., LL.D.
Page Ackerman, B.A., B.S.L.S., *Emeritus*
Robert L. Collison, B.A., F.L.A., *Emeritus*
Andrew H. Horn, Ph.D., *Emeritus*
Seymour Lubetzky, M.A., LL.D., *Emeritus*
Lawrence Clark Powell, Ph.D., Litt.D., L.H.D., H.H.D., *Emeritus*
Raymund F. Wood, Ph.D., *Emeritus*

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William H. Fisher, Ph.D.
John V. Richardson, Ph.D.

Senior Lecturers
Elizabeth R. Baughman, M.L.S., M.A.
Elizabeth R. Eisenbach, M.L.S.
Betty Rosenberg, M.A., *Emeritus*

Professors
Joseph Becker, M.S.L.S., *Adjunct*
Louise Darling, M.A., *Adjunct*

Assistant Professors
Mary Greco, Ph.D., *Adjunct*
Joseph Lauer, Ph.D., *Adjunct*
Cheryl Metoyer-Duran, Ph.D., *Visiting*
Roger C. Palmer, Ph.D., *Visiting*

Lecturers
Diane Bisom, M.L.S., *Adjunct*
Richard Chabran, M.L.S., *Adjunct*
Patricia Chittenden, M.L.S., *Visiting*
Jon Greene, M.L.S., *Adjunct*
Frank Houdek, J.D., M.L.S., *Visiting*
Teresa L. Jacobsen, M.S.L.S., *Adjunct*
Linda Katsouleas, M.L.S., *Visiting*
Mona M. McCormick, M.L.S., *Adjunct*
Holly Millard, M.L.S., *Visiting*
James V. Mink, M.A., *Adjunct*
Constance W. Nyhan, M.L.S., *Adjunct*
Teresa Portilla, M.L.S., *Adjunct*
Mary I. Purucker, M.L.S. *Visiting*
Lise Snyder, M.L.S., *Adjunct*
William J. Speed, M.A., *Visiting*
Marie Waters, M.L.S., *Adjunct*
Gloria Werner, M.L., *Adjunct*
Binnie Wilkin, M.S., *Visiting*
Joy E. Williams, Ph.D., *Adjunct*

Applicants may write to the Graduate School of Library and Information Science, 120 Powell Library Building, UCLA, Los Angeles, CA 90024, for the school's announcement and application materials.

Degrees Offered
Master of Library Science (M.L.S.)
Post-M.L.S. Certificate of Specialization
Ph.D. in Library and Information Science

Master of Library Science

Admission

Students are admitted in Fall Quarter only. In addition to Graduate Division requirements and application procedures (see Chapter 3), the school requires:

(1) A statement of purpose.

(2) An application for admission provided in the school's announcement.

(3) A report of an interview by the Dean of the school or by a person designated by the Dean as qualified to conduct the interview.

(4) An official report of a score on the Graduate Record Examination taken within the past five years. Applicants must have passed the General Aptitude Test of the examination with a minimum combined score (Verbal and Quantitative) of 900.

(5) Three letters of recommendation.

(6) Satisfaction of the following entrance requirements:

(a) Reading knowledge of a foreign language. The requirement may be met by completing three quarters or two semesters of 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.

(b) The statistics requirement is satisfied by completing a college-level course with a minimum grade of C.

(c) The computer programming requirement is met either by completing a college-level course with a minimum grade of C or by passing a proficiency examination administered by the school.

The Dean may permit postponement of one or more of these requirements, 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 by the end of the third quarter of residence.

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 will be given to such experience in reviewing the total application.

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 are required for graduation from the M.L.S. program. Coursework must provide evidence both of basic professional competencies and of knowledge in a field of specialized competence.

Basic Professional Competence: The requirement is met by completing nine courses (400, 402, 404, 410, 411, 420, 421, 430, 441). 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 is ordinarily met by the completion of nine additional courses in the school and/or in other departments.

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 courses 501 and 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 written comprehensive examination, which is offered Fall, Winter, and Spring Quarters, is required. The examination 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.

In order to be eligible to take the comprehensive examination, you must first complete a specialization paper, which is an in-depth examination of a problem in your chosen area of specialization. It should show an understanding of the place and significance of a specific problem in relationship to the entire field of specialization. It should represent new work and/or analysis in the problem area, but it does not have to represent an original approach.

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 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 both 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.

M.B.A./M.L.S.

A concurrent degree program jointly sponsored by the Graduate School of Library and Information Science and the Graduate School of Management, this specialization is designed to provide an integrated set of courses for students who seek careers which draw on general and specialized skills in the two professional fields. Students should request all application materials from the M.B.A. Admissions Office, Graduate School of Management.

Post-M.L.S. Certificate of Specialization

The Post-M.L.S. Certificate of Specialization program meets the need for specialized training in various areas of librarianship, information science, and bibliography, as well as research competence.

Admission requirements vary slightly for each field of specialization, but the basic requirements are a bachelor's (or higher) degree in letters and science, an M.L.S. degree from an ALA-accredited school, and unconditional admission to graduate standing by the UCLA Graduate Division.

Your course program may begin in any quarter of the academic year. If you are admitted for a preliminary quarter to complete prerequisite courses, that quarter will not be counted in the minimum residence requirements.

Meeting the specified requirements for a field of specialization does not automatically assure admission to the program. 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, will be made available.

Three general areas of specialization have been authorized: librarianship, bibliography, and information science. Further specialization within these fields is possible. A minimum of nine courses (100-, 200-, 400-, and 500-series) must be completed in the Graduate School of Library and Information Science and other departments of the University. A research paper, bibliographical study, or literature survey appropriate for publication (in a professional or scholarly journal or as a separate paper) must be completed by the final quarter of study, usually in connection with enrollment in course 596.

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 ALA or by completing nine specified courses (400, 402, 404, 410, 411, 420, 421, 430, 441) taken in this school.

(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 1200 or better on the GRE Aptitude Test, with at least 500 in each of the two parts (Verbal and Quantitative). The examination must have been completed within five years prior to application for admission.

(6) Three letters of recommendation.

(7) Interviews with two faculty members of the school.

(8) An application for admission provided in the school's announcement.

While work experience in a library is not a requirement for admission, consideration will be given to such experience in evaluation of candidates.

Major Fields or Subdisciplines

You will be 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, will be accepted for doctoral work.

Course Requirements

There are no required courses in the program other than those required for admission.

Qualifying Examinations

There will be written qualifying examinations in each of the three areas of study listed above, including coverage of the historical as well as technical aspects. These will be 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.

The second formal requirement of the program is that you prepare and defend in the University Oral Qualifying Examination an extensive 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 will cover the methodology and feasibility of your research, as well as the depth of your knowledge in the specific field of your dissertation research.

Your doctoral committee will decide, after the oral examination, whether the proposal is ac-

cepted as written, is accepted with modification, or is not accepted. The committee also will decide 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 will be administered by members of the doctoral committee, who will also evaluate the dissertation.

Upper Division Courses

110. Information Resources and Libraries. Prerequisite: sophomore standing or consent of instructor. Not open for credit to M.L.S. students. Provides an introduction to bibliographic and information resources and relevant research methodology. Covers 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-111D. Ethnic Groups and Their Bibliographies. Introduction to bibliographical and research tools and methods for students with interests in ethnic groups. **111A** is concerned with American Indian history and culture; **111B** with Afro-American history and culture; **111C** with Latino history and culture; and **111D** with Asian American history and culture. Sections on other ethnic groups may be added. Offered in collaboration with the several centers for ethnic studies. May not be repeated for credit.

140. Computer Programming for Library Operations and Services. Lecture, one hour; laboratory, three hours. Prior knowledge of computers, programming, or MARC is not required. Introduction to programming languages suitable for librarians, students of language and literature, and similar disciplines. Concepts of text manipulations, file handling, and storage management are emphasized. Programs and examples emphasize processing of textual materials and bibliographic records (including Library of Congress MARC records). Practical experience with computers in processing such records.

Graduate Courses

205. Historiography of Librarianship, Bibliography, and Information Science. Prerequisite: consent of instructor. Identification of historical source material. Comprehensive and critical review of the historical and biographical literature. Identification of areas in need of research or reinterpretation.

206. Seminar on Library History. Prerequisite: consent of instructor. Special studies in biography and history of librarianship. Relationships to contemporaneous social, cultural, and intellectual history. Research papers on topics identified in course 205.

207. Seminar on International and Comparative Librarianship. Prerequisite: consent of instructor. Library development and service patterns in European and other countries; comparisons of these with librarianship in the United States. International library organizations and programs.

210. Seminar in Descriptive and Bibliographical Cataloging. Prerequisites: courses 410 and 411, or equivalent. Specialized studies in selected areas of descriptive and bibliographical cataloging (e.g., purposes, principles, instructional development, potentialities of automation). May be repeated once.

211. Seminar in Subject Control of Library Materials. Prerequisites: courses 410 and 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.

213. Seminar on Indexing. Prerequisite: consent of instructor. Development of basic concepts as reflected in the history of scholarship. Current problems in the transition from individual to large-scale indexing projects. Contribution made by automation. Future of mechanized indexing. Trend toward international standardization. Acceleration systems in indexing.

214. Seminar on Abstracting and Abstracting Services. Prerequisite: consent of instructor. Historical background and current situation, particularly in science and technology. Possibilities and present limitations of automation. Role in coordination of information services. Problems of standardization to achieve international coordination. Influence of changing needs.

221. Bibliography of Science, Engineering, and Technology. Prerequisites: courses 420 and 421. Scientific and technical literature with emphasis on special types of publications, research material, reference and bibliographical aids to the physical sciences. Importance, purpose, and nature of technical literature searches. Flow of information among scientists.

222. Bibliography of the Health and Life Sciences. Prerequisites: courses 420 and 421. Literature of the medical and life sciences: reference and bibliographical 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.

223. Literature of the Social Sciences. Prerequisites: courses 420 and 421. Seminar on the literature of the social sciences, including a review of the classics in the various fields, monumental source collections, periodicals, bibliographies, catalogs, indexes, abstracts, bibliographic and nonbibliographic data bases, etc. Trends in scholarly and popular writing. Interdisciplinary nature of the literature.

224. Literature of the Humanities and Fine Arts. Prerequisites: courses 420 and 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.) The course will acquaint students with general and specialized materials in fields concerned with Latin American studies. Library research techniques will provide the experience and competency required for future bibliographic and research sophistication as the basis for enhanced research results.
Mr. Lauerhass

228. Legal Bibliography. Prerequisite: consent of instructor. An introduction to the source materials 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.

229A. Afro-American Bibliography. Prerequisite: consent of instructor. Resources for the study of Afro-American history, culture, and literature. Problems of identification, description, subject analysis. Bibliographical and reference apparatus.

M229B. Africana Bibliography and Research Methods. (Same as African Area Studies M229B.) The course will explore the problems and techniques of research methodologies related to Africana studies. Emphasis will be 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

230. History of Publishing and the Book Trade. Publishing and book trade history, with particular reference to libraries and book collecting, changing aspects of book production and distribution within the setting of cultural history.

231. Contemporary Publishing and the Distribution of Information. Prerequisites: course 430 and consent of instructor. An in-depth examination of the publishing and distribution of information in contemporary society, most particularly as it relates to libraries. Historical, cultural, and economic factors. Creation of library materials (role of the author, editor, agent). Production and manufacturing. Marketing and promotion. Types of publishers. Structure and organization of publishing firms. Economics of the publication industry. Libraries, publishers, and information distribution — the current scene and future prospects.

240. Information Systems Analysis and Design. Theories and principles of special systems development, including determination of requirements, technical design and evaluation, and internal organization.

241. Measurement and Evaluation of Information Systems and Services. Prerequisite: a course in research methods. Recommended: a course in library automation. The course will look at information systems and services from the points of view of their cost and effectiveness in meeting desired objectives. Principles of costing will be briefly reviewed, the bulk of the course being given over to a 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.

242. Information Retrieval Systems. Prerequisite: course 240. Survey of principal vocabularies, methods of file organization, and search strategies in the control of publications in mechanized form.

243. Human/Computer Communication. Surveys issues relating to human/computer communication. The role of the computer in society, psychological aspects of user behavior, and applications of interactive computer systems are considered for 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.

249. Seminar on Special Topics in Information Science. Prerequisite: course 404 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 and classification, bibliographic and linguistic text processing, and measures of relevance and system effectiveness. May be repeated for credit by consent of instructor.

251. Reading and Reading Interests. Interests of the common reader, excluding children, with 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 Interest of Children. Recommended prerequisite: English 112 or equivalent. 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 individualized reading guidance.

260. Historical Bibliography. Early records and the manuscript period; history of the printed book and of periodical publications and newspapers, including materials, methods, and production. Parallel history of scholarship, the book trade, and book collecting in ancient, medieval, and modern Western civilization.

261. Analytical Bibliography. Recommended (but not prerequisite): course 260 or equivalent in background or experience. History and methods of analytical bibliography with emphasis on recent scholarship. The book as a physical object and its relationship to the transmission of the text. Emphasis on hand-press books. Theories of Bradshaw, Proctor, Greg, McKerrow, Pollard, Esdaile, Bowers, Stevenson, Hinman, McKenzie, and others.

262. Seminar on Historical Bibliography. Prerequisite: course 260 or consent of instructor. Special studies in the history of books and publishing. Topics vary from quarter to quarter to allow emphasis on a particular historical period, geographical area, or other specific aspect, such as a form of publication, genre, or material of production (such as paper or type). May be repeated for credit by consent of instructor.

271. Seminar on Intellectual Freedom. Prerequisite: consent of instructor. Investigation of the idea of intellectual freedom: historical and 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 theory, research, and methodology. May be repeated for credit. S/U grading.

280. Information Needs, Uses, and Users. Lecture, three hours; discussion, one hour. 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. Lecture, two hours. Prerequisites: courses 420 and 421, or consent of instructor. An introduction to the information needs of the business world. Encyclopedias, directories, yearbooks, indexes, loose-leaf services, government publications, data bases, and other sources of business literature will be discussed.

282. Records Management (½ course). Principles of records control from creation to disposition. Course is designed as an overview of records and information management to make students aware of the informaton processing problems of business and how a coordinated records and information management program can improve information access and utilization.

290. Research Methodology (½ or 1 course). 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 (¼ to 1 course). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading.

400. Librarianship: The Institutional Setting and Professional Environment. Overview of the history, roles, and functions in society of libraries and information centers, including their current status, structure, and problems. Professional associations and responsibilities, education, and research. Trends in administration, national planning, networks, standards, legislation, technology.

402. 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 bibliographical apparatus. New techniques and tools, theory, methods, and trends in bibliographical research in relationship to librarianship.

404. Fundamentals of Information Science. Provides an introduction to the variety of subjects that constitute the information sciences and their relationship to libraries and other information centers. Discusses the techniques of systems analysis and the application of data processing equipment to selected library operations.

405. Automation of Library Processes. Prerequisite: basic knowledge of a programming language, preferably PL/1 or IBM System 360 assembly language. Principles of application of data processing techniques to library procedures. Problems in the design, implementation, and testing of mechanized systems for libraries. Study of programming languages for library applications, with emphasis upon PL/1.

410. Descriptive Cataloging. Entry and description of library materials. Constitution, structure, and form of the library catalog. Cataloging services, tools, and procedures. Cataloging rules and their application.

411A. Introduction to Subject Access: Alphabetic-Subject Indexing (½ course). (Formerly numbered 411.) Lecture/discussion, four hours (five weeks). Prerequisite: course 410. Overview of the major alphabetic-subject indexing languages and their use in manual and on-line environments, including theory and application of the Library of Congress subject headings.

411B. Introduction to Subject Access: Systematic Indexing (½ course). (Formerly numbered 411.) Lecture/discussion, four hours (five weeks). Prerequisite: course 410. Overview of the major systematic subject indexing languages and their use in manual and on-line environments, including the theory and application of the Dewey decimal and Library of Congress classifications.

411C. Introduction to Subject Access: Thesaurus Construction (½ course). (Formerly numbered 411.) Lecture/discussion, four hours (five weeks). Prerequisite: course 410. Overview of major thesauri in use in manual and on-line environments. Emphasis is on their construction and evaluation and the principles underlying their design.

412. Cataloging and Classification of Nonbook Materials. Prerequisites: courses 410 and 411. Problems in cataloging and classification of selected nonbook materials (e.g., films, maps, pictorial works, sound recordings) as separate collections and integrated collections.

414. Principles of Indexing and Abstracting. Basic professional techniques, concepts, and methods of indexing monographs, serials, and specialized materials, of preparing informative and indicative abstracts, and of analyzing secondary abstracting and indexing services as library reference tools.

420. Information Resources and Services I. History, methods, and materials of information services. Analysis and evaluation of devices for bibliographical control of information. Systems of national and trade bibliography (U.S. and foreign), indexing, abstracting, etc. Fact books, handbooks, directories, almanacs, encyclopedias, yearbooks.

421. Information Resources and Services II. Prerequisite: course 420. Additional sources of information: dictionaries; biographical, geographical, and statistical sources; government documents. Special types of information service and service in different types of libraries and information centers. Evaluation of sources and services: standards. Economic aspects of service.

424. Computer-Based Information Resources. Overview of the major components of computer-based bibliographic information retrieval systems, planning on-line search strategies, and conducting on-line search services using a variety of data bases.

425. Computer-Based Information Resource Data Bases. Prerequisites: courses 420, 421, 424. Introduces the student to the use of resource data bases in the business and scientific communities. The file structures and hardware requirements for resource data bases are reviewed. Included are analyses of the information needs of scientists and business/labor, coupled with investigations into specific resource data bases addressing those needs.

429. Printing for Bibliographers. Prerequisites: course 260 or 261 and consent of instructor. Printing processes as related to bibliography and librarianship. Discussions, demonstrations, and experiments in design, composition, and presswork, with special emphasis on the 19th-century handpress. S/U grading.

430. Selection and Acquisition of Library Materials. Background of publishing and the book trade (new and antiquarian) pertinent to acquisitions departments of public, school, academic, and special libraries. Theory and practice of selecting and ordering books and other materials. Organization and administration of acquisitions departments.

431. Special Problems in the Selection of Materials and Evaluation of Collections. Prerequisite: course 430. Subject and area collecting; special collections and rare books; building new collections. Evaluating and weeding collections. Cooperative collecting — regional, national, and international. Storage centers; subject specialization. Special format materials: films, maps, sound recordings, etc. Copying methods; facsimile reprinting; changing character of research collections.

432. Media Librarianship. Prerequisite: consent of instructor. Films, filmstrips, recordings, tapes, and other nonbook materials in audiovisual collections or instructional media centers. Bibliographical apparatus. Evaluation and collection development. Organization and administration.

441. Management of Libraries. Prerequisite: consent of instructor. Principles of management, emphasizing management techniques applicable to libraries of various types and to library systems. Special attention to the management of human as well as technical resources.

442. Library Personnel Administration. Covers the basic principles of personnel management. Provides a survey of current personnel practices in libraries. Discusses how the basic principles apply or need to be modified to fit the library setting.

444. Information Networks. (Formerly numbered 244.) Problems in the formulation, funding, and operation of information networks are examined. A survey of some of the major networks, including institutional and computer systems.

446. Library Services for Youth. Provides an overview of programs and services which are of interest to young adults (12 to 18 years old). Discusses special problems in working with young people and the psychology of the teenager as it influences library programs.

447. Library Space Planning. Introduction to space planning and programming techniques and how they apply to libraries. Emphasis is on use of existing space, but planning new buildings is included. Reading blue prints, 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 their 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.

464. School Libraries. Elementary and secondary school libraries as multimedia instructional materials centers. Relationships of school libraries to school programs and curricula. Emphasis on administration, planning materials, services, and equipment.

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 folktale, and oral interpretation with emphasis on modern imaginative literature. Readings and discussion of the function of folklore and fantasy in literature, society, child development, and library programming. Students are required to choose, learn, and tell stories in class and in a library or community setting and to read stories aloud.

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. Topics, which vary to allow in-depth examination of current issues and individually selected concerns, emphasize those aspects of management which are distinctive of public libraries. Particular attention is devoted to funding and budgetary matters, the impact of new technologies, and the marketing of public library services.

470. Special Libraries and Special Collections. Organization, administration, collections, facilities, finances, and problems of special libraries and of special collections within general libraries. Methods of handling nonbook materials. Current trends in documentation and mechanization.

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 are scheduled.

472. Law Librarianship. Prerequisite: consent of instructor. An introduction to the profession of law librarianship; the organization of the professional associations and their activities; the character and distribution of law libraries throughout the United States; the distinctive characteristics of law library problems and their solutions.

473. Government Information. Introduction to the nature and scope of government information promulgated by the federal government, as well as by the 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 (½ course). (Formerly numbered 487A.) Provides information for administration of conservation programs and decision making in the preservation of library materials. Topics include history of paper production and book structure in relation to the present endangerment of library materials; past and current practices in library storage, retrieval and use; environmental controls, housekeeping; binding 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 (½ to 1 course). 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. Included are 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 is placed on legislative history sources and research techniques and computer-assisted legal research. New legal research techniques and tools are evaluated.

487D. Seminar on Current Issues in Librarianship. (Formerly numbered 272.) Prerequisite: consent of instructor. Identification, analysis, and discussion of critical issues currently facing the profession. May be repeated once.

489. Library Service to Special Population Groups. Prerequisite: consent of instructor. Special problems encountered by school, public, academic, special, and research libraries in meeting the needs of minority groups in urban and rural settings. Library service to the aging, the physically handicapped, and the institutionalized population.

490. Professional Communication (½ course). The course is designed to increase librarians' sensitivity to language in different contexts. Students explore the range of stylistic and syntactic options open to them for presenting proposals, reports, and research results. Such study covers all aspects of professional communications: written, oral, and visual, including computer-generated. S/U grading.

491. Interpersonal Communication for Librarians and Information Scientists. Examination of interpersonal communication patterns in library management and staff relations, in resource sharing, and in providing information services. Emphasis on relationships within an organizational environment and on effective communication styles in decision making, managing conflict, and implementing change.

495. Training and Supervision of Teaching Assistants (½ course). Hours to be arranged (twenty hours per quarter). Prerequisite: appointment as a teaching assistant or Extension Division instructor. Orientation, preparation, and supervision of graduate students who are involved in the teaching of an undergraduate or Extension course. Syllabus revision and materials preparation. Classroom observation. S/U grading.

497. Fieldwork in Libraries or Information Organizations. Prerequisite: completion of first year of M.L.S. program or consent of instructor. Supervised field experience in an operating library or information organization. Students spend full time in the field for most of the period.

498. UCLA Internship. Prerequisite: consent of instructor. Supervised professional training in one or more departments or units of the UCLA Library System or other University information centers. Minimum of 120 hours per quarter, including weekly critiques of bibliographical, administrative, and service problems. May be repeated twice. S/U grading.

499. Off-Campus Internship. Prerequisite: consent of instructor. Supervised professional training in a library or information center approved by the faculty of the school. Minimum of 120 hours per quarter, including weekly critiques of bibliographical, administrative, and service problems. May be repeated twice. S/U grading.

501. Cooperative Program (½ to 2 courses). Prerequisite: consent of UCLA graduate adviser and Graduate Dean and host campus instructor, department Chair, and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596. Directed Individual Study or Research (½ to 2 courses). Prerequisite: consent of instructor. Directed special studies in the fields of bibliography, librarianship, and information science. Variable conference time depending upon nature of study or complexity of research. S/U grading.

597. Directed Studies for Ph.D. Qualifying Examinations (½ to 2 courses). S/U grading.

599. Ph.D. Research and Writing (½ to 2 courses). S/U grading.

Graduate School of Management

J. Clayburn La Force, Dean

Because the world is changing rapidly and unpredictably, today's professional manager must learn the concepts and principles of management that make adjustments to new conditions possible. At the UCLA Graduate School of Management (GSM), consistently ranked among the best in the nation, people prepare to become first-rate managers with specialized skills and a broad understanding of the general economic, business, and managerial environment. This background enables them to become effective and efficient directors of organizations and people in the private, public, and not-for-profit sectors.

GSM's specific objectives, then, are to train professionals who have these qualities, to offer the business community a wide range of continuing education programs providing state-of-the-art information in a variety of fields, and to advance the art and science of management by engaging in, and educating scholars capable of conducting, basic research designed to study fundamental issues and implement new knowledge.

Students come to GSM from a variety of professional and educational backgrounds; their career goals are as diverse as the business and nonprofit communities themselves. Whether they choose to pursue the professional M.B.A., the academic M.S., or a Ph.D. in Management, they will graduate with a broad understanding of people and organizations and with a sound technical background in the economic and mathematical concepts of management planning and decision making.

Photo: M.B.A. students work in small groups as UCLA faculty and teaching assistants answer questions.

Graduate School of Management

3250 Graduate School of Management, 825-7935

Professors

Robert B. Andrews, Ph.D.
John W. Buckley, Ph.D. *(Arthur Young Professor of Accounting)*
Elwood S. Buffa, Ph.D. *(Operations Management and Management Science)*
Joseph D. Carrabino, Ph.D., P.E.
Fred E. Case, D.B.A. *(Urban Land Economics)*
Samuel A. Culbert, Ph.D. *(Behavioral and Organizational Science)*
Louis E. Davis, M.S. *(Organizational Sciences)*
David K. Eiteman, Ph.D. *(Finance)*
Donald Erlenkotter, Ph.D. *(Planning and Decision Sciences), Chair*
Eric G. Flamholtz, Ph.D. *(Accounting and Information Systems)*
Walter A. Fogel, Ph.D. *(Industrial Relations)*
Arthur M. Geoffrion, Ph.D. *(Management Science)*
Glenn W. Graves, Ph.D. *(Quantitative Methods)*
Martin Greenberger, Ph.D. *(IBM Professor of Computers and Information Systems)*
Alfred E. Hofflander, Ph.D. *(Finance and Insurance)*
John E. Hutchinson, Ph.D. *(Industrial Relations)*
James R. Jackson, Ph.D.
Harold H. Kassarjian, Ph.D.
Paul Kircher, Ph.D., C.P.A. *(Accounting-Information Systems)*
Archie Kleingartner, Ph.D. *(Industrial Relations)*
J. Clayburn La Force, Jr., Ph.D. *(Economics), Dean*
Bennet P. Lientz, Ph.D. *(Computers and Information Systems)*
Steven A. Lippman, Ph.D. *(Quantitative Methods)*
James B. MacQueen, Ph.D.
Robert Hal Mason, Ph.D. *(International Business and Business Policy)*
Fred Massarik, Ph.D. *(Behavioral Science and Industrial Relations)*
John J. McDonough, D.B.A. *(Accounting-Information Systems)*
Bill McKelvey, Ph.D. *(Management and Organizational Behavior)*
Daniel J.B. Mitchell, Ph.D. *(Industrial Relations)*
Frank G. Mittelbach, M.A. *(Management and Planning)*
Rosser T. Nelson, Ph.D. *(Management Science)*
Alfred Nicols, Ph.D. *(Managerial Economics)*
William A. Niskanen, Jr., Ph.D. *(Public/Not-for-Profit Management)*
William G. Ouchi, Ph.D.
Anthony P. Raia, Ph.D.
Richard W. Roll, Ph.D. *(Allstate Professor of Insurance and Finance)*
John P. Shelton, Ph.D. *(Finance)*
R. Clay Sprowls, Ph.D. *(Computers and Information Systems)*
J. Fred Weston, Ph.D. *(Warren C. Cordner Professor of Money and Financial Markets)*
Harold M. Williams, J.D.

Emeritus Professors

Ralph M. Barnes, Ph.D.
William F. Brown, Ph.D.
John C. Clendenin, Ph.D.
Ira N. Frisbee, M.B.A., C.P.A., LL.D.
Leo Grebler, Ph.D.
Raymond J. Jessen, Ph.D.
Erwin M. Keithley, Ed.D.
Harold Koontz, Ph.D.
Frederic Meyers, Ph.D.
George W. Robbins, M.B.A.
Harry Simons, M.A., C.P.A.
George A. Steiner, Ph.D., Litt.D. *(Emeritus Harry and Elsa Kunin Professor of Business and Society)*
Robert Tannenbaum, Ph.D.
Robert M. Williams, Ph.D.

Associate Professors

Ichak Adizes, Ph.D. *(Managerial Studies)*
Theodore A. Andersen, Ph.D. *(Business Economics and Finance)*
Peter Pin-Shan Chen, Ph.D., *Acting (Computers and Information Systems)*
Lee G. Cooper, Ph.D. *(Behavioral and Organizational Science)*
Thomas E. Copeland, Ph.D. *(Finance)*
Bradford Cornell, Ph.D. *(Finance)*
Robert Geske, Ph.D., *Acting (Finance)*
Richard A. Goodman, D.B.A.
Michael E. Granfield, Ph.D. *(Business Economics)*
Dominique M. Hanssens, Ph.D., *Acting (Marketing)*
Lauren Kelly, Ph.D., *Acting*
Larry J. Kimbell, Ph.D. *(Managerial Economics)*
David Mayers, Ph.D. *(Finance)*
Ephraim R. McLean, Ph.D. *(Information Systems)*
Frank E. Norton, Ph.D. *(Business Economics)*
Alfred E. Osborne, Jr., Ph.D. *(Business Economics)*
Richard P. Rumelt, D.B.A. *(Business Policy and Management)*
Rakesh K. Sarin, Ph.D. *(Production and Operations Management)*
Hans Schöllhammer, D.B.A. *(Management Theory and International Business)*
Carol A. Scott, Ph.D. *(Marketing)*
E. Burton Swanson, Ph.D. *(Computers and Information Systems)*

Assistant Professors

Jay B. Barney, Ph.D.
Paul J. Beck, Ph.D.
David M. Boje, Ph.D. *(Behavioral and Organizational Science)*
Imran S. Currim, Ph.D. *(Marketing)*
Mark S. Grinblatt, Ph.D. *(Finance)*
Sanford M. Jacoby, Ph.D. *(Industrial Relations)*
John W. Mamer, Ph.D.
Ronald W. Masulis, Ph.D. *(Managerial Economics and Finance)*
Robert J. Meyer, Ph.D.
John-Christopher Spender, Ph.D.
Sheridan D. Titman, Ph.D. *(Finance)*
Brett M. Trueman, Ph.D. *(Finance)*
Robin M. Wagner, Ph.D. *(Accounting-Information Systems)*
William M. Zumeta, Ph.D. *(Public Sector Management)*

Senior Lecturer

Warren H. Schmidt, Ph.D., *Emeritus*

Professor

Abraham Kaplan, Ph.D., *Visiting*

Associate Professor

Marvin M. May, Ph.D., *Adjunct*

Assistant Professors

Gregory S. Carpenter, M.B.A., *Acting*
Kent Nakamoto, M.A., M.S., *Acting*
Ernest J. Scalberg, Ph.D., *Adjunct*

Lecturers

William H. Broesamle, M.B.A., *Visiting*
Robert L. Carmichael, Ph.D., *Visiting (Computers and Information Systems)*
Jason L. Frand, Ph.D., *Adjunct*
Patricia O. Katsky, Ph.D., *Adjunct*
Joan K. Lasko, Ph.D., *Visiting (Behavioral Science)*
Edward V. Sedgwick, Ph.D., *Visiting*

Associate Field Program Supervisor

Arline Chambers, M.B.A.

The UCLA Graduate School of Management offers a variety of programs leading to graduate degrees at the master's and doctoral levels. These include both an academic (M.S.) and professional (M.B.A.) master's, as well as a 21-month Executive M.B.A. Program designed for working managers who are moving from specialized areas into general management. A Ph.D. in Management is also offered, as are a certificate Executive Program and research conferences and seminars for experienced managers. For information about these programs, contact the Office of Executive Education, 2381 GSM (825-2001).

The school does not offer an undergraduate major in management; however, several undergraduate courses in management are offered. Enrollment in Management 120, 122, 124, 130, 133, and 140 is open only to students in the Economics/Business program (see Chapter 5 for details on this program). Enrollment in other courses, although open to all University students who have completed the prerequisites, is limited, and non-GSM students are advised not to count on gaining admission to them in order to meet the requirements of other departments or programs.

Degrees Offered

Master of Business Administration (M.B.A.)
Master of Science (M.S.) in Management
Doctor of Philosophy (Ph.D.) in Management

Master of Business Administration

The two-year, full-time program leading to the Master of Business Administration (M.B.A.) degree is designed to prepare managers for business enterprises and for public/not-for-profit organizations. A part-time version of the program is available for a limited number of fully employed students, who must be able to attend classes scheduled between the hours of 4 and 10 p.m. at least two days a week.

The program aims to develop general management perspectives and knowledge while imparting expertise in student-selected fields of specialization. Along with mastery of subject matter, the M.B.A. program stresses integrating the lessons of various academic disciplines and functional fields, translating theory into practice, questioning the past and planning for the future, and self-guided learning as a continuing basis for effective managerial work.

Admission

Although no specific undergraduate major is required for entrance, you must complete elementary algebra and differential calculus before entering the M.B.A. program. You are required to take the Graduate Management Admission Test (GMAT). Any questions about the GMAT should be addressed to the Educational Testing Service, Box 966-R, Princeton, NJ 08541, (609) 883-8519 (the local phone number in Los Angeles is 254-5236).

Foreign applicants who hold degrees from universities or colleges where English is not the primary language are required to take the Test of English as a Foreign Language (TOEFL).

You must complete the M.B.A. Application, which includes the application for admission to graduate status. Admission is for the Fall Quarter only; completed applications, with full documentation, must be filed with GSM by March 15. Applicants for the arts management program must specify their wish to be considered for admission in that field.

Consideration is given to your academic record; score on the GMAT and, for applicants whose native language is not English, score on the TOEFL; potential for management as evidenced by work experience and community, extracurricular, or other experience; and letters of recommendation. Preference is given to applicants who have had full-time management-related work experience since completing their bachelors' degrees. Students admitted directly from baccalaureate programs who choose to work before entering graduate school will have their admission honored for three years.

Small group information sessions are offered by the M.B.A. Admissions Office several days a week from July through mid-March on an appointment basis. Call 825-8874 to arrange attendance.

Applications and information about the M.B.A. program are available in the M.B.A. Program Office, 3371 Graduate School of Management, UCLA, Los Angeles, CA 90024.

Areas of Study

Accounting/information systems; arts management; behavioral and organizational science; business economics; computers and information systems; finance; human resource management and industrial relations; international business and comparative management; management science; marketing; organization and strategic studies; production and operations management; public/not-for-profit management; urban land economics.

Course Requirements

The four required elements of the M.B.A. program are the nucleus, the management core, the area electives, and free electives, totaling at least 24 courses (96 units). The nucleus develops professional problem solving and decision making skills through experiences ranging from laboratory simulations to consulting projects in ongoing organizations. Management core subjects cover the fundamentals of disciplines which underlie the practice of management. The area of study (area electives) provides specialized knowledge and skills for a particular field of management work. Free electives permit students to pursue additional subjects of personal interest.

Nucleus: The nucleus is a series of three required courses that develops those interpersonal and decision making skills essential to the practice of management. The first-year nucleus course (Management 440) utilizes experiential teaching methods to guide students in defining problem solving skills from a personal perspective.

The second-year portion of the nucleus consists of a two-quarter management field study project in which teams of four or five students serve as management consultants to business firms or other organizations. Conclusions are summarized in a report which serves in lieu of a thesis or comprehensive final examination for the members of the team. The field study is judged by standards applicable to professional management consulting.

Management Core: The management core consists of 10 courses on subjects basic to the practice of management. It is divided into three parts: five courses in management, including Management 402, 403, and three courses chosen from 404, 405, 406, 407; three courses in functional fields chosen from 408, 409, 410, 411; and two courses in management processes (Management 412 and 420).

Area Electives: These focus on one or more fields of specialization within the broad realm of management. Students design programs of study to meet their specific academic needs and professional goals. Eight area electives are required, and you are encouraged to emphasize two or more areas of study.

Free Electives: You must select at least three free electives; subject only to general University regulations. These electives normally must be taken while enrolled in the program. They may support or complement the remainder of your program of study.

A maximum of two four-unit 596 courses may be applied toward the 96-unit requirement.

Extracurricular Activities

There are a variety of student organizations which promote both professional competence in many areas and the development of contacts among students, alumni, faculty, and business executives. Many opportunities are presented for students to become involved in planning events with executives in both the public and private sectors, to participate in day-long programs at various organizations, and to meet with company representatives and alumni. Extracurricular activities are an integral part of life at GSM, and all students are encouraged to participate.

Cooperative Degree Programs

J.D./M.B.A.

The School of Law and the 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.

M.S.-Computer Science/M.B.A.

The Graduate School of Management and the Department of Computer Science in the School of Engineering and Applied Science offer a concurrent degree program which enables students to complete requirements for the M.S. in Computer Science and the M.B.A. in three academic years. Students should request all application materials from the M.B.A. Admissions Office, Graduate School of Management.

M.L.S./M.B.A.

A concurrent degree program jointly sponsored by the Graduate School of Library and Information Science and the Graduate School of Management, this specialization is designed to provide an integrated set of courses for students who seek careers which draw on general and specialized skills in the two professional fields. Students should request all application materials from the M.B.A. Admissions Office, Graduate School of Management.

M.P.H./M.B.A.

The Graduate School of Management and the School of Public Health, Division of Health Services, offer a three-year concurrent degree program designed for students who desire a management career in health care and related fields and who wish in-depth professional preparation for such a career. The program reflects the combined interest of employers, faculty, and students who have recognized the increasing challenges facing managers in the health care industry and the need for individuals who are skilled in dealing with these challenges. Students should request all application materials from the M.B.A. Admissions Office, Graduate School of Management.

M.A.-Latin American Studies/ M.B.A.

The Graduate School of Management and the Latin American Studies Program jointly sponsor a concurrent degree program designed for individuals preparing for careers in international management with a special focus on the Latin American region. Establishment of the program was predicated on the belief that individuals employed in the area of international business and management are better equipped to meet the challenges of their employment with complementary preparation in language and regional studies. Students should request application materials from the M.B.A. Admissions Office and the Latin American Studies Program.

M.A.-Architecture and Urban Planning/M.B.A.

The Graduate School of Management and the Graduate School of Architecture and Urban Planning offer a three-year concurrent degree program designed for students who seek careers which draw on general and specialized skills in urban planning and management. By providing knowledge of the workings of both the private and public sectors, the program enables individuals who have acquired these skills to move easily between careers in private industry and public service. Students should request all application materials from the M.B.A. Admissions Office, Graduate School of Management.

Executive M.B.A. Program

Designed for mid-career managers with strong records of achievement, the Executive M.B.A. Program enables executives to obtain high quality advanced management education while continuing in their full professional roles. The program is limited to 50 participants with superior academic records and a minimum of eight years of combined work and managerial experience.

The intensive 21-month course of study leads to a regular M.B.A. degree. The emphasis is on general management training; increased competence in management specialties, organizational and interpersonal skills; and sophisticated understanding of the integration of businesses and their environments.

Classes are held at GSM on alternating Fridays and Saturdays, with three five-day, off-campus residential sessions 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, Graduate School of Management, UCLA, Los Angeles, CA 90024.

M.S./Ph.D. Programs

Admission

All applicants are required to take the Graduate Management Admission Test (GMAT) or the Graduate Record Examination (GRE). Foreign applicants who hold a degree from a non-English-speaking university are required to take the Test of English as a Foreign Language (TOEFL). Three letters of recommendation must be submitted with the completed application. All application materials, including transcripts, should be sent directly to the Doctoral Office, Graduate School of Management, UCLA.

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, 3379 Graduate School of Management, UCLA, Los Angeles, CA 90024.

All applicants to the M.S. or Ph.D. program are strongly urged to arrange an interview with at least one faculty member of their proposed area of concentration or major field area. The interview should take place before February 1.

Master of Science Degree

The academic master's program is a full-time program which leads to the Master of Science degree in Management. Some students will enter the program with the goal of eventual acceptance into the doctoral program; for others, the M.S. will be 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 17 courses may be required. It is possible to waive the eight prerequisite courses on the basis of prior coursework. Nine graduate-level courses (the required and elective major field courses plus four units of course 598) are required and cannot be waived.

(1) Prerequisites (seven courses): Management 200A, 200B, 213A, 400, 405, 406, 408.

(2) Specialization (eight courses; deviations may be approved by the chair of the business economics academic unit): Five required courses chosen from Management 201A, 201B, 201C, 202B, 202C, 205A, plus three electives (illustrative courses and course sequences) chosen from one of the following groups: *industrial organization* — Management 202A, 202D; M203A, M203B, M203C; 231A, 231B, 231C; Economics 204A-204B-204C; 271, 272; *techniques for analysis* — Economics 245A-245B-245C; 247, 248; Management 240A, 240B; *economic forecasting*— Management 201B, 201C, 201D; 205B, 205C; 230.

(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 course 598) are required and cannot be waived.

(1) Prerequisites (four courses): Mathematics 32B, 152A-152B, and two quarters of computer programming.

(2) Managerial Core (three courses): Management 403, 405, 408.

(3) Methodological Core (five courses; deviations may be approved by the chair of the management science academic unit): Management M203A, 210A, 210B, 210C, 216A.

(4) Depth Field: Three courses which support your thesis research.

(5) Master's Thesis (one course): Four units of Management 598.

Four units of Management 596 may be applied toward the minimum graduate course requirement.

Thesis Plan

A thesis is required for the Master of Science degree in Management. Students generally establish a thesis committee during their fifth quarter. Plans for the thesis should be presented to the committee for approval at the beginning of the sixth quarter.

Ph.D. Degree

The doctoral program is a research-oriented degree program which leads to the Ph.D. in Management. The program includes intensive training in research methods applicable to problems of organizations in the public and private sectors. It prepares students for careers in university teaching and research or as staff specialists in business firms and other organizations. The program offers students substantial opportunities to discover their own, unique scholarly focus and competence.

Major Fields

Accounting/information systems; behavioral and organizational science; business economics; computers and information systems; finance; human resources management and industrial relations; international business 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 will prepare 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 4½ years of the date of entrance into the program.

Final Oral Examination

The school requires that students take a final oral examination; this requirement may be waived only under exceptional circumstances.

Candidate in Philosophy Degree

The C.Phil. degree is available to GSM doctoral students upon advancement to candidacy.

Lower Division Courses

1A-1B. Elementary Accounting. Prerequisite: sophomore standing. Course 1A is prerequisite to 1B. An introduction to accounting theory and practice. The first quarter presents the recording, analyzing, and summarizing procedures used in preparing balance sheets and income statements. The second quarter includes payroll and tax accounting, partnership and corporation accounts, manufacturing and cost accounting, and supplementary statements.

Upper Division Courses

120. Intermediate Accounting. Prerequisites: courses 1A-1B or consent of instructor. The preparation of the principal accounting statements. Recording, valuation, and presentation of cash, temporary investments, receivables, inventories, investments, plant and equipment, intangibles, current obligations, long-term debt, paid-in capital, and retained earnings. Statement analysis. Statement of application of funds.

122. Cost Accounting. Prerequisites: course 120 and Economics 40 or 41, or equivalent. The nature, objectives, and procedures of cost accounting and control; job costing and process costing; accounting for manufacturing overhead; cost budgeting; cost reports; joint-product costing; distribution cost; standard costs; differential cost analysis; profit-volume relationships and break-even analysis.

124. Advanced Accounting. Prerequisite: course 122. Partnerships and joint ventures; installment sales and consignment sales; home office and branch relationships; corporate combinations; the preparation of consolidated statements; foreign branches and subsidiaries; receiverships; estates and trusts; governmental units; actuarial science.

130. Business Finance. Lecture, three hours; discussion, one hour. Prerequisites: course 120 and Economics 40 or 41, or equivalent. A study of the forms and sources of financing business firms large and small, corporate and noncorporate. Emphasis is on financial planning and developing judgment in formulating decisions on financial problems. Financial problems are also considered in their social, legal, and economic effects. Mr. Litt

133. Investment Principles and Policies. Prerequisite: 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.
Mr. Shelton

140. Elements of Production and Operations Research. Prerequisites: Mathematics 3A, 3B, 3C, 3E, Economics 40 or 41, 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.
Mr. Erlenkotter and the Staff

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.
Mr. Hutchinson

175. Elements of Real Estate and Urban Land Economics. An examination of business decision making as related to logical forces shaping cities and influencing real estate market functions and land uses. Emphasis is placed on decision making as it relates to appraising, building, financing, managing, marketing, and using urban property.
Mr. Mittelbach

182. Leadership Principles and Practice. Knowledge and skills leading to effectiveness in interpersonal relations. Understanding oneself as a leader and others as individuals and as members of working groups. Understanding of group process, including group leadership. Lectures and "sensitivity training" laboratory. Ms. Lasko

190. Management Theory and Policy. Prerequisite: course 130. A study of the basic concepts and theory of management. Emphasis is on an operational analysis of the manager's role in all types of organizations. The course deals with management issues in the areas of planning, organizing, staffing, directing, and controlling. Mr. Carrabino and the Staff

197. Special Topics in Management. Topics of special interest to undergraduate students. Specific subjects may vary each quarter depending on particular interest of instructors or students. May be repeated for credit.

Graduate Courses

Graduate courses are ordinarily open to students admitted in graduate standing. As a condition for enrollment, you must submit to the instructor in charge of the course evidence of satisfactory preparation for the work proposed.

200A. Techniques of Business Economics Analysis: Marginalist Models. Prerequisites: course 405 and Economics 145, or consent of instructor. Contemporary business economic principles of resource allocation and the price system are developed. Classical optimization and comparative static techniques are set forth and applied to the models of consumer choice and firm and general production-exchange equilibrium models. Mr. Osborne

200B. Techniques of Business Economic Analysis: Econometrics. Prerequisite: consent of instructor. Standard topics in applied econometric modeling are developed. The assumptions underlying the classical normal linear regression model, special problems in application, and interpretation of results are stressed. Practical applications are extensively developed in student projects. Mr. Kimbell

201A. Business Forecasting. Prerequisite: courses 100, 101, or 405, 406 and 115 or 402. The role of business forecasting in managerial planning. Principles and methods of forecasting. Evaluation of the reliability of existing forecasting techniques. Covers both short-term and long-term forecasting of industry, regional, and national business trends.

201B. Industry Forecasting. Prerequisite: course 201A. Evaluation of various methodologies found useful in preparing industry forecasts; differences between short- and long-range forecasting techniques, etc.

201C. Regional Economic Forecasting. Prerequisite: course 201A. Forecasting of economic activity in a region, emphasizing special problems such as population and industry migration; the effects of external forces on the regional economy.

201D. Economic Policy and Business Environment. Prerequisite: consent of instructor. Analysis of economic policies shaping the business policy: stabilizing policy instruments; structural policies for efficiency and progress; policy needs for the future. Treats policy formation and administration as well as design.

202A. Economic Theories of Business Behavior: Marginal, Managerial, and Behavioral. Prerequisite: course 200A. The economic behavior of the firm and firm groups is considered. 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.

202B. Principles of Industrial Organization. Prerequisite: course 200A. The course develops analysis principles necessary for understanding the economic structure and behavior of industries. Topics range from substitutability criteria for industry definition and a comparison of alternative classification schemes to the relationships among industry structure, conduct, and performance. Mr. Granfield, Mr. Weston

202C. Empirical Studies in Industrial Organization. Prerequisite: course 202B. Analyses of factors influencing the size of industries, their size distribution, and the conditions of entry and exit are investigated. Implications of such industry characteristics are derived for decisions having to do with firm output, prices, advertising, and research/development. Mr. Weston

202D. The Organization of Industry and Business Policy. Prerequisite: consent of instructor. Analysis of economic aspects of long-range planning of firms with respect to horizontal expansion, vertical integration, and diversification, especially the review of statutory and legal decisions affecting internal and external expansion policies.

M203A. Economics of Decision. (Same as Economics M203A.) Prerequisites: rudiments of economic theory, calculus, and probability of statistics. Norms and facts of decision making in the household, business, and government. Consistent behavior in terms of personal utilities and probabilities. Multiattribute value theory. Departures from consistency: descriptive theories of behavior and resulting models. Mr. Sarin

M203B. Economics of Information. (Same as Economics M203B.) Prerequisite: rudiments of economic theory of the firm, calculus, and probability of statistics; course M203A or consent of instructor. Optimal decision and information rules. Amount, cost, and value of information. Risk aversion, stochastic dominance, and their impact on economic decisions in a stochastic environment. Mr. Lippman

M203C. Economics of Organization. (Same as Economics M203C.) Prerequisites: courses M203A, M203B. Rational models of teams. Relation to the theory of games.

205A. International Business Economics. Prerequisites: courses 405 and 406, or consent of instructor. The international business environment, international economic institutions, national and regional trade policies and developments, trends in foreign markets, international monetary problems are studied for their influence on the organization and operation of the international corporation. Mr. Mason, Mr. Mitchell

205B. Comparative Market Structure and Competition. Prerequisite: course 205A or consent of instructor. A comparative study of public policies toward competition, market structures, and competitive practices in key industries in selected countries.

205C. Business Forecasting for Foreign Economies. Prerequisite: course 201A or consent of instructor. Forecasting changes in business activity, population, industrial structure, productivity, Gross National Product and its components for selected countries.

205D. The Management of Economic Development in Latin America. Discussion, three hours. Prerequisite: course 405 or Economics 1 or 2. An introduction to economic development in Latin America. Considers the problem of population, human resources development, agriculture, and land reform. Examines various industrialization strategies, the role of foreign trade, foreign investment, and economic integration in the area's development. Analyzes role of inflation and financial intermediation in capital development.

207A. Resource Administration of Nonmarket Activities. Prerequisites: courses 405 and 406, or consent of instructor. Examination of the proper economic role of nonmarket institutions and of the allocation of societal resources between the public and private sectors via market and nonmarket mechanisms. Definition and application of economic efficiency to resource allocations. Mr. Granfield

207B. 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 roles of government and the private sector in the financing and provision of public goods and services.

208. Selected Topics in Business Economics. Prerequisite: consent of instructor. Special topics in business economics. Current developments in theory or practice in business economics. May be repeated for credit.

210A. Mathematical Programming. Prerequisite: Mathematics 115. A comprehensive development of the theory and computational methods of linear programming, with applications to business and related disciplinary areas. Mr. Graves

210B. Applied Stochastic Processes. Prerequisite: Mathematics 150A or Engineering 120A. Sequential stochastic (usually Markovian) decision processes in discrete and continuous time, with emphasis on problem formulation and the characterization and computation of optimal policies, often via dynamic programming; application to inventory, queueing, maintenance, reliability, and replacement problems. Mr. Lippman, Mr. Mamer

210C. Network Flows and Integer Programming. Prerequisite: course 210A. Theory and techniques of discrete and network-related mathematical programming models in management science. Applications to various allocation, coordination, operating, and planning programs. The emphasis will be on fundamentals, efficient computational methods, and the keys to successful practical applications. Mr. Geoffrion

211A. Nonlinear Mathematical Programming. Prerequisites: course 210A and Mathematics 32A or equivalent. Theory, methods, and application of the optimization of nonlinear systems. Review of classical optimization methods; optimality and duality theory for convex programs; main computational approaches to convex programming; survey of current computer codes and computational experience. Mr. Geoffrion, Mr. Graves

211B. Large-Scale Mathematical Programming. Prerequisite: course 210A or equivalent. Theory and computational methods for optimizing large-scale linear and nonlinear programs. Exploitation of special structures with combinatorial, dynamic, multidivisional, and stochastic aspects to obtain practical solution procedures in spite of large numbers of variables and/or constraints. Mr. Geoffrion, Mr. Graves

212A. Management Science Models I. Prerequisites: course 407 and Mathematics 31B. A broad survey of deterministic models, how to solve them, and their application in the management sciences. Solution techniques include linear programming, network optimization, integer programming, nonlinear programming, and dynamic programming. Application areas include allocation, corporate planning, distribution, finance, operations management, production, and project management. Mr. Erlenkotter, Mr. Geoffrion

212B. Management Science Models II. Prerequisites: course 212A and Mathematics 32A, or equivalent. A broad survey of nonlinear, time-staged, and probabilistic models for managerial decision making. Application areas include finance, marketing, production, facilities design, and energy systems. Mr. Erlenkotter, Mr. Mamer

212C. Management Science Models III. Prerequisites: courses 212A and 212B. In-depth review of actual management science applications. Emphasis is placed on the professional skills needed for successful practical applications.

213A. Intermediate Probability and Statistics. Prerequisite: course 402 or equivalent. An introduction to probability theory and hypothesis testing as applied to management. SAS programs will be used in this course and its sequels. Mr. Mamer

213B. Statistical Methods in Management. Prerequisite: course 213A or consent of instructor. An introduction to parameter and interval estimation, simple and multiple linear regression and correlation, fixed, random, and mixed effects analysis of variance models and nonparametric statistics, all as they apply to management studies. Mr. Cooper, Mr. Hanssens

213C. Introduction to Multivariate Analysis. Prerequisite: course 213B or consent of instructor. An introduction to the use of multivariate models in management research to organize and represent information; interpretation of coefficients from multivariate exploratory models (e.g., principal axes and factor analysis models); a survey of multivariate statistical procedures (e.g., multiple discriminant analysis, multivariate analysis of variance, canonical correlation, and confirmatory factor models). Mr. Cooper, Mr. Hanssens

214B. Behavioral Science Models. Prerequisite: consent of instructor. Formulation, analysis, and interpretation of mathematical models in the behavioral sciences. Emphasis is on stochastic process models for aspects of individual and group behavior such as learning, problem solving, classification, communication, bargaining, and social exchange systems. Mr. MacQueen

215D. Time-Series Analysis. Prerequisite: course 213B or consent of instructor. Univariate Box-Jenkins analysis, transfer functions, and intervention analysis. Relationship between econometric and time-series models, Granger causality, multiple time-series analysis. Numerous computer applications in modeling and forecasting. Mr. Hanssens

215E. Statistical Design of Surveys. Prerequisite: course 213B or equivalent. Mathematical theory and practices of statistical survey design and analysis. Mr. Jessen

216A. Simulation of Operational Systems. Prerequisite: courses 113B, 402, or equivalent background in batch computing (APL is not suitable) and statistics. Computer simulation methodology, including design, validation, operating procedures, and analysis of results of simulation experiments. Applications of simulation to management problems. Mr. Nelson

216B. Advanced Computer Simulation. Prerequisite: course 216A. Advanced use of computer simulation techniques. Major term projects will be 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. Mr. Nelson

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 decision processes; axiomatic foundations, 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 nonzero-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 (¼ to 1 course). Prerequisite: consent of instructor. Newly developing topics and viewpoints. Topics have included reliability and optimal maintenance theory, large-scale distribution/inventory systems, and Markovian decision processes under uncertainty. May be repeated for credit.

218C. Selected Topics in Business Statistics (¼ to 1 course). Prerequisite: consent of instructor. Special topics in statistical methods. Current developments in statistical theory and practice. Analysis of recent literature. Topics and instructors will be announced. May be repeated for credit.

218D. Current Problems in Management Science (¼ to 1 course). Current research on a variety of topics in the general area of management science, presented by invited University and outside speakers. May be repeated for credit.

218X-218Y-218Z. Current Issues in Management Science (¼ to 1 course each). Current issues and research on a variety of topics in the general area of management science. May be repeated for credit.

220A. Intermediate Financial Accounting I. Prerequisite: course 403 or consent of instructor. The first of a two-course sequence that deals with the concepts and principles of financial accounting, with an emphasis on the pronouncements of the Financial Accounting Standards Board, the Securities and Exchange Commission, and other authorities.
Mr. Wagner

220B. Intermediate Financial Accounting II. Prerequisite: course 220A or consent of instructor. The second of a two-course sequence that deals with the concepts and principles of financial accounting, with an emphasis on the pronouncements of the Financial Accounting Standards Board, the Securities and Exchange Commission, and other authorities.
Mr. Beck

220C. Advanced Financial Accounting. Prerequisite: course 220B or consent of instructor. A continuation of course 220B, the course gives special attention to a range of topics, which include accounting for partnerships, mergers, combinations, and parent-subsidiary relationships. Litigation procedures are reviewed, including reorganizations, receiverships, and bankruptcy. Mr. Beck

221. Current Issues in Accounting Information Systems. Prerequisite: consent of instructor. Using a colloquium format, the course provides a forum for the discussion of contemporary issues in accounting and information systems. Drawing on prominent speakers in the field, the course requires the student to formulate a position paper on each topic presented.

222. Cost Accounting. Prerequisite: course 403. The nature, objectives, and procedure of cost accounting and control; job costing and process costing; joint product costing, standard costs; theories of cost allocation and absorption; uses of cost accounting data for management decision making.
Ms. Kelly

223. Verification of Financial Statements. Problems of examination, verification, and presentation of financial statements from the standpoint of the independent public accountant. Legal and professional responsibilities of public accountants; professional ethics. Operational and management auditing.
Mr. Beck

224A. Computer Systems. Prerequisites: courses 225A and either 113B or 113C or consent of instructor. The specification and configuration of computer-based systems for management applications. Methods for costing system hardware and software and for assessing computer performance. Trade-off analysis of comparative computer configurations. Case materials and/or actual examples are used. Mr. Lientz

224B. Management of Computer-Based Information Systems. Prerequisite: course 224A or consent of instructor. An in-depth coverage of the problems in managing computer-based information systems. Focuses on the definition, evaluation, installation, and continuing management of EDP systems. Issues of planning and control, as well as the organizational impact of computer systems, are stressed.
Mr. McLean

224C. Systems Analysis for Computer-Based Information Systems. Prerequisites: courses 224A and 225A, or consent of instructor. The detailed design and specification of computer-based management information systems. Includes studies of existing systems, economic and organizational analyses of alternatives, and tools for determining user requirements. Case materials and/or actual examples are used.

224D. Generalized Data Base Management Systems. Prerequisite: course 113B or 113C or consent of instructor. Examines the features and capabilities of generalized data base management systems. Includes system classification, comparison of software features, and evaluation of specific systems. Emphasis is on management uses of such systems. A field study project may be required. Mr. Sprowls

224E. Computer Simulation for Management. Prerequisite: Computer Science 20 or course 113B or 113C or consent of instructor. Introduction to computer simulation and to general purpose simulation languages (e.g., GPSS, SIMSCRIPT, DYNAMO). Emphasis on the managerial use of simulation and the development of computer-based models for problem solving and policy analysis. Programming assignments are included.

224F. Telecommunications and Computer Networks. Prerequisite: course 224A or consent of instructor. Distributed processing. Networked minicomputer systems. Data communication technology. Data security in computer networks. Cost/benefit analysis for the design, configuration, and implementation of computer networks. Applications to computer utilities; command and control systems; and commercial, medical, and government networks. Mr. Lientz

224G. Special Topics in Computing. Prerequisite: consent of instructor. An examination in depth of issues or problems concerned with the theory and practice of computing and the management use of EDP systems. Course may have a single theme or may deal with a number of topics. May be repeated for credit. Mr. Frand, Mr. Lientz

225A. Introduction to Information Systems. Prerequisite: course 404 or consent of instructor. Basic concepts and uses of information systems in organizations. Fundamental design considerations. The role of data processing. Examples of information systems in profit and not-for-profit organizations.
Mr. Greenberger, Mr. Sprowls

225B. Information Syatems for Planning and Control. Prerequisite: course 403 or consent of instructor. Design of systems to produce information for planning and control. Survey of approaches and techniques employed at the strategic, managerial, and operational levels. Special consideration of accounting and budgeting methods. Impact of planning and control information on human behavior.
Mr. McDonough

225C. Measurement in Information Systems. Prerequisite: familiarity with basic statistics, probability theory, set theory, and accounting, or consent of instructor. A study of the role of measurement in accounting and information systems, from the standpoint of mathematical, economic, behavioral, and organizational consideration. Mr. Swanson

225D. Special Topics in Information Systems. 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. Of special interest to advanced doctoral candidates, the academic staff, or distinguished visiting faculty. May be repeated for credit.
Mr. Greenberger

225X-225Y-225Z. Current Research in Information Systems (¼ course, ¼ course, ½ course). Discussion, two hours. Prerequisite: doctoral standing. A year-long sequence associated with the Computers and Information Systems 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. S/U grading. Mr. Swanson

226. International Accounting. Prerequisite: graduate standing. Comparative analysis of accounting concepts and practices in other countries; study of contrasts between various systems; problems of accounting for international corporations, including transfers of funds and income measurement; and accounting influences on economic development.
Mr. Kircher

227A. Tax Accounting. Prerequisite: course 403. A study of the fundamentals of income taxation, with emphasis on problems in federal and state income, franchise, gift, and estate taxes; study of source material and research methods for ascertaining current rulings and trends in laws and regulations.

227B. Taxation and Business Policy. Tax systems, tax shifting, and burden theory. Impact of taxation law and theory on business decisions. Corporate tax planning. The businessman and tax reform.

229A. Accounting Theory. Prerequisite: course 220B. A survey of accounting literature, with emphasis on the development of basic accounting concepts. An attempt is made to explain contemporary practice as it has evolved in accordance with basic theory and expanding demands for accounting information.
Ms. Kelly

229B. Research Methodology in Accounting. Prerequisite: course 229A or consent of instructor. Design of empirical and theoretical research in accounting. Sources of research problems. Research conduct and methodology in accounting and other fields as they relate to accounting. Ms. Kelly

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 theory, research, and methodology. Of special interest to advanced doctoral candidates, the academic staff, or distinguished visiting faculty. May be repeated for credit.

229X-229Y-229Z. Accounting and Information Systems Workshop (¼ course, ¼ course, ½ course). Discussion, two hours. Prerequisite: doctoral standing. The course is designed to develop an ability to critically evaluate research in fields relevant to the study of accounting. Papers are presented in a colloquium format by leading scholars in accounting. Active participation and intellectual interchange are encouraged through discussion of the papers in sessions prior to the workshop, as well as during the colloquium. May be repeated for credit. S/U grading.
Mr. Beck

230. Theory of Finance. Prerequisite: course 408. Concerned with decision making under uncertainty, the theory of asset prices, and the efficiency of capital markets. Develops the most recent theoretical constructs and applies them to fundamental issues in corporate financial management (such as capital budgeting, capital structure, and dividend policy).
Mr. Copeland, Mr. Geske, Mr. Mayers

231A. Profit Sector Financial Policy. Prerequisite: course 230. Identifying and solving financial problems through the use of cases. Stresses the application of financial theory and financial techniques to business problems, using written reports and classroom discussion.
Mr. May, Mr. Titman, Mr. Weston

231B. Nonprofit Sector Financial Policy. Prerequisite: course 408. Identifying and solving financial problems for all types of nonprofit organizations through use of cases. Stresses possible application of financial theory for profit-oriented firms. Particular attention to unique problems of resource allocation when market valuation cannot be used as a criterion. Mr. Eiteman

231C. Working Capital Management. Prerequisites: courses 230 and 231A. More detailed advanced coverage of the short-range problems of financial management. Coverage of current assets, current liabilities, and their interrelationships.

231D. Applications of Quantitative Methods in Finance. Prerequisites: course 230 and other 230-level seminars. Applications of multiple regression, mathematical programming, and stochastic processes to more complex problems of financial decision making. Comparison of solutions from alternative quantitative methods.

232A. Security Analysis. Prerequisite: course 230. Primarily a course in stock market investing, but approach is applicable to all investment assets. Includes techniques of security analysis and security valuation based on financial statements of the organization. Mr. Mayers, Mr. Shelton

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. Mr. Shelton

233A. Money and Capital Markets. Prerequisite: course 230. Application of interest theory and flow funds 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. Mr. Cornell, Mr. Masulis, Mr. Roll

233B. Financial Institutions. Prerequisites: courses 230 and 233A. Study of the financial policies and practices of commercial banks, savings and loan associations, pension funds, insurance companies, and other major financial institutions. Review of current major problems facing senior managers of these financial institutions. Mr. Andersen, Mr. Masulis, Mr. Roll

233C. Speculative Markets. Prerequisite: course 230. Study of the theory and evidence of capital market efficiency, including the stock market, the bond market, commodity future markets, the options market, money markets, and foreign exchange markets. Mr. Copeland

234A. Multinational Business Finance. Prerequisites: courses 205A and 408. Recommended for finance majors: course 230. Financial problems in the management of multinational businesses. Included are the international financial environment, problems surrounding the decision to commit long-term capital to an international venture, and financial techniques for the daily operation of a multinational firm. Mr. Eiteman

234B. Advanced Studies in International Finance. Prerequisites: courses 230 and 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. Prerequisite: course 135 or consent of instructor. Advanced consideration of the problems of insurance management. Treats the actuarial, underwriting, investment, marketing, and regulatory problems relating to insurance activities. Mr. Hofflander

235B. Risk and Risk Bearing. Prerequisite: course 135 or consent of instructor. Advanced consideration of the theory of risk and risk bearing. The analysis of alternative ways of meeting risk and uncertainty, the scope and limits of insurance, and the economics of insurance.

238. Special Topics in Finance. Prerequisites: course 230 and 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. Mr. Geske

239A. Theory of Exchanges under Uncertainty. Prerequisites: course 230 and consent of instructor. Foundations of the theory of exchange are developed as an introduction to theoretical literature on the pricing of capital assets. Primarily intended for doctoral students, but well-prepared master's students may find the course useful in their career preparation. Mr. Geske

239B. Theory of Investment under Uncertainty. Prerequisites: courses 230 and 239A, or consent of instructor. Foundations of theory of firm capitalization and investment decisions are developed with special attention to questions of exchange and allocative efficiency. Primarily intended for doctoral students, but well-prepared master's students may find the course useful in their career preparation.

239C. Empirical Research in Finance. Prerequisites: course 230, training in econometrics, and 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 doctoral students, but well-prepared master's students may find the course useful in their career preparation. Mr. Roll

239D. Doctoral Seminar in Finance. Prerequisites: course 230 and courses in the 239 series. Intended for doctoral students. Advanced topics in finance theory and empirical research. May be repeated for credit with instructor change.

239X-239Y-239Z. Finance Workshop (¼ course, ¼ course, ½ course). Discussion, 90 minutes. Prerequisite: doctoral standing. The course is designed to develop an ability to critically evaluate finance research. Papers are presented in a colloquium format by leading scholars in finance. Active participation and intellectual interchange are encouraged through discussion of the papers in sessions prior to the workshop, as well as during the colloquium. May be repeated for credit. S/U grading. Mr. Mayers

240A. Aggregate Planning and Work Force Scheduling. Prerequisite: course 410. Managerial methods for short-term capacity planning and scheduling in aggregate terms. Theoretical models and management practices in manufacturing and service operations. Model formulation that allocates use of regular and overtime labor, inventories where appropriate, backordering shortages, and outside capacity. Mr. Sarin

240B. Scheduling and Control of Operations. Prerequisites: courses 407 and 410, or consent of instructor. Detailed short-term scheduling and control of productive (production or service) operations. Identification of objectives and performance criteria for evaluating scheduling and control procedures. Classification of production and service systems. Scheduling problems and solution approaches for different types of systems. Mr. Nelson

240C. Design of Operational Systems. Prerequisite: course 410. Issues in selection of the capabilities, characteristics, and configuration of service and manufacturing systems as part of overall strategy for attaining organizational goals; planning of capacity, location, processes/technologies, facilities, organizational structures, and jobs. Mr. Andrews

241. Technological Bases of Jobs and Organizations. Prerequisite: consent of instructor. Technological determinants of operating systems and jobs; productive system design models; behavioral models underlying operating system design, technology, and social system design; operating system veriability, control, and measurement.

242A. Planning for Facilities Systems. 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 systems. Mr. Erlenkotter

243A. Project Management. Prerequisite: course 407 or equivalent. Management of development projects. Decision making environment, economic analysis, network analysis, scheduling, and control of development projects. Sequential and aggregate development decisions.

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. Deterministic, stochastic, discrete, and continuous time models are considered.

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. Nelson

244. Policy Issues in the Management of Operations. Prerequisite: second-year graduate standing. Case analyses centering on the operations phases of enterprises. Cases selected are at the policy level and are drawn from service, nonmanufacturing, and manufacturing industries.

245A. Special Topics in Operations Management. Studies of advanced subjects of current interest in operational management. Emphasis is on recent developments and the application of specialized knowledge to operational problems. Topics vary each quarter. May be repeated for credit with topic change.

245B-245C. Survey of Operations Management. Prerequisite: graduate standing. Survey of the research literature in operations management. Seminar reports dealing with special topics.

245X-245Y-245Z. Production and Operations Management Seminar (¼ course, ¼ course, ½ course). 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 doctoral work. Student and faculty presentations of ongoing research. May be repeated for credit. Mr. Sarin

246A. Policy Analysis in the Public/Not-for-Profit Sector. Prerequisite: completion of the management analysis requirement for the M.B.A. program. Application of several analytic techniques for policy analysis. Specific topics include forecasting/scenario writing, multiple objective decision making, cost analysis, risk/benefit analysis, and social experimentation. Limitations of methodologies will be examined and concepts illustrated through current applications and case studies. Mr. Zumeta

246B. Budgeting and Resource Allocations in the Public/Not-for-Profit Sector. Prerequisites: courses 403, 408, and 246A, or consent of instructor. Examines 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, crucible for political choice. Provides some insight into staff functions performed by those responsible for resource allocation.

246C. Policy Implementation in the Public/Not-for-Profit Sector. Prerequisites: courses 246A and 246B, or consent of instructor. Emphasizes problems, strategies, techniques for implementing policies within the organizational context. Relates public interest needs for accountability and responsibility to the organizational/managerial needs for security and advancement. Includes consideration of public sector entrepreneurship, public personnel management, public sector consulting. Mr. Zumeta

247A. Interorganizational Strategies in the Public/Not-for-Profit Sector. Prerequisite: consent of instructor. Consideration of public/not-for-profit organizations as members of a network, from the point of view of strategies for managing the entire network, and managerial implications for an individual, focal organization. System structure, transactions, levels of collaboration, competition, and dependence. Mr. Boje

248. Special Topics in Public/Not-for-Profit. Prerequisite: consent of instructor. Studies of advanced subjects of current interest in public/not-for-profit management. Emphasis is on recent developments and the application of specialized knowledge to public/not-for-profit problems. Topics vary each quarter. May be repeated for credit with topic change.
Mr. Zumeta

250A. Labor Relations: Process and Law. (Formerly numbered 251.) Lecture, three hours. Prerequisite: graduate standing. Consideration, at an advanced level, of the collective bargaining process, 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

250B. Human Resource Management: Process and Law. (Formerly numbered 252.) 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. Mr. Fogel, Mr. Jacoby, Mr. Mitchell

250C. Behavioral Foundations of Human Resources Management. (Formerly numbered 250B.) Lecture, three hours. Prerequisite: course 250B or consent of instructor. Topics include development and training; human resources accounting; behavioral foundations of participating management; motivation, productivity, and satisfaction; designing reward systems; and evaluation of organization effectiveness. Emphasis is on understanding, predicting, and influencing human behavior in organizations.
Mr. Flamholtz, Mr. Massarik

251. Managing Human Resources. (Formerly numbered 250A.) Lecture, three hours. The course focuses on the management of people in organizations, is intended for managers as well as personnel specialists, and is organized at three related but distinct levels of analysis: (1) the day-to-day utilization of people as organizational resources to achieve optimal productivity, satisfaction, retention, and development; (2) the personnel management function or system that performs specialized human resources functions; and (3) the issues facing top management which involve the management of human resources, including strategic planning for human resources, union-management relations, and design of corporate culture. Mr. Flamholtz

252. Systems of Employee-Management Participation. (Formerly numbered 250C.) Lecture, three hours. Prerequisite: consent of instructor. Course is designed to provide understanding of systems of employee-management participation around the world (apart from traditional collective bargaining systems). Specific concepts such as worker participation in decision making, industrial democracy, joint consultation, workers' councils, profit sharing are covered.
Mr. Adizes

253. Conflict Resolution in Labor-Management Relations. (Formerly numbered 253B.) Lecture, three hours. Prerequisite: graduate standing. Analysis of conflict in the employment relationship; theoretical and empirical findings. Principles and philosophies that underlie resolution of labor-management impasses are considered, 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.

255. Comparative Industrial Relations. Prerequisite: course 409 or elementary knowledge of labor economics. At national and international levels, historical and contemporary analytical comparison of industrial relations systems within their political, social, and economic environments. Included are the institutions, philosophies, and ideologies of labor, management, and government, and the interaction of their power relationships; the substance and manner of determination of "web of rules" governing the rights and obligations of the parties; and the resolution of conflicts. Mr. Hutchinson

257. Labor-Management Relations in Public and Nonprofit Sectors. Prerequisite: graduate standing. Analysis of labor-management relations in government, including public education, and in nonprofit institutions (i.e., artistic, cultural, recreational, and health care). Emphasis is on negotiations and group relationships rather than on public personnel administration.

258. Selected Topics in Industrial Relations (¼ to 1 course). Prerequisite: doctoral standing or consent of instructor. An examination in depth of problems or issues of current concern in industrial relations. Emphasis on recent contributions to theory, research, and methodology. Of special interest to advanced doctoral candidates, the academic staff, or distinguished visiting faculty. May be repeated for credit.
Mr. Hutchinson

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.

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 are covered.
Mr. Fogel, Mr. Jacoby, Mr. Mitchell

260A. Advanced Marketing Management. Prerequisite: course 411 or consent of instructor. A decision-oriented course concerned with the solution of product, price, promotion, and distribution channel problems. Extensive use will be made of case studies.
Ms. Scott

260B. Marketing Strategy and Planning. Prerequisite: course 260A or consent of instructor. A framework for strategic marketing planning is developed. The cornerstones are the analysis of a few, yet powerful, conceptual frameworks which have broad application. Within the framework of the strategic marketing plan, key elements in the annual marketing planning process will be developed. Mr. Carpenter

261A. Management in the Distribution Channel. Prerequisite: course 260A or consent of instructor. An examination of decisions in the distribution channel. Issues of power in the distribution channel and the trade-offs between alternative channel systems are discussed.

261B. International Marketing Management. Prerequisite: course 260A or consent of instructor. Opportunities, distinctive characteristics, and emerging trends in foreign markets are analyzed. Includes an exploration of alternative methods and strategies; organizational planning and control; impact of social, cultural, economic, and political differences; and problems of adapting American marketing concepts and methods. Mr. Hanssens

262. Price Policies. Prerequisite: course 260A or consent of instructor. 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, price warfare, and leader pricing are also studied in relation to the price-making process. In addition, some attention is given to the price policies of individual firms in which these concepts are applicable.

263A. Consumer Behavior. Prerequisite: course 411 or consent of instructor. A study of the nature and determinants of consumer behavior. Attention is focused on the influence of socio-psychological factors such as personality, small groups, demographic variables, social class, and culture on the formation of consumers' attitudes, consumption, and purchasing behavior. Ms. Folkes, Mr. Kassarjian

263B. Theory of Marketing Stimulation. Prerequisite: course 263A. Analysis of factors influencing consumer demand. Techniques for stimulating demand are evaluated in relation to specific marketing objectives. Material is drawn from economics, psychology, sociology, anthropology, and marketing research.

264A. Marketing Research: Design and Evaluation. Prerequisite: course 411 or consent of instructor. Methods of measuring and predicting the forces affecting marketing, including quantitative aspects of demand, consumer reaction to product characteristics, effectiveness of advertising and other promotional devices, influence of rewards and organizational systems on sales efficiency, and effectiveness of competitors' strategies. Mr. Currim, Mr. Meyer

264B. Mathematical Models in Marketing. Prerequisite: course 260A or equivalent or consent of instructor. A study of the utilization of models for the solution of marketing problems. Discussion is focused on models concerned with such problems as brand switching, media selection, pricing, competitive strategy, scheduling, allocation problems, and waiting time.

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. Cooper

265A. Marketing and the Law. Prerequisite: course 260A or consent of instructor. A detailed study of the legislative enactments (federal, state, or local) which influence the operation of institutions engaged in marketing activities, together with an analysis of the judicial decisions which have interpreted these laws.
Mr. Kassarjian

265B. Social Issues in Marketing. Prerequisite: course 260A or consent of instructor. Environmental impact of marketing in society; study of theories, methods, and relationships for evaluating transaction behavior in a scientific and humanistic context; macroanalytic perspectives in marketing.

266A. Product Management. Prerequisite: course 260A. The course develops a framework for identifying and appraising alternative growth strategies of the firm. Product addition, modification, and deletion decisions are examined, and the processes by which these decisions can be made in an optimal manner are discussed. Mr. Currim

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, strategy, appropriation policy, media selection, evaluating advertising results, and the organization of the advertising function. Ms. Folkes

266C. Sales Force Management. Prerequisite: course 411 or consent of instructor. The course develops a logical framework for the solution of problems in sales force management. It covers 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. The course provides a systematic approach to the special issues concerning research on people; criteria for evaluating macromethodologies; development of scientific concepts, models, theories, and law; the problem of private report, and the question of data language.

268. Selected Topics in Marketing (¼ to 1½ courses). 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 particular interests of the instructor and students. Individual projects and reports. May be repeated for credit.

269A. Theory in Marketing. Prerequisite: consent of instructor. The course serves a two-fold purpose. At one level it serves as a mechanism to introduce the student to the development of marketing thought. In addition, issues pertaining to the general topic of theory development and testing are addressed. The general goal is to prepare the student for conducting theoretically-grounded research in marketing.

269B. Research in Marketing Management. Prerequisite: consent of instructor. Intended for doctoral students. Study of research issues associated with marketing management decisions. Recent research in the areas of strategic marketing, marketing segmentation, new product development and introduction, pricing strategies, channel policy, promotion decisions, and sales force management is examined critically. Both quantitative and behavioral approaches to studying these issues are reviewed.
Mr. Carpenter

269C. Quantitative Research in Marketing. Prerequisite: consent of instructor. Intended for doctoral students in management and related fields. Students are assumed to have a good background in marketing principles and to be familiar with probability, statistics, mathematical programming, and econometrics. The purpose is to review a range of quantitative models as applied in marketing research.
Mr. Meyer

269D. Behavioral Research in Marketing. Prerequisite: consent of instructor. Empirical research in consumer behavior is surveyed and critically evaluated from theoretical as well as practical perspectives. Intended for doctoral students who will be conducting research in consumer behavior or related areas.

269E. Special Research Topics in Marketing. Prerequisite: doctoral standing. Advanced 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-269Z. Workshop in Marketing (¼ course, ¼ course, ½ course). Prerequisite: doctoral standing. Required of all students during the first two years of their doctoral work. The series consists of a number of leading scholars in marketing and related disciplines who make presentations to marketing faculty and doctoral students. Active participation and intellectual interchange are the goals of this workshop, which helps the student gain a richer perspective on the field of marketing. Mr. Meyer

270. Environment of the Art World. Prerequisite: consent of instructor. Consideration and analysis of the political, social, economic, and environmental forces in American society as they affect the existence and development of arts institutions in the U.S. The aim is to explore present policies and trends and potential future developments.

271. Law and the Arts. Prerequisite: consent of instructor. Exploration of the way in which law and the arts relate, the role of the lawyer *vis-à-vis* artist and arts manager, policy underpinnings of the law and effect on the arts, and unsolved problems and issues in areas of interaction.

272. The Role of Management in Artistic Decision Making. 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.

274. Current Issues in Arts Management. Prerequisite: consent of instructor. The seminar of the final quarter is viewed as the major vehicle integrating the academic program and current issues in the management of artistic institutions. Relevant combinations of lectures, discussions, case studies, and team research projects are employed.

275A. Urban Issues and Problems. Prerequisite: course 175 or consent of instructor. Study of urban problems and issues, including demand for and supply of private and public goods, environmental pollution, transportation, recreational facilities, poverty, housing the poor, city size and efficiency, urban sprawl, taxation, new towns, real estate and building industries. Mr. Mittelbach

275B. Urban Land Economics. Prerequisite: course 175, 405, or consent of instructor. Introduction to development and use of economics and management principles in identifying and analyzing the determinants of urban land use and land values, public policies affecting the urban land market, and the private sector's role in shaping the urban environment.
Mr. Mittelbach

275C. Alternative Urban Futures. Prerequisite: consent of instructor. The use of economic tools and business techniques for planning and forecasting alternative urban futures. Urban and world dynamics models are used to analyze future urban life under various assumptions about the shape, structure, and functions of future cities. Mr. Case, Mr. Mittelbach

276A. Theory of Urban Property Valuation. Prerequisite: course 408 or equivalent. Systematic analysis of the elements of real property values and of the allocation of land uses over urban space. Students may use APL programs to investigate and critically evaluate methods of valuation and allocation.
Mr. Case, Mr. Mittelbach

276B. Comparative and International Urban Land Studies. Analysis of private and public decision making shaping urban development and redevelopment in selected countries. Emphasis on the economic, social, and institutional factors which determine urban growth, structure, and patterns on the land in developed and underdeveloped nations.
Mr. Case, Mr. Mittelbach

276C. Urban Dynamics: Degeneration and Regeneration. Prerequisite: consent of instructor. Seminar which identifies, analyzes, and evaluates problems and solutions concerning urban blight, rehabilitation, redevelopment, new towns, inner-city revitalization, and intergovernmental relations in the American city, with particular emphasis on the role of private enterprise in dealing with these problems.
Mr. Case, Mr. Mittelbach

277A. Housing Economics. Prerequisite: consent of instructor. Consideration of determinants of private and public demand for housing. Housing programs and relationships between construction and economic trends are examined in detail.
Mr. Case, Mr. Mittelbach

277B. Housing Policy. Prerequisite: consent of instructor. U.S. and foreign housing programs. Housing low-income groups, new town legislation, improving environment, urban renewal and development, and related topics. Criteria for assessing public policy, policy implementation, policy and stages of national economic development, the role of private enterprise.
Mr. Case, Mr. Mittelbach

278A. Urban Real Estate Financing and Investing. Prerequisite: consent of instructor. Theoretical and pragmatic analyses are used to determine the differences between real property and other investments. Real estate investment opportunities are evaluated for their effectiveness in balancing personal and business investment objectives and public land use goals. Mr. Case, Mr. Mittelbach

278B. Sources, Uses, and Flows of Real Estate Capital. Identification and analysis of sources and uses of real estate credit and equity funds. Policies and programs of lenders are related to real estate construction and market trends, and governmental economic and housing policies and programs.
Mr. Case, Mr. Mittelbach

279A. Special Studies in Urban Land Economics. Limited to master's or doctoral candidates working on thesis- or dissertation-related research. May be repeated for credit. Mr. Case

279B. Selected Topics in Urban Land Economics. Open to all graduate students who wish to pursue a particular topic in housing, real estate, or urban land economics in depth on an individual or cooperative basis. May be repeated for credit.

279X-279Y-279Z. Urban Research and Development (½ to 1 course each). Prerequisite: graduate standing or consent of instructor. Exploration of urbania and its problems; prospects and prescriptions for the delivery of a quality life. The exploration will be both macroscopic and microscopic as related to problems of a selected urban area.

280A. Important Studies in Human Systems. Prerequisite: doctoral standing or consent of instructor. Surveys seminal studies of human systems. Summarizes and critiques literature focal to the evolution and current status of the field. Reviews such topics as personality, 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. Offers a broad introduction to objectivist and subjectivist philosophies of science, and the psychology and sociology of science. Critiques laboratory and field experiments; field studies, analytical and descriptive methods; interview, participant observation, questionnaire, and unobtrusive methods of data collection.

280C. Personal and Professional Development. Prerequisite: doctoral standing or consent of instructor. Provides a setting where students may explore their own professional values in the process of testing and learning the values and standards important in the human systems Ph.D. program and held by the broader community of system researchers and interveners. Mr. Culbert

280D. Research Design for Human Systems Studies. Prerequisite: course 280A or 280C or consent of instructor. Acquaints students with temporal and logical sequences in the process of designing studies of human systems, including optimizing the fit of research topic, observation, and data collection methods and data analysis techniques. Actively involves students in the preparation of research proposals.

280E. Tutorial in Human Systems Research. Prerequisite: course 280D or consent of instructor. Provides an opportunity for students to offer and receive constructive comment on the design, data analysis, and writing of their doctoral research papers.

280F. Human Systems Research Seminar. Prerequisite: course 280D or consent of instructor. Exploration of various research methods and problems encountered in applying them. Students are actively involved in seminar reports and in class critique of course members' dissertation research designs. May be repeated for credit. Mr. Boje

281A. Sociotechnical Systems. Prerequisite: graduate standing. Introduces systems concepts and views work organizations as interacting social and technical systems open to forces from the surrounding environment. Focus is on developing the sociotechnical systems analytic approach and understanding the advantages of this approach for designing and managing organizations. Mr. Davis

281B. People in Organizations. Prerequisite: graduate standing. Introduces different philosophical perspectives for understanding human behavior. Theories and concepts important for understanding human behavior in organizations are presented as well as managerial implications of individual, group, and social behavior. Special attention is given to knowledge about satisfaction motivation and productivity in organizations. Ms. Lasko

281C. Situational Factors in Management. Prerequisite: graduate standing. Applies 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. Develops 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. Focuses on the structures, processes, and interrelations of work groups in sociotechnical systems. Emphasizes an 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. Focuses on the complexity and uncertainty of organizational environments. Analyzes environments along sociocultural, political, and economic dimensions, their interrelationships, and their relations to technology. Diagnoses organizational responses to various environments. 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. Develops specific methods ranging from the microdesign of jobs to the macrodesign of total organizational structures. Special emphasis on sociotechnical and differentiation/integration models. Mr. Davis

284B. Organization Development. Prerequisite: course 281B or consent of instructor. Analyzes effects of managerial practices on individual self-fulfillment and organizational effectiveness. Presents theories of organization change and the action-research methods of organization development practitioners. Merges theory with practice through seminar discussions of field observations.

285A. Leadership, Motivation, and Power. Prerequisite: course 281B or consent of instructor. Studies theoretical and practical approaches to influencing and motivating people. Explores the relative effectiveness of various leadership styles, different motivation theories, and power tactics from a managerial point of view. Uses experience based learning methods to aid diagnosis and understanding of one's own influence styles. Mr. Culbert

285B. Managerial Interpersonal Communication. Prerequisite: course 281B or consent of instructor. Focuses on organizational, interpersonal, and personality factors affecting managerial communications. Analyzes styles and modes of communication in one-to-one, group, and indirect communication settings. Offers opportunities to deepen understanding of one's own communication styles and skills. Mr. McDonough

287. Sensitivity Training Groups and Their Facilitation. Prerequisite: consent of instructor through prior application in the department. Develops cognitive and experiential understanding of the dynamics of sensitivity training groups and their facilitation. Analyzes relevant theory, research findings, and case studies; stresses translating these inputs into practice.

288A. Special Studies in Managing Organization Behavior. Prerequisite: M.B.A. standing or consent of instructor. An examination in depth of problems or issues of current concern in managing organizational behavior. Emphasis on recent theories, research findings, and professional applications of special interest to M.B.A. students and faculty. May be repeated for credit. Mr. Davis

288B. Selected Topics in Behavioral Science. Prerequisite: doctoral standing or consent of instructor. Focuses on philosophies and theories of human behavior fundamental to the study of individual, group, organizational, and cultural behavior. Explores in depth selected theoretic positions, extending and consolidating behavioral science knowledge and applications. May be repeated for credit. Mr. Tannenbaum

288C. Current Issues in Sociotechnical Systems and Organization Design. Prerequisite: doctoral standing or consent of instructor. Covers 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. Includes in-depth comparisons of selected job and organizational design approaches. May be repeated for credit.

288D. 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.

288E. Selected Topics in Organization Theory. Prerequisite: doctoral standing or consent of instructor. In-depth treatment of organizations as units of analysis. Emphasizes recent theoretical and empirical development, methodological issues in organizational research, and concepts of organization structure, process, and effectiveness. May be repeated for credit.

288F. Selected Topics in Organizational Behavior. Prerequisite: doctoral standing or consent of instructor. Explores psychological and social psychological aspects of human behavior and performance in organizations. Covers 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.

288G. 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 multivariate research, depending on student and faculty interest. May be repeated for credit.

288X-288Y-288Z. Behavioral and Organizational Sciences Workshop (¼ course, ¼ course, ½ course). Discussion, two hours. Prerequisite: doctoral standing. The course is 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 research and development as a process and as an element of a goal-oriented organization. Factors affecting invention and innovation; transfer of technology; organizational and behavioral considerations; coupling of science, technology, and organizational goals; assessing of forecasting technological futures. Mr. Goodman

292B. Models of Organization Behavior. Prerequisite: consent of instructor. Theoretical frameworks for developing explanatory and predictive models of complex organizations. Exercises in constructing 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.

292D. Management in the Not-for-Profit Sector. Prerequisite: graduate standing. A study of the not-for-profit sector, the institutions within it, and its relationship to the governmental and business sectors. Special emphasis on management problems peculiar to the not-for-profit sector. Mr. Andrews

293. Business and Society. Prerequisite: consent of instructor. A study of the business enterprise as a social institution, with emphasis on the changing purposes of social action. Adjustments of the firm to changes in the social environment. Ethical problems in management. Social responsibilities of the business manager.

294A. Strategy Formulation and Implementation. Prerequisite: consent of instructor. Case course dealing with strategy decisions and their implementation, executive action, and administrative behavior involved in managing total enterprises. The student is confronted with complex company situations to develop ideas essential to overall managerial direction.

294B. Environmental Impacts on Management. Prerequisite: consent of instructor. Examination of ways in which business, government, labor, and consumer organizational managers might respond to external environmental problems. Methods are studied for developing and evaluating alternative managerial solutions which permit organizations to assist in improving current and future environmental quality.

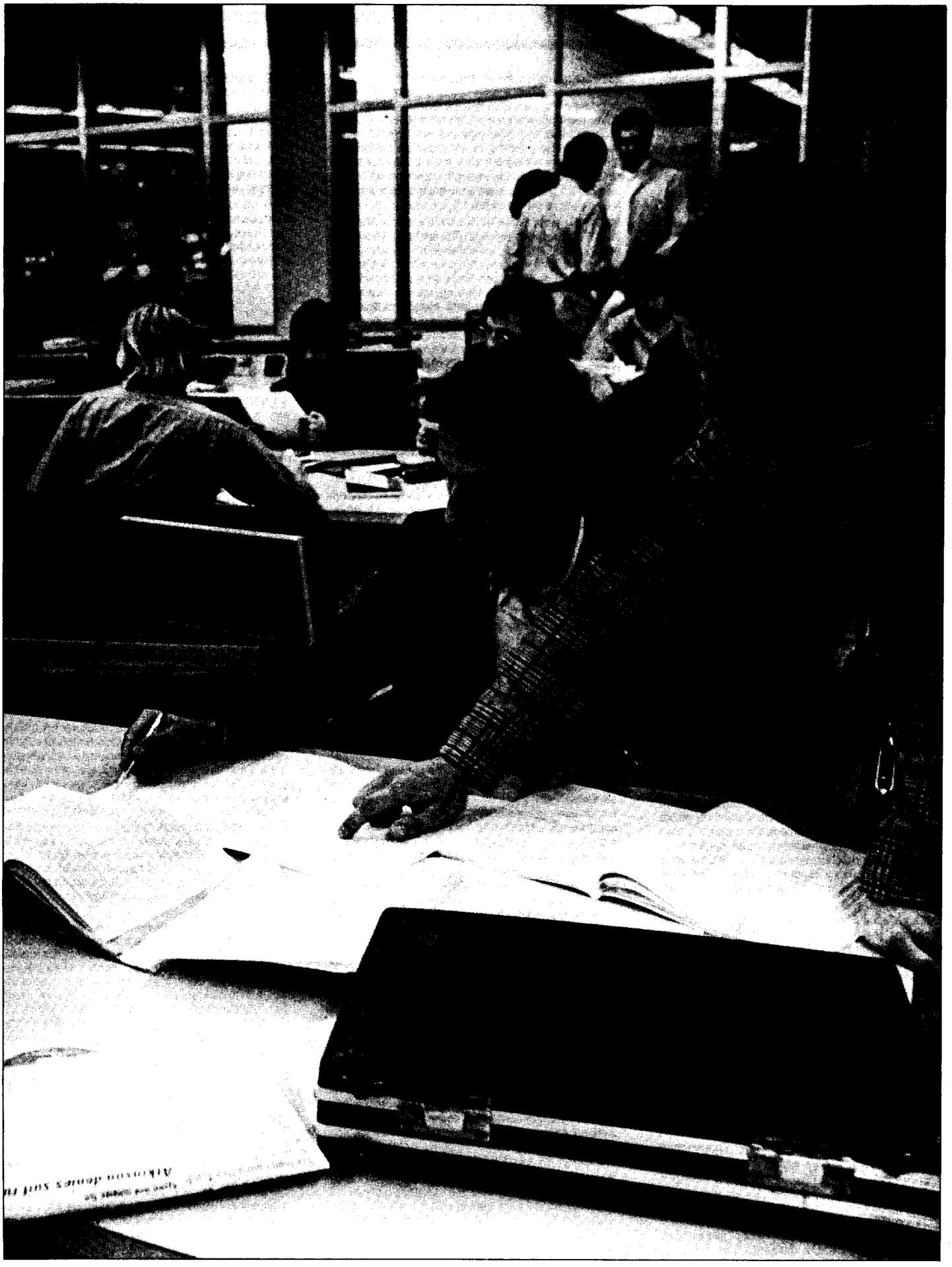
295A. Entrepreneurship and Venture Initiation. Prerequisite: consent of instructor. An exploration in entrepreneurship particularly concerned with the formation and operation of new business ventures. Significant and crucial aspects of exploring new business opportunities and starting a business. Mr. Schöllhammer

295B. Small Business Management. Prerequisite: consent of instructor. Exploration of crucial aspects in managing small business enterprises. Emphasis is placed 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. Prerequisite: course 205A or consent of instructor. Identification, analysis, and resolution of managerial issues of policy and action within the context of an international corporation, with emphasis on problems of adaptation to different sociological, cultural, legal, political, and economic environmental characteristics. Mr. Schöllhammer

296B. International and Comparative Management Research. Prerequisite: doctoral standing or consent of instructor. In-depth study of theory and research pertaining to international business and comparative management. Emphasizes recent research developments and methodological issues. Imparts knowledge on the design and the conduct of international/comparative management research. Mr. Mason

297A. Comparative and International Management. Prerequisite: course 412 or consent of instructor. A comparative study of the practice of management in selected foreign countries, as affected by their social environments and the development of management theory.



297B. International Business Policy. Prerequisites: course 205A and 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 will be applied to a series of complex cases and simulations of international business operation.

297C. International Business Law. Prerequisites: courses 205A and 296A. Legal environments in which international business operates; overseas business relationships and organizations; antitrust, taxation, transfer of capital, and technology regulations; patent, trademark, and copyright safeguards; arbitration of international business disputes; expropriation of foreign investments; international business and government relations.

297D. International Business Negotiations. Prerequisite: course 296A. Exploration of international business negotiations of multinational enterprises with governmental agencies and foreign-based firms on a wide range of issues, such as establishment/dissolution of joint ventures, extent of foreign ownership/management control, terms/conditions for technology transfer, investment incentives.

298A. Special Topics in Management Theory. Prerequisite: doctoral standing or consent of instructor. An examination in depth of problems or issues of current concern in management theory. Emphasis on recent contributions to theory, research, and methodology. Of special interest to advanced doctoral candidates, the 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 doctoral candidates, the 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 doctoral candidates, the academic staff, or distinguished visiting faculty. May be repeated for credit.

298D. Special Topics in Management (¼ to 1 course). Prerequisite: doctoral standing or consent of instructor. An examination in depth of problems or issues of current concern in management. Emphasis on recent contributions to theory, research, and methodology. Of special interest to advanced doctoral candidates, the academic staff, or distinguished visiting faculty. May be repeated for credit.

298X-298Y-298Z. Management Strategy and Policy Workshop (¼ course, ¼ course, ½ course). Discussion, three hours. Prerequisite: doctoral standing. The course is designed to develop an ability to critically evaluate research in fields relevant to the study of management strategy and policy. Papers are presented in a colloquium format by leading scholars in management strategy and policy. Active participation and intellectual interchange are encouraged through discussion of the papers in sessions prior to the workshop, as well as during the colloquium. May be repeated for credit. S/U grading. Mr. Goodman

299R. Research Methods in Management. Prerequisite: doctoral standing. Provides feedback and evaluation of papers prepared for the research requirement. Quarterly meetings are held to discuss expectations of the research committee and the Doctoral Office. Students must enroll the quarter in which they are submitting their research paper. May be repeated for credit.

375. Teaching Apprentice Practicum (¼ to 1 course). Prerequisite: apprentice personnel employment as a teaching assistant, associate, or fellow. A teaching apprenticeship under the active guidance and supervision of a regular faculty member responsible for curriculum and instruction at the University. May be repeated for credit. S/U grading.

The following courses are acceptable toward the M.B.A., M.S., and Ph.D. degrees within the limitations and conditions prescribed by the curricula of the Graduate School of Management.

400. Mathematics for Management. Prerequisite: graduate standing. Fundamental mathematics for business, including topics from matrix algebra, probability, and calculus, with applications to model building and decision making in business firms. S/U grading.

401. Managerial Economics. Prerequisite: graduate standing. Introduction to the measurement and determination of economic activity in the aggregate and to the role of prices in the decision making of the organization. National income accounting, basic economic policy, markets and prices, competition and monopoly, applications.

402. Data Analysis, Statistics, and Decision Making. Prerequisite: graduate standing. An introduction to statistics for graduate students who have had no prior course in which emphasis is on application to business problems. Mr. MacQueen, Mr. Sarin

403. Managerial Accounting. Prerequisite: graduate standing. An introduction to fundamental systems and procedures in financial and managerial accounting, with an emphasis on income measurement, marginal analysis, standard and direct costing.
Mr. Buckley, Mr. Trueman, Mr. Wagner

404. Managerial Computing. Prerequisite: graduate standing. An introduction to the use of computers for management applications. Computer hardware, software, and programming concepts are discussed. Programming problems are assigned, using both batch type (PL/C) and interactive (APL) languages.
Mr. Frand, Mr. McLean

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. General business forecasting and cyclical mechanisms. 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 is on model types and formulations, and use of solutions obtained from computer routines. Application areas include finance, marketing, production, and public systems.
Mr. Jackson, Mr. MacQueen, Mr. Nelson

408. Managerial Finance. Prerequisite: course 403. Analysis of main decision areas of managerial financial management. Aimed at principles generally applicable to all types of organizations. Emphasis on financial planning and control, sources of funds, developing objectives and standards which lead to effective allocation and use of the organization's resources.
Mr. Anderson, Mr. Copeland, Mr. Hofflander

409. Personnel Management and Labor Relations. Prerequisite: graduate standing. Human resources evaluation. Compensation practices. Collective bargaining impacts. Governmental policy impacts on public/private sectors regarding labor-management relations, affirmative action, occupational safety, pension reform. Concepts of labor markets and manpower planning. Innovations such as employee participation and flextime.
Mr. Fogel, Mr. Hutchinson, Mr. Jacoby

410. Production and Operations Management. Prerequisite: course 407 or equivalent. Principles and decision analysis related to the effective utilization of the factors of production in manufacturing and nonmanufacturing activities for both intermittent and continuous systems. Production organizations, analytical models and methods, facilities design, and the design of control systems for production operations.
Mr. Andrews, Mr. Sarin

411. Elements of Marketing. A study of institutions and functions as they relate to the distribution of goods and services, emphasizing the viewpoint of management in the planning, execution, and measurement of marketing activities and strategies, and the viewpoint of society in the analysis of cost, impact, and results.

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, creating/maintaining planning, control, information, incentive systems, different patterns of human interaction such structures and systems tend to produce.
Mr. Barney, Mr. McKelvey, Mr. Spender

420. Management Policy. Prerequisite: course 412. Evaluation and formulation of organization's overall policies and strategies. Economic, heuristic, and social process approaches to policy formulation, environmental analysis, and organizational appraisal. Senior management's role in managing the policy process. Mr. Barney, Mr. Mason, Mr. Rumelt

423. Advanced Management Theory. Advanced study of management theory in formally organized enterprise through significant readings; discussing advanced approaches and techniques developed from applying theory; using theory to integrate methods and findings of quantitative and behavioral sciences; lectures on sophisticated application of management theory in practice. Mr. Raia

435. Organizational Behavior and Management Processes. Prerequisite: graduate standing. A system approach to the theory and practice of management in complex organizations. Provides an integrated view of human behavior and managerial processes in a dynamic organizational society.

440. Managerial Problem Solving: Individual. Prerequisite: graduate standing. Study and practice of individual decision making and problem solving, including the impacts of personality, motivation, interpersonal communication, and various decision making techniques. The relationships among the individual, managerial roles, and complex organizations as they influence the managerial process are studied.

441. Managerial Problem Solving: Complex Systems. Prerequisite: course 440. Study of organizational and interorganizational problem solving, including identification, formulation, data collection, forecasting, assumption testing, solution methods, implementation, evaluation, control, and dealing with conflict and ambiguity. Organization of projects in which problem solving is experienced at various levels of complexity.

444A-444B. Management Field Study. Must be taken in two consecutive quarters in the second year. Supervised study of an organization, including establishment of client organization/student consultant relationship, identification of problem, design of study, collection and analysis of data, development and reporting of implementable recommendations. In Progress grading.

450. Fieldwork in Behavioral Science Management Development (1 or 2 courses). Prerequisites: course 287 and consent of instructor. Supervised practical fieldwork in all phases of laboratory education for management development, such as sensitivity training laboratories, creativity and personal growth laboratories, simulated managerial behavior laboratories, etc. Ms. Lasko

451. Fieldwork in Organizational Development (½ to 3 courses). Prerequisite: course 284B or 450 or consent of instructor. Supervised practical fieldwork in organizational development consultation in interpersonal, group, intergroup, total organization, and interorganizational settings.

452. Fieldwork in Technical Assistance for Minority Business Enterprise (¼ to 1 course). Prerequisite: completion of first year of master's program or consent of instructor. Supervised field experience in business consulting and other forms of technical assistance for business firms and management in ethnic communities; seminars and other shared learning experiences in transmitting business administration technology to the urban ghetto.

453. Fieldwork in Arts Management (1 to 3 courses). 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 and consent of the supervising faculty and the director of the M.B.A. program. Supervised, nonpaid practical experience or fieldwork in an organization as an intern or fellow. Execution of predetermined assignment(s) pursuant to a defined program of study which may include formal classwork. May not be repeated for credit.

495. Preparation for Teaching Business and Management. Prerequisites: graduate standing and consent of instructor. Study of problems and methods in the teaching of management. Includes seminars, workshops, and practice teaching. May not be applied toward the M.B.A., M.S., or Ph.D. degree requirements. S/U grading. Mr. Frand, Mr. Lasko

The following individual study or research courses (500-599) may be used, within limitations and conditions prescribed by the school, to satisfy minimum higher degree requirements.

501. Cooperative Program (½ to 2 courses). Prerequisite: consent of UCLA GSM graduate adviser and Assistant Dean and host campus instructor, department Chair, and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596A-596N. Research in Management (¼ to 2 courses each). Prerequisite: consent of director of master's program or director of doctoral program by special petition. Directed individual study or research. May be repeated.

597. Preparation for Qualifying Examinations (1 or 3 courses). Prerequisite: consent of director of master's program or director of doctoral program by special petition. Preparation for master's comprehensive examination or Ph.D. qualifying examination.

598. Thesis Research in Management (1 or 3 courses). Prerequisite: consent of director of master's program by special petition. Research for and preparation of the master's thesis. May be repeated. S/U grading.

599. Ph.D. Dissertation Research in Management (1 or 3 courses). Prerequisite: consent of director of doctoral program by special petition. Research for and preparation of the Ph.D. dissertation.

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 (½ course). The course will focus on individual problem solving and decision making skills. Alternative conceptual frameworks will be presented for augmenting the individual's diagnostic and decision making skills. Readings, cases, decision simulations, and discussions will be used to explore the areas of charting job and career progress, working with others, and shaping the work culture. Mr. Mason

462. Economic Analysis for Managers. The course focuses on policy-oriented problems in antitrust, tax securities, and environmental regulation. Concepts of microeconomic theory are 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, Mr. Osborne

463. Data Analysis and Management Decisions under Uncertainty. The course will survey statistical model building, with emphasis on the managerial interpretation of the statistical summary of data. Classical statistics will be covered through multiple regression to support the courses in finance and marketing that follow. The fundamental approaches to decision making under uncertainty will be presented. Mr. Buffa, Mr. Hanssens

464. Managerial Accounting. The course 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. Mr. Buckley

465. Quantitative Methods for Managers. A survey of modeling approaches to managerial planning and decisions. Emphasis is 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 (1 course, ½ course). 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. The course focuses on learning sound theoretical tools and applying them in casework. Mr. Copeland, Mr. Cornell

467. Management Information Systems. Information systems for management decision making. Emphasis on support of the strategic planning and management control functions. Computer-based decision support systems. Organizational arrangements for performance measurement and control. Programming and budgeting systems. Information and motivation. Functional and dysfunctional effects. Mr. McDonough, Mr. Swanson

468. Economic Forecasting (½ course). The course is concerned with macroeconomic theory and its application to business forecasting. It covers 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; macroeconometric techniques applicable to business decisions. Mr. Kimbell

469. Management of Human Resources. The course provides an introduction to the major areas of human resource management — personnel management, labor economics, labor law, and labor relations. This is 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 (½ course). Course deals with action research methods, including futures analysis, problem identification and problem solving, experimental design, survey methods, and interview techniques in organizational settings. Mr. Mason

470B-470E. Action Research and Policy Analysis Project (¼ course each). Four quarters of supervised study of an organization in relation to complex environmental changes. Development of an action research project and managerial policy scenarios. The drawing of organizational implications and recommendations for managerial and organizational response to deal with environmental change. In Progress grading (credit to be given only upon completion of course 470E). Mr. Cornell, Mr. Mason

472. Marketing Strategy and Policy. The course focuses on strategic marketing decisions, including the development 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. The goal is to assist each student in developing an understanding of the workings of large, complex organizations. The focus is on the macroanalytic, rather than on the microanalytic, approach. Mr. Ouchi

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. Buffa

475. International Managerial Policies and Strategies. Study of economic and business decisions in an international context, with emphasis on the formulation and implementation of management strategies in multinational enterprises. Application of concepts of international economic analysis and exploration of international corporate strategies. Mr. Schöllhammer

476. Competitive Strategy and Business Policy. The study of the general management task of forging a corporate competitive strategy. Emphasis is 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. The course examines emerging trends in key areas of government regulation, labor relations, international trade, the basic economic structure, and social responsibility. Mr. Osborne, Mr. Steiner

478. Seminar on Action Research and Policy Position Papers (½ course). Course is a capstone experience to the action research project undertaken in courses 470A-470E. Policy scenarios are explored in a dialectical format similar to that used in congressional hearings. Based on their research projects, student teams prepare position papers, arguments, and compromise positions during the course of these faculty-led policy hearings. Mr. Cornell, Mr. Mason

School of Social Welfare

The profession of social work is one of the principal helping professions and deals with the following areas of concern: restoration of impaired social functioning of individuals, groups, communities; the provision of resources, social and individual, which will enhance social functioning; and the prevention and control of factors which threaten effective and satisfying social functioning. Social work is also concerned with the causes, treatment, and prevention of social ills and with the broader social and economic issues in the total social structure.

In its professional education and practice, social work collaborates with disciplines in the field of health, including general, mental, and public health programs; law, including the areas of corrections, civil rights, and social legislation; education, with reference to social work in the schools, special needs of handicapped children, and programs developed for children in the culturally deprived areas. There is also close collaboration with the applied social sciences in the study of social institutions and social change.

UCLA's School of Social Welfare is considered among the top schools of its kind in the country based on the quality of its programs, its research grants, and its publications. The school's primary objective is to prepare graduate students not only for successful careers but also for imaginative leadership in the social welfare field.

School of Social Welfare

200 Dodd Hall, 825-2892

Professors
Jerome Cohen, Ph.D.
Maurice F. Connery, D.S.W., *Chair*
Jeanne M. Giovannoni, Ph.D.
Doris S. Jacobson, Ph.D.
Alfred H. Katz, D.S.W.
Harry H. L. Kitano, Ph.D.
Nathan E. Cohen, Ph.D., *Emeritus*
Elliot T. Studt, D.S.W., *Emeritus*

Associate Professors
Rosina Becerra, Ph.D.
Warren Haggstrom, Ph.D.
Manuel R. Miranda, Ph.D.
Alex J. Norman, D.S.W.
Harry Wasserman, D.S.W.

Assistant Professors
Diane de Anda, Ph.D.
Carol W. Williams, D.S.W.
Laura S. Wiltz, Ph.D.

Lecturers
Margaret Bonnefil, M.S.W., *Visiting*
Maxine Jackson, M.S.W., J.D., R.N., *Visiting*
Rosalie Kane, D.S.W., *Visiting*
Stan Katz, Ph.D., *Visiting*
Richard Metzner, M.D., *Visiting*
Dorothy Miller, D.S.W., *Visiting*
Rose Monteiro, M.S.W., *Visiting*
David Shapiro, Ph.D., *Visiting*
Bernice Sokol, M.S.W., *Adjunct*

Fieldwork Consultants
Katherine M. Kolodziejski, D.C.S.W.
Jane E. Kurohara, M.S.W.
Joseph Nunn, M.S.W.
Jaime Soliz, M.S.W.
Winifred E. Smith, M.S.W., *Emeritus*

Degrees Offered
Master of Social Welfare (M.S.W.)
Doctor of Social Welfare (D.S.W.)

The 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 high level 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 the social science and social welfare subjects as prerequisite undergraduate preparation for graduate study in the field of social work. Completion of courses in psychology, sociology, and statistics is expected.

A grade-point average of 3.0 or better is required in all courses taken during the junior and senior years. However, applicants may be considered when there is clear evidence of capacity for academic achievement and professional development. In addition, the school applies the following criteria in the selection of candidates: personal suitability for professional education and a potential for successful social work practice, a satisfactory state of health, and an adequate financial and personal plan to permit completion of degree requirements.

The Aptitude Test of the Graduate Record Examination is required, as are official transcripts from every school attended since high school. GRE results must be submitted prior to any evaluation of the application for admission. GRE scores must be less than five years old and may be repeated to achieve a higher score, if desired. The highest GRE Aptitude score achieved will be evaluated for admission. In addition, foreign students whose native language is other than English and whose higher education was not obtained in an English-speaking country are required to take the Test of English as a Foreign Language (TOEFL). The school may request that you take specified examinations to assist in the assessment of candidacy for admission.

Three letters of recommendation are required. In addition, an autobiographical statement and a professional 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 upon written request to the UCLA School of Social Welfare Admissions, 200 Dodd Hall, Los Angeles, CA 90024, or by calling 825-7737.

Major Fields or Subdisciplines

Administration specialization, casework, child and family welfare, community organization, health, and mental health.

Course Requirements

A total of 72 units in courses in the School of Social Welfare is required, including three courses in social welfare policy and services, five courses in the human behavior and social environment sequences, five courses in methods of social work practice, three courses in social welfare research, plus six quarters of field instruction. Appropriate substitutions or waivers may be made by the Dean. You may, by 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 courses 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

During the first year, concurrent placement for 25 weeks at two to two and one-half days per week is required; during the second year, concurrent placement for 25 weeks at three days per week is required.

Thesis Plan

While no University-approved specific 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 covers the entire range of your program of study.

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 be waived if an applicant possesses a postgraduate degree and professional experience in a related field. Such candidates, however, may be required to fulfill specified requirements in the M.S.W. program in addition to the normal doctoral requirements.

Admission criteria include the quality of your performance in previous undergraduate and graduate study, capacity for doctoral-level scholarship, ability to express yourself clearly in writing, success in professional employment and other pertinent experience, results of the Graduate Record Examination, and personal qualifications indicating suitability for advanced study and research.

The Aptitude Test of the Graduate Record Examination is required, as are official transcripts from every school attended since high school. In addition, foreign students whose native language is other than English and whose higher education was not obtained in an English-speaking country are required to take Test of English as a Foreign Language (TOEFL). 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 normally 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 upon written request to the UCLA School of Social Welfare Doctoral Program, 200 Dodd Hall, Los Angeles, CA 90024.

Major Fields or Subdisciplines

The core curriculum is the same for all students. Programs of specialized study relevant to the substantive area of the dissertation, which include courses in other schools and departments of the University as well as seminars and tutorials within the school, are developed in consultation with the adviser.

Course Requirements

Courses required for the degree normally cover a two-year span of study. All first-year course requirements must be completed before taking the qualifying examinations.

Required courses for the first year are Social Welfare 225A-225B, 245A-245B-245C, and 286A-286B-286C. In addition, one quarter may be required in an area to be chosen by the doctoral program committee, depending on the educational needs and interests of the first-year class.

Required courses for the second year are Social Welfare 210A-210B. A third quarter course is also required which may be a seminar or individual or small group tutorials, as determined by the program committee.

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 will be 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. With consent of the adviser and course instructor, you may also make arrangements to enroll in courses in the M.S.W. program.

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; and (3) research and scientific inquiry (philosophy and values, research methodology, research design, and behavioral concepts utilized in social welfare). The emphasis in these examinations is on your ability to integrate the knowledge gained from the several substantive areas for dealing with problems and issues of the field of social welfare at various levels — theoretical, operational, and evaluative.

The written qualifying examinations are graded on a pass/fail basis. In case of failure with permission to retake one or two of the three examinations, you are required to retake only the examination(s) which was failed. You will ordinarily be required to take the examinations in June of the first year of study; any retaking of examinations will ordinarily take place in September.

The University Oral Qualifying Examination for advancement to candidacy covers the dissertation proposal and related areas, and is administered by your doctoral committee. 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

201A-201B-201C. Dynamics of Human Behavior I, II, III (½ course each). Lecture, two hours; laboratory, one hour. Biopsychosocial factors associated with individual and group behavior and development as applicable in the social functioning of individuals and groups. Emphasis is on theoretical issues and research evidence which contribute to a unified theory of human development. In Progress grading (credit to be given only upon completion of course 201B; 201C will be graded separately).

202A-202B. Dynamics of Human Behavior: Deviance IV, V (½ course each). Prerequisites: courses 201A-201B-201C. The course deals with deviations and pathologies or stresses in the physical, emotional, and social areas of human functioning as those problems relate to the role and function of the social worker. In Progress grading.

203. Integrative Theory and Research in Human and Social Behavior (½ course). 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 (½ course). 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 (½ course). Application of theory and knowledge of small group functioning to problems of working with groups in social work settings. Analysis of group formation, structure of interaction and communication patterns, and of leadership and morale problems. Application to family, peer, and special-purpose groups.

205. Group Conflict and Change (½ course). Study of the phenomena of group conflict and change as they appear in the social welfare matrix of groups, communities, and social institutions; relationship between conflict and social and cultural change; major research contributions in understanding of these phenomena.

210A-210B-210C. Social Ecology. Prerequisites: doctoral standing and/or consent of instructor. Exploration of data and theories from the biological and policy sciences regarding ecological relationships. Review of current biophysical, sociocultural, demographic, technological, economic, and political changes as they affect human society, its institutions and, more particularly, social welfare needs.

220. History and Philosophy of Social Welfare (½ course). The history of social work as a field: body of knowledge, method and process, and point of view analyzed within the context of the economic, political, social, philosophical, and scientific climate of the period.

221A. Social Welfare Policy and Services I (½ course). Nature, roles, and history of welfare institutions in different societies; applicable social system theory with special reference to values as seen by different components of the welfare system; theory and research about needs 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 (½ course). Prerequisite: consent of instructor. Study of income-maintenance policy and services. Introduces theory and research about selected levels of living, regularity and source of income, and their relevance for family and social well-being; analysis of various income-maintenance policies and services; causes and nature of poverty. Current antipoverty legislation.

222A-222B-222C. Social Welfare Administration I, II, III (½ course each). Prerequisites: graduate standing and/or consent of instructor. Study of methods by which welfare policies are formulated and translated into action; the nature of organizational and research processes involved in welfare administration; role of welfare agency personnel in policy formulation, implementation, and evaluation.

223. Seminar on the Social Work Profession (½ course). The nature and role of social work in contemporary society; relationships with other professions; probable future trends in the profession; social work ethics, professional organizations, certification licensing; professional responsibility for continued self-criticism and improvement of the profession.

224A-224B-224C. History and Philosophy of Social Welfare. Prerequisites: doctoral standing and/or consent of instructor. Analysis of long-term trends in welfare policies and programs in relation to political, economic, and other relevant factors. Philosophical foundations underlying social welfare theories, programs, and methods will be explored and values, assumptions, and attitudes historically affecting social welfare examined.

225A-225B-225C. Social Welfare Systems. Prerequisites: doctoral standing and/or consent of instructor. Analysis of theories of organizational behavior affecting social welfare systems (including supranational systems transcending national boundaries), their directions, goals, values, and relationships to social work. Application of organizational theory to planning, organizing, and administering welfare agencies will be stressed.

227A-227B-227C. Comparative Social Welfare Theories and Programs. Prerequisites: doctoral standing and/or consent of instructor. Analysis of interrelationships between nations' welfare services and the social, economic, religious, and broader cultural milieus within which they develop. Special attention to social theories, value systems, and other elements of culture which particularly affect welfare programs.

230A-230B-230C. Theory of Social Work Method I, II, III (½ course each). Corequisite: required social work practicum. An introduction to the theory of social work with individuals and small groups and to the principles of practice which are derivative of this and related theory.

231A-231B. Advanced Theory of Social Work Method IV, V (½ course each). Corequisite: required social work practicum. Advanced level, critical analysis of theories, concepts, and principles underlying social casework practice. Specific attention to deviation and stress as conditions affecting functioning of individuals and groups, and to diagnostic knowledge and competence required in rehabilitation and prevention.

240A-240B-240C. Theory of Social Work Method (Community Organization) I, II, III (½ course each). Corequisite: required social work practicum. Historical and theoretical developments in community organization; understanding the community as a social system; role of the practitioner in identification, analysis, and evaluation of needs, existing programs, policies, structures, and strategies of intervention.

241A-241B. Advanced Theory of Social Work Method (Community Organization) IV, V (½ course each). Corequisite: required social work practicum. Emphasis on various patterns of community action for attaining social welfare objectives; research and field experience directed toward study of social problems within the context of community planning; emerging patterns of physical, economic, and social planning within the framework of social change theory.

M242. Counseling Families of Handicapped Children (½ course). (Same as Psychiatry M254.) Prerequisite: consent of instructor. Techniques and issues in counseling families through evaluation, feedback, and treatment. Social and psychological stresses on family unit, professional's reactions, community resources, and issues of genetic counseling, placement, and developmental crises.
Ms. Gottlieb (W)

245A-245B-245C. Development of Social Work Practice Theory. Prerequisites: doctoral standing and/or consent of instructor. Critical analysis of social work practice theories in historical, social, and scientific contexts, with attention to how theory becomes modified through application to practice.

258. Critical Problems in Social Welfare. Prerequisites: doctoral standing and/or consent of instructor. Current problems in the field of social welfare. Specific topics vary depending upon the research and educational interests and needs of the class. May be repeated for credit.

M275. Family Process: Psychological and Social Perspectives on the Family. (Same as Psychology M275.) The course reviews various theoretical perspectives applicable to the analysis of family structure and dynamics. Critical issues in the application of family constructs to clinical problems will receive particular attention. Mr. Cohen, Mr. Goldstein

280. Social Welfare Research (½ course). Sources, nature, and uses of social work theory and research-based knowledge and of broader social data relevant to social welfare activities. Critical analysis of major methods of developing scientific knowledge.

281A-281B-281C. Advanced Social Welfare Research (½ course each). Credit to be given only at the completion of the sequence. Group research projects requiring intensive examination and analysis of a social problem area directed toward the development of research knowledge and techniques for social work practice. In Progress grading.

285A-285B-285C. Research in Social Welfare. Prerequisites: doctoral standing and/or consent of instructor. Review of areas of research of concern to social workers, with special attention to design, instrument construction, data collection, data processing, data reduction, analysis, and interpretation. Designs studied include survey, panel, experimental observation, and theory development research.

286A-286B-286C. Survey of Research Methods. Prerequisites: doctoral standing and/or consent of instructor. Basic concepts underlying research methods. Content includes theoretical and conceptual approaches to research problem formulation; research design, including experimental, comparative, and survey; sampling; statistical methods; methods of observation and techniques of data analysis.

290A-290B-290C. Seminar in Social Work (½ course each). A series of seminars dealing with trends in social work and social welfare, with the focus on current social problems affecting individuals, groups, and communities and new patterns of intervention based on recent demonstrations and research.

401A-401B-401C. Practicum in Social Work. Laboratory, twenty hours. Educationally directed practicum conducted in selected health, welfare, and educational facilities. The major objective is to provide opportunities for students to test their theoretical knowledge and to acquire a disciplined practice foundation in the profession.

402A-402B-402C. Advanced Practicum in Social Work (1½ courses each). Laboratory, twenty-four hours. Prerequisites: courses 401A-401B-401C. Practicum in social work is arranged for students in keeping with their major field of study.

501. Cooperative Program (½ to 2 courses). Prerequisite: consent of UCLA graduate adviser and Graduate Dean and host campus instructor, department Chair, and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596A. Special Study and Research for M.S.W. Candidates (½ to 2 courses). Individual programming for selected students to permit pursuit of a subject in greater depth.

596B. Special Study and Research for D.S.W. Candidates (½ to 2 courses). Prerequisites: doctoral standing and/or consent of instructor. S/U or letter grading.

597A. Preparation for M.S.W. Comprehensive Examination (½ to 2 courses). Prerequisite: consent of instructor.

597B. Preparation for D.S.W. Qualifying Examination (½ to 2 courses). Prerequisites: doctoral standing and/or consent of instructor.

599. D.S.W. Dissertation Research (½ to 2 courses). Prerequisites: doctoral standing and/or consent of instructor.

School of Dentistry

James R. Hooley, Dean

One of the most recent health science teaching programs at UCLA, the School of Dentistry is growing rapidly in stature and reputation. Challenging educational and training programs prepare the dental student for a professional career dedicated to patient treatment and service. The curriculum is carefully designed to prepare students for changes in treatment modalities and health care delivery systems. Students become actively involved in preventive dental care early in their training and soon make valuable contributions to the clinical health team. The clinical instruction system emphasizes a patient care approach in which each patient is treated comprehensively. Students interact with their colleagues, faculty, and dental auxiliary personnel in much the same way as they will do in a private or group practice.

Opportunity exists for dental students to undertake programs designed to meet their special needs. Senior-year electives encourage more advanced training in an area of particular interest, and a required general practice course is currently being designed. In addition to basic and applied research programs within the school, students participate in community service programs such as the Venice Dental Clinic and the Mobile Dental Clinic program, the latter in conjunction with the University of Southern California. Postdoctoral study can be undertaken in one of several dental specialties, and an active continuing education program through University Extension provides a variety of short courses for members of the dental profession and their auxiliaries.

Photo: Ultrastructural design of a minute section of human dental enamel viewed through an electron microscope.

School of Dentistry

A3-042 Dentistry, 825-6141

The UCLA School of Dentistry, which occupies facilities in the Center for 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 nonclinical M.S. program in Oral Biology, for which admission to the School of Dentistry is not required.

Degrees Offered
Doctor of Dental Surgery (D.D.S.)
Master of Science in Oral Biology

D.D.S. Degree Program

If you are interested in details about the academic program leading to the D.D.S. degree or if you wish to make application to the program, you are urged to obtain a copy of the school announcement booklet by writing to the Office of Student Affairs and Admissions, UCLA School of Dentistry, Los Angeles, CA 90024. You are also referred to Chapter 5 for details on the three-year Predental Curriculum offered by the College of Letters and Science.

Postdoctoral Programs

The School of Dentistry offers the following opportunities for postdoctoral study: a one-year general practice residency program; a one-year residency in maxillofacial prosthodontics; a three-year oral and maxillofacial surgery residency training program; a three-year combined orthodontic-pediatric dentistry program; and two-year programs in the specialties of orthodontics, pediatric dentistry, periodontics, and prosthodontics.

Information on these postdoctoral programs can be obtained by writing directly to their respective directors, UCLA School of Dentistry, Los Angeles, CA 90024.

Oral Biology

63-090 Dentistry, 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)*
Andrew D. Dixon, D.D.S, M.D.S., Ph.D., D.Sc. *(Orthodontics)*
Colin K. Franker, Ph.D.
Louis J. Goldberg, D.D.S., Ph.D., *Chair*
Douglas Junge, Ph.D.
E. Barrie Kenney, D.D.S., M.S. *(Periodontics)*
Frank J. Kratochvil, D.D.S. *(Removal Prosthodontics)*
Larry S. Luke, D.D.S., M.S., *Clinical (Dentistry and Pediatrics)*
Carol M. Newton, M.D., Ph.D. *(Biomathematics)*
Max H. Schoen, D.D.S., M.P.H., Ph.D. *(Public and Preventive Dentistry)*
G. Douglas Silva, F.D.S., M.R.C.S. *(Oral Medicine)*
William K. Solberg, D.D.S., M.S.D. *(Restorative Dentistry)*
Robert P. Thye, D.M.D., M.S., *Clinical (Restorative Dentistry)*
Stuart C. White, D.D.S., Ph.D. *(Oral Radiology)*
Alfred Weinstock, D.D.S., Ph.D. *(Periodontics)*
Fred Herzberg, D.D.S., M.S., *Emeritus*
Norman S. Simmons, D.M.D., Ph.D., *Emeritus*

Associate Professors
Gerald C. Brundo, D.D.S., M.A. *(Restorative Dentistry)*
Glenn Clark, D.D.S., M.S. *(Gnathology)*
Joseph P. Cooney, D.D.S., M.S. *(Restorative Dentistry)*
Donald F. Duperon, D.D.S., M.Sc. *(Pediatric Dentistry)*
Jay Gershen, D.D.S., Ph.D. *(Pediatric Dentistry)*
Michael G. Newman, D.D.S., *Adjunct (Periodontics)*
George R. Riviere, D.D.S., M.S., Ph.D. *(Pediatric Dentistry)*
John A. Yagiela, D.D.S., Ph.D.

Assistant Professors
Russell Christensen, D.D.S., M.S. *(Oral Diagnosis)*
Patrick Turley, D.D.S., M.Ed. *(Orthodontics)*
Lawrence Wolinsky, D.D.S., Ph.D.

Professor
Bernard G. Sarnat, M.D., D.D.S., *Adjunct*

Scope and Objectives

The M.S. program in Oral Biology is intended to prepare students for teaching and research careers in dentistry or simply to introduce 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 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 and the Dental Aptitude Test are not required, but may be submitted. Three letters of recommendation are required as part of the admissions packet. There is no separate application form other than that required by the Graduate Division. Foreign students will be considered individually upon evaluation of their curriculum and training and must take an English language proficiency examination. For further information, contact the Graduate Adviser, Oral Biology Section, UCLA School of Dentistry, Los Angeles, CA 90024.

Major Fields or Subdisciplines

Areas of specialization or subdisciplines which may be followed by compliment 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 the first year of graduate study. Course 490, which focuses on the preparation of scientific writing and communication, and Biomathematics 170A are both required for completion of the degree.

Courses 596 and 598 are required 500-series courses. You are eligible to take two to eight units at a time on an S/U grading basis as many times as needed. A maximum of eight units of 500-series courses may be applied toward the total course requirement, of which four units may be applied toward the minimum graduate course requirement.

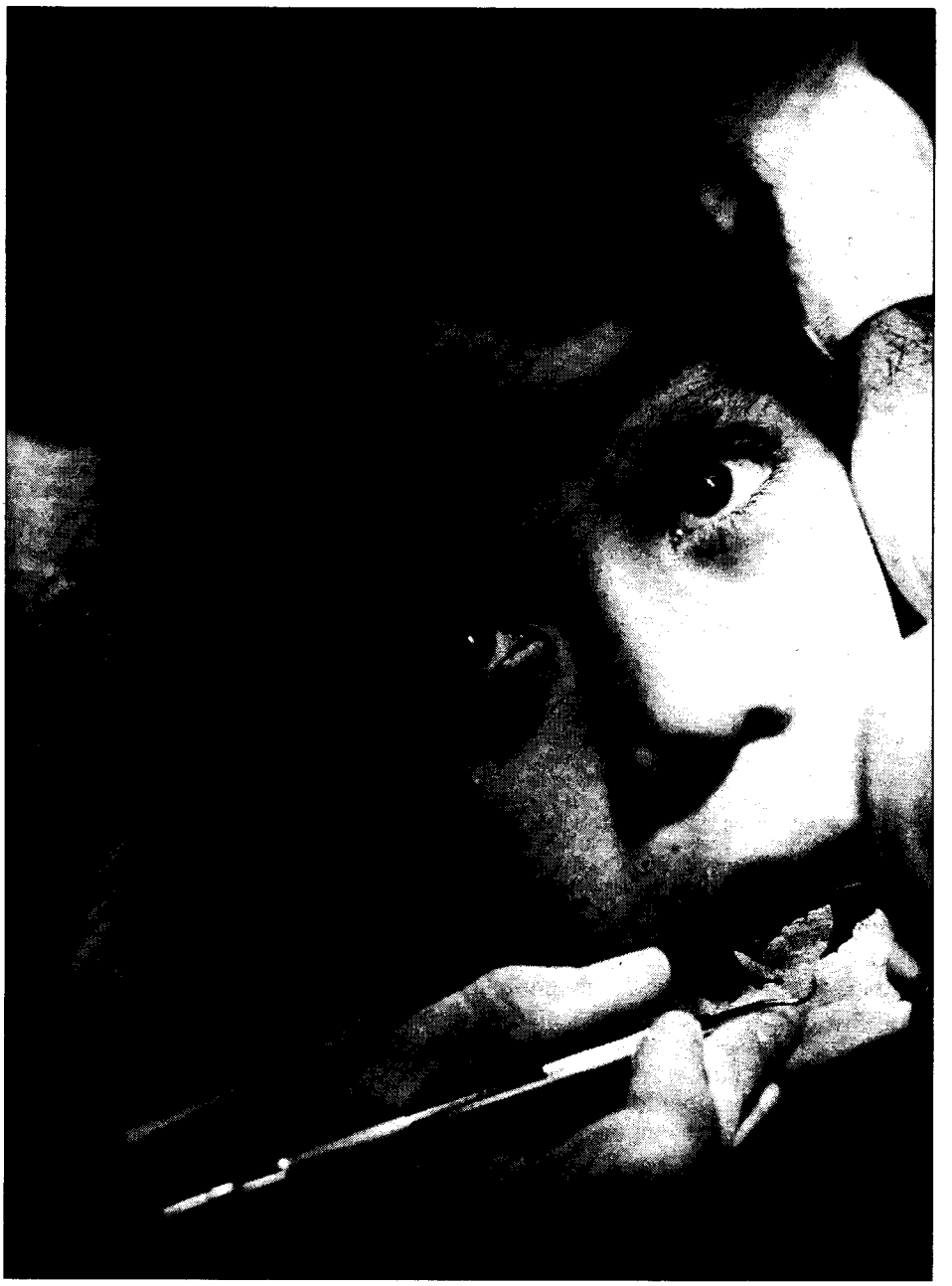
Thesis Plan

The master's thesis is intended to demonstrate your ability to design and carry out a research project, and analyze and present the resulting data. Publishable scientific results are thus not required, although 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 will then discuss the proposal with you and make suggestions.

The thesis should be prepared mainly in consultation with the sponsor, although other committee members will be available for assistance. At least two weeks should be allowed between completion of thesis and termination of the program, to allow committee members to read and comment on the manuscript.

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 Graduate Admissions.



Graduate Courses

202. Principles and Methods of Research. Lecture, one hour; laboratory, three hours. The course is designed to familiarize the student with the experimental method and its application to basic and applied research. It will include experimental method and design and interpretation of data. The student will be exposed to research instrumentation and the advantages and limitations of various investigative tools.
Mr. Junge and the Staff (W)

M203. Oral Embryology. (Same as Anatomy M203.) Lectures and laboratory instruction in the development and histological structure of the facial region and the oral and peri-oral organs and tissues.
Mr. Bernard and the Staff (Sp)

204. Antibiotics and Antimicrobial Agents (½ course). The course is a summary of current information on the chemistry, synthesis mode of action, and mechanism of resistance for generically grouped antimicrobial substances. Emphasis also is on pharmacokinetic complications of antibiotic usage.
Mr. Franker (Sp)

M205. Oral Physiology. (Same as Physiology M203.) Lecture, one hour; discussion, one hour. The organ-level and cellular physiology of the following systems will be discussed, in a somewhat flexible framework: (1) salivary glands, including the mechanisms of secretion, abnormalities such as Mikullcz-Sjogren syndrome, and effects on the dentition; (2) dental pulp: development, normal physiology, and reparative mechanisms; (3) organization of sensory systems, receptors, pathways, and central projections; (4) dentinal pain mechanisms, hydrodynamic theory, and electrical recordings from dentin; (5) taste receptors: mechanisms of perception of four basic tastes, alterations of taste caused by drugs, diseases, and aging; (6) oral touch and temperature receptors: comparison with similar systems in the skin, assessment of sensory dysfunction; (7) speech: phonation, resonance, and articulation in speech production, normal time-course of development of various sounds in children. Classes are supplemented with audiovisual materials and many references from the literature.
Mr. Junge (F)

M206. Secretory and Gastrointestinal Immunity (½ course). (Same as Microbiology and Immunology M206.) The anatomy and physiology of the oral cavity, the intestines, and the related lymphatic and blood vascular systems will be reviewed in reference to the immune system. The secretory and systemic immune systems will be discussed in detail, with particular emphasis on the unique properties of SIgA. The ability to process enteric antigens, to respond, and to regulate enteric immunity will be discussed in terms of recent experimental findings. The role that enteric immunity may play in diseases of the GI tract, such as dental caries and inflammatory bowel diseases, will be presented. Students will participate in discussions following each lecture and will present seminars based on a review of the relevant scientific literature.
Mr. Riviere (Sp, alternate years)

207. Brainstem Control of Rhythmical Movements (½ course). Discussion of the central nervous system mechanisms which coordinate and control the contraction patterns of the muscles which are involved in behaviors such as suckling, chewing, swallowing, speech, respiration, and locomotion. Emphasis on the interaction among brainstem reflexes, pattern generators, and "voluntary" control centers. Mr. Goldberg (F)

208. The Biochemistry of Saliva and Dental Caries (½ course). A seminar in which current research in the field of saliva biochemistry and its relationship to the development of dental caries will be discussed. Each student will be expected to present a current article for discussion. Mr. Wolinsky (W)

M214. Biology of Bone (½ course). (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 a calcification; clinical correlations. Mr. Bernard (W)

M224A-M224B. Structure and Chemistry of Connective Tissue (½ course each). (Same as Anatomy M224A-M224B.) Prerequisites: histology, biochemistry. A seminar course designed for graduate students in dentistry, medicine, or basic science. Fundamental information on the fine structure and chemical composition of bone, dentin, cementum, cartilage, and cells of connective tissue in general, as well as enamel, with emphasis on the biosynthesis of collagen, noncollagenous proteins and glycoproteins, and glycosaminoglycans (mucopolysaccharides). The possible roles of the cellular and noncellular elements in the process of biological mineralization and correlation of biological processes to periodontal pathology. In Progress grading.
Mr. Weinstock and the Staff (F,W, alternate years)

225. Gross Postnatal Craniofacial Growth and Development (½ course). The seminar is 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 will present reviews and critiques of original articles. This will be followed by group discussion. Specific aspects of the following general topics on growth of bone and bones will be considered in detail: historical review; modes of growth; general and craniofacial (mandible, midface, cranium) growth; methods of assessing; factors affecting; and conflicting hypotheses. Students will be encouraged to pursue their particular interest.
Mr. Sarnat (Sp)

227. Dental Embryology and Histology (¼ course). The student will be able to describe and interpret important stages in the development of the orofacial apparatus and histological features of its component tissues. The student will be able to critique scientific literature relevant to the course content and will analyze 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 Therapeutics (½ course). A course of lecture/seminar sessions considering details of specific therapeutic agents used by dentists. The compounds and preparation available within each class of agents will be described, their basic pharmacology reviewed, dosages and schedules of administration analyzed, and indications and contradictions for their use discussed. For each agent, possible adverse reactions and interactions with other drugs will be emphasized. Mr. Yagiela (Sp)

M293. Major Concepts in Oncology. (Same as Microbiology and Immunology M293 and Pathology M293.) Lecture, three hours. Prerequisite: graduate standing or consent of instructor. Designed for graduate students contemplating research in oncology. Topics include cancer pathophysiology, genetics, membranes, macromolecular synthesis and control, cell cycle, growth control; physical, chemical, and viral oncogenesis, epidemiology of cancer; tumor immunology; principles of cancer surgery, radiation therapy, and chemotherapy. S/U or letter grading.
Mr. Hankinson, Mr. Seeger (W)

490. Professional Writing for Dentistry (½ course). Prerequisite: consent of instructor. Workshop in scholarly publication. Analysis of syntactic, rhetorical, and stylistic features of scientific prose will 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. Mr. Bjork (W)

596. Directed Individual Study or Research (½ to 1 course). S/U grading.

598. Thesis Research and Preparation (½ to 1 course). S/U grading.

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School of Medicine

Sherman M. Mellinkoff, Dean

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 Los Angeles County Harbor/UCLA Medical Center and UCLA Hospital, 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 eleven different nonclinical 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 facilties, including one of the nation's eight hospital-based biomedical cyclotrons producing shortlived radioisotopes for research and diagnostic nuclear medicine procedures.

Photo: Dr. Michael Phelps, professor of radiology, adjusts the PET (positron emission tomography) scanner he developed for evaluating brain activity.

School of Medicine

12-109 Center for Health Sciences, 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 clinical specialties in medicine, neurology, obstetrics and gynecology, ophthalmology, pediatrics, radiation oncology, and surgery, a range of nonclinical master's and doctoral degrees is offered through the Graduate Division.

M.D. Degree Program

If you are interested in details about the academic program leading to the M.D. degree or if you wish to make application to the program, you are urged to obtain a copy of the *Announcement of the UCLA School of Medicine* from the Office of Student Affairs, UCLA School of Medicine, Los Angeles, CA 90024. You are also referred to Chapter 5 of this catalog for details on the four-year premedical studies program offered by the College of Letters and Science.

Additional Programs

Cooperative 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, consult the Associate Dean for Education in Medical Science at 891-2335.

In addition, an arrangement with the School of Public Health enables you to pursue the M.P.H. degree while attending medical school. Interested students should consult the Student Affairs Office in the School of Public Health.

Allied Health Programs

Programs in allied health include animal care technician, dental assistant, dental hygienist, dietetics technician, emergency medical technician, health record administrator, 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.

Nonclinical Degrees Offered

Anatomy	M.S., C.Phil., Ph.D.
Anesthesiology (Nurse Anesthesia)	M.S.
Biological Chemistry	M.S., Ph.D.
Biomathematics	M.S., Ph.D.
Microbiology and Immunology	M.S.*, Ph.D.
Neuroscience	Ph.D.
Pathology (Experimental Pathology)	M.S., Ph.D.
Pharmacology	M.S.*, Ph.D.
Physiology	M.S.*, Ph.D.
Psychiatry and Biobehavioral Sciences	
Social Psychiatry	M.S.P.**
Clinical Psychology Internship	Certificate
Radiological Sciences (Medical Physics)	M.S., Ph.D.

*The department admits only applicants whose objective is the Ph.D.
**Not admitting new students at this time.

Information relative to these programs may be obtained from the Office of Allied Health at the UCLA Center for Health Sciences (825-6711).

Postgraduate Medical Training Programs

Postgraduate training programs, including residencies, are available at several off-campus sites in addition to those offered at the UCLA Medical Center. Programs offered at the allied institutions broaden the scope of the teaching programs by providing extensive clinical facilities, special population settings, and diverse practice modes. Information about these programs is available from the Office of Student Affairs, UCLA School of Medicine.

Nonclinical Graduate Programs

Nonclinical master's and/or doctoral degrees are offered in the following fields: anatomy, nurse anesthesia, biological chemistry, biomathematics, medical physics (Department of Radiological Sciences), microbiology and immunology, neuroscience, experimental pathology, pharmacology, physiology, and psychiatry and biobehavioral sciences. This catalog provides detailed information only on these nonclinical programs, for which admission to the School of Medicine is not required.

Anatomy

73-235 Center for Health Sciences, 825-9555

Professors

George W. Bernard, D.D.S., Ph.D.
P. Dean Bok, Ph.D.
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.
Roger A. Gorski, Ph.D., *Chair*
Ronald M. Harper, Ph.D.
Lawrence Kruger, Ph.D.
Richard N. Lolley, Ph.D., *in Residence*
David S. Maxwell, Ph.D.
Daniel C. Pease, Ph.D.
Charles H. Sawyer, Ph.D.
Arnold B. Scheibel, M.D.
John D. Schlag, M.D.
José P. Segundo, M.D.
G. Douglas Silva, F.D.S., M.R.C.S., L.R.C.P. *(Dentistry and Medicine)*
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.
Mary A.B. Brazier, Ph.D., *Emeritus, in Residence*
John D. French, M.D., *Emeritus*
H.W. Magoun, Ph.D., *Emeritus*
Richard E. Ottoman, M.D., *Emeritus*
Reidar F. Sognnaes, D.M.D., Ph.D., *Emeritus*

Associate Professors

Anthony M. Adinolfi, Ph.D.
John H. Campbell, Ph.D.
Emilio E. Decima, M.D.
John K. Lu, Ph.D.
Guido A. Zampighi, D.D.S., Ph.D.
Emery G. Zimmermann, M.D., Ph.D.

Assistant Professor

Paul E. Micevych, Ph.D.

Professors

Stanley J. Gross, M.D., *Adjunct*
Frances S. Grover, Ph.D., *Adjunct*
Raymond J. Last, M.D., F.R.C.S., *Visiting*
Alfred Weinstock, D.D.S., Ph.D., *Clinical*

Associate Professors

Carlos A.E. Lemmi, Ph.D., *Adjunct*
James F. McGinnis, Ph.D., *Adjunct*
Anselmo R. Pineda, M.D., *Clinical*

Assistant Professors

Earle E. Crandall, M.D., Ph.D., F.A.C.S., *Clinical*
Margaret N. Shouse, Ph.D., *Adjunct*
Gary C. Sieck, Ph.D., *Adjunct*

Lecturer

David I. Whitmoyer, Ph.D., *Adjunct*

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 paramedical fields, postgraduate medicine, or dentistry. The department does not offer an undergraduate degree. An informational brochure may be obtained by writing to the Vice Chair, Department of Anatomy, UCLA School of Medicine, Los Angeles, CA 90024.

Requirements for Graduate Degrees

Admission

Applicants must have a bachelor's degree in a physical or biological science or in a premedical curriculum. Introductory courses in zoology, one year of general and organic chemistry, and one year of college physics are required. Deficiencies in these courses must be made up before admission. 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, including the Advanced Test in Biology or in your undergraduate major; (3) at least three letters of recommendation from professors stressing potential for successful completion of graduate studies and creative independent research; and (4) an essay describing your background, work experience, interests, and career goals. Selected applicants will be 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 foreign 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 chosen from Anatomy 101 (eight units), M206A-M206B (12 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 after all coursework is completed (usually at the start of the 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 your grasp of the general principles of anatomy, as well as an understanding of some related field 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 the capacity to organize and integrate information gained in the major core courses (excluding biochemistry). All students are required to take the examination before 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 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.

Final Oral Examination

Upon completion of the research and writing of the dissertation, a final public seminar is given, and the dissertation is defended in a final oral examination before the doctoral committee in closed session.

Candidate in Philosophy Degree

Successful completion of the qualifying examinations and advancement to candidacy entitle you to file for the C.Phil. degree, and you are encouraged to do so.

Upper Division Courses

101. Microscopic Anatomy (2 courses). Lecture/laboratory, four three-hour sessions per week. Prerequisite: medical student standing or consent of instructor. Microscopic study of the tissues and organs of the human body.
Ms. Dirksen, Mr. Young, and the Staff (F)

102A-102B. Gross Anatomy of the Human Body (½ course, 2 courses). Lecture, one hour; laboratory, four hours (Winter). Lecture, four hours; laboratory, twelve hours (Spring). Prerequisite: dental student standing or consent of instructor. Systemic and topographical human anatomy, with dissection of the human cadaver. Emphasis on head and neck. In Progress grading. Mr. Harper and the Staff (W,Sp)

103A-103B. Basic Neurology (¼ course, ¾ course). Lecture/laboratory, two four-hour sessions and one three-hour session per week (Winter — last three weeks); two two-hour sessions and two three-hour sessions per week (Spring). Prerequisite: medical student standing or consent of instructor. Corequisites: Physiology 103A-103B. Lectures, conferences, demonstrations, and laboratory procedures necessary for an understanding of the functions of the human nervous system. In Progress grading.
Mr. Schlag and the Staff (W,Sp)

104. Mammalian Histology (1½ courses). Lecture/laboratory, three three-hour sessions per week. 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)

105A-105B. Gross Anatomy (2 courses, 1 course). Lecture/laboratory, four four-hour sessions per week (Fall); one three-hour, one four-hour, and one five-hour session per week (Winter — first seven weeks). Prerequisite: medical student standing or consent of instructor. Lectures and dissection of the human body. In Progress grading.
Mr. Sawyer and the Staff (F,W)

106. Mammalian Neurology. Lecture/laboratory, one one-hour session and one four-hour session per week. Prerequisite: dental student standing or consent of instructor. Lectures, demonstrations, and laboratories dealing with the fundamental structure and functional organization of the nervous system.
Mr. Adinolfi and the Staff (W)

Graduate Courses

201. Structure and Function of Cells and Tissues (½ course). Lecture, one hour; discussion, one hour. Prerequisites: course 101 (may be taken concurrently) and consent of instructor. Current topics on structural and functional aspects of microscopic anatomy. May be repeated for credit. S/U grading.
Mr. McGinnis (F)

M203. Oral Embryology. (Same as Oral Biology 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)

M206A-M206B. Neurosciences: The Introductory Course for Graduate Students (1¼ courses, 1¾ courses). (Same as Neuroscience M206A-M206B.) Lecture, three hours; laboratory, two hours (Winter). Lecture, six hours; laboratory, two hours (Spring). Prerequisite: a course (or equivalent) in basic and/or general physiology (such as Biology 171 or Physiology 101) or consent of instructor. Introductory course in the basic principles of the nervous system for graduate students as a prerequisite to more advanced courses. Fundamental approaches to neuroanatomy (Winter), neurophysiology and the brain mechanisms for behavior (Spring) will be stressed. In Progress grading.
Mr. Decimá, Mr. Scheibel, and the Staff (W,Sp)

207A-207B. Gross Anatomy (2 courses, 1 course). Lecture/laboratory, four four-hour sessions per week (Fall); one three-hour, one four-hour, and one five-hour session per week (Winter — first seven weeks). Prerequisite: consent of instructor. Lectures and dissection of the human body. In Progress grading.
Mr. Sawyer and the Staff (F,W)

208A-208B. Electronics for Neuroscientists. Lecture, two hours; laboratory, four hours. Prerequisite: consent of instructor. To develop 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. Whitmoyer (F,W)

209. Fine Structure and Function in the Central Nervous System (½ course). Prerequisite: basic neurology. Lectures and discussion of the fine structure of selected areas of the central nervous system, together with related electrical and biochemical patterns of activity. Mr. Scheibel (F, even years)

210A-210B. Inflammatory Components in Neoplasia and Immunity (½ course each). Prerequisite: consent of instructor. Fall Quarter sessions consist of one-hour lectures on the various components of inflammation and other nonspecific systems and their interrelation with neoplasia and specific immune phenomena. Current research literature is discussed during the second hour. Winter Quarter sessions consist of presentations by invited guests involved in research in the specialty areas covered in Fall Quarter. Organized discussions will follow these presentations. Mr. Lemmi and the Staff (F,W)

211. Cellular Basis of Learned Behavior (½ course). Lecture/discussion, one two-hour session per week; laboratory, to be arranged. Prerequisites: microscopic anatomy, mammalian physiology. Anatomy and physiology of cerebral processes in alerting, learning, focusing attention, and memory.
Mr. Woody (F)

212. Neural Mechanisms of Inhibition (½ course). Prerequisite: basic neurology. A systematic consideration of inhibitory processes in the nervous system from the synapse to integrated behavior. Special attention is given to the recent concepts of inhibition at the behavioral level and their implications for learning, emotion, and mental health.
Mr. Sterman (F, even years)

M213. Multigene Families. (Same as Biology M220.) Prerequisites: comparative genetics and Biology 144 or equivalent and consent of instructor. Analysis of the molecular structure, developmental regulation, and evolution of multigene families. Topics include the hemoglobins, immunoglobulins, histones, ribosomal RNAs, satellite DNAs, and histocompatibility antigens. S/U grading.
Mr. Campbell, Mr. Tobin (F)

214. Data Acquisition in Behavioral Neurophysiology. Lecture, two hours. Prerequisite: course 211. Neurophysiological techniques in behavioral studies; data acquisition systems and computer analysis of neurophysiological data.
Mr. Harper and the Staff (F, odd years)

M224A-M224B. Structure and Chemistry of Connective Tissue (½ course each). (Same as Oral Biology M224A-M224B.) Prerequisites: histology, biochemistry. A seminar course designed for graduate students in dentistry, medicine, or basic science. Fundamental information on the fine structure and chemical composition of bone, dentin, cementum, cartilage, and cells of connective tissue in general, as well as enamel, with emphasis on the biosynthesis of collagen, noncollagenous proteins and glycoproteins, and glycosaminoglycans (mucopolysaccharides). The possible roles of cellular and noncellular elements in the process of biological mineralization and correlation of biological processes to periodontal pathology. In Progress grading.
Mr. Weinstock and the Staff (F,W, alternate years)

M225. Biology of Bone (½ course). (Same as Oral Biology M214.) Lecture, two hours; discussion, one hour. Prerequisite: consent of instructor. Embryology of bone tissue; bone as an organ; growth and development of specific bones; biochemistry and physiology of bone; remodeling of bone; crystallography of hydroxyapatite; pathological calcifications; pathology of bone; mechanisms and lineage of calcification; clinical correlations. Mr. Bernard (W)

M226. Brainstem Control of Rhythmical Movements. (Same as Kinesiology M243; lecture is the same as Oral Biology 207, which is ½ course 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 suckling, chewing, swallowing, speech, respiration, and locomotion. Emphasis is on the interaction among brainstem reflexes, pattern generators, and "voluntary" control centers.
Mr. Chandler, Mr. Goldberg (F)

M235. Gut and Brain Peptides (½ course). (Same as Neuroscience M235 and Physiology M235.) Prerequisite: consent of instructor. Current knowledge of gut and brain peptides will be presented by surveying their chemistry, anatomy, and physiology. Experimental approaches used to study biologically active peptides will be discussed. In addition, current information about each of the major gut and brain peptides will be reviewed. S/U and letter grading.
Mr. Brecha, Mr. Reeve, Ms. Tache (W)

251. Problems in Developmental and Comparative Immunology (½ course). Prerequisite: consent of instructor. Review of current literature emphasizing early development and evolution of immune competence. Mr. Cooper (W)

252. Seminar on Basic and Quantitated Neurophysiology (½ course). Lecture, 90 minutes; discussion, one hour. 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 chosen and prepared in collaboration with the instructor.
Mr. Segundo (Sp, even years)

253. Communication and Coding in Nervous Systems. Lecture, two 90-minute sessions and one two-hour session per week. Prerequisite: consent of instructor. Presentation, discussion, and critique of efforts to quantify neuronal function where the essence of the mathematics is expressed in qualitative and physiologically meaningful terms (e.g., stability, neurons as analyzers of spike trains, identification of synaptic operators). Mr. Segundo (Sp, odd years)

255A-255D. Seminar in Endocrinology (½ course each). Prerequisite: consent of instructor.
Mr. Sawyer and the Staff (W,Sp)

256. Seminar in Cell Structure and Function (½ course). Lecture, one hour; discussion, one hour. Prerequisite: consent of instructor. Selected topics in cell biology emphasizing those areas which are of current interest. Includes an analysis of the various techniques being used to study the cell.
Ms. Dirksen and the Staff (W,Sp)

258. Seminars in Neuroscience (½ course). Prerequisites: basic neurology and course 209. Topics of current interest or ongoing research projects are presented, and both content and method of presentation are examined. May be repeated for credit.
Mr. Scheibel (F, odd years; W, even years)

M260. Fundamental Concepts of Neuroendocrinology. (Same as Neuroscience M260.) Lecture, two hours; discussion, two hours. Prerequisites: courses M206A-M206B and Biological Chemistry 101C, or consent of instructor. Basic concepts of neuroendocrine integration, including analysis of the current literature and research techniques.
Mr. Gorski (W, odd years)

M261. Neuronal Circuit Analysis (½ course). (Same as Neuroscience M261.) Lecture/discussion, three hours. Prerequisites: courses M206A-M206B or equivalent. The course will be run in a seminar form with strong emphasis on specific reading assignments. It will present an integrated view of neuronal circuit analysis at an advanced level and will examine the layout and performance of a variety of basic neuronal circuits serving different control functions. Mr. Schlag (W)

265. Evolution of Cancer (½ course). 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)

390A-390B. The Peer Review System (½ course each). Prerequisite: advancement to candidacy in integrative or systems biology or consent of instructor. Introduction to the peer review system for the evaluation of research proposals. After consideration of the grant review process, each student prepares an abbreviated grant application which is evaluated in a mock peer review session moderated by the faculty. In Progress grading.

Mr. Gorski (W,Sp, odd years)

490. Communicating Scientific Information (½ course). Prerequisite: graduate standing in anatomy. Student papers and lectures serve as the basis for group discussions of the art and science of effective written and oral communication of scientific information. May be repeated for credit. S/U grading. (W)

501. Cooperative Program (½ to 2 courses). Prerequisite: consent of UCLA graduate adviser and Graduate Dean, host campus instructor, department Chair, and Graduate Dean. The course is used to record enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596. Directed Individual Study or Research (½ to 3 courses).

597. Preparation for M.S. Comprehensive Examination or Ph.D. Qualifying Examination (½ to 3 courses).

598. Thesis Research for M.S. Candidates (½ to 3 courses). S/U grading.

599. Dissertstion Research for Ph.D. Candidates (½ to 3 courses).

Medical History Division

Professors

Franklin D. Murphy, M.D., Sc.D.
Mary A.B. Brazier, Ph.D., *Emeritus, in Residence*
John Field, II, Ph.D., *Emeritus*

Associate Professors

L.R.C. Agnew, M.D.
Robert G. Frank, Jr., Ph.D.
Ynez V. O'Neill, Ph.D., *in Residence*

Lecturer

Elizabeth R. Lomax, M.D., Ph.D., *Adjunct*

Upper Division Courses

107A-107B. Historical Development of Medical Sciences. Lecture, three hours. The major contributions of medicine and medical personalities from earliest times. **107A** deals with the contributions of medicine and medical personalities from earliest times through 1650; **107B** deals with the subject in the period from 1650 through the 19th century. Illustrated lectures, class discussion, and required readings from selected texts.

Mr. Agnew, Ms. O'Neill (W,Sp)

M108A-M108B. History of Biological Sciences. (Same as History M195F-M195G.) Lecture, three hours. Prerequisite: upper division standing. **M108A.** Biological Sciences from Ancient Times to the Early 19th Century. **M108B.** Biological Sciences from the Early 19th Century to the Mid-20th Century.

Mr. Frank (F,W)

110. Medicine and Society in 20th-Century America. Lecture, three hours. Prerequisite: consent of instructor. Preference given to health sciences students. Reading and conference course on social aspects of the growth of medical care, education, and research in the United States since the late 19th century. Mr. Frank (Sp)

Graduate Courses

240A-240B. History of Medical Sciences (½ course each). Lecture, one hour. Survey of the development of scientific and medical thought from ancient times to the present. (F,W)

241A-241B. History of Clinical Sciences (½ course 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. Agnew (F,W)

242. History of Pathology (¼ course). Survey of the history of pathology and related sciences from antiquity to the 20th century, tracing the development of pathological theory, practice, organization, and education and comparing them to current practice.

Mr. Agnew (F)

243. History of Surgery (¼ course). Survey of the history of surgery and related sciences from antiquity to the 20th century, tracing the development of surgical theory, practice, organization, and education and comparing them to current practice.

Mr. Agnew (W)

244. History of American Medicine (¼ course). Survey of the history of medicine in the United States from the Colonial period to the present.

Mr. Agnew (Sp)

246. History of Neurophysiology: Its Impact on Psychology and Medicine (½ to 1 course). Lecture, eight one-hour sessions; seminar, eight two-hour sessions. The course covers the development of experimental neurophysiology 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. The seminars will complement the lectures mainly through discussion of the interaction of neurophysiological ideas with contemporaneous philosophy and medicine. The lectures may be taken independently.

Ms. Brazier, Ms. Lomax, Ms. O'Neill (Sp)

250. History of Medical Psychology (½ course). Lecture, one hour. An examination of the themes underlying modern mental health theories. Beginning with a review of contemporary thinking, the lectures focus upon the various factors shaping present concepts of mental disorders and provide a framework for the understanding of current issues.

Ms. Lomax, Ms. O'Neill (W)

596. Directed Individual Studies in Medical History (½ to 3 courses). Investigation of subjects in medical history selected by students with the advice and direction of the instructor. Individual reports and conferences. (F,W,Sp)

Anesthesiology

56-125 Center for Health Sciences, 825-4123

Professors

Gerald Allen, M.D.
Robert O. Bauer, M.D.
J. Weldon Bellville, M.D.
Werner E. Flacke, M.D., *in Residence*
Ronald L. Katz, M.D., *Chair*
Lawrence Kruger, Ph.D.
Ching-Muh Lee, M.D.
Richard Patterson, M.D.
Eduardo Rubinstein, M.D., Ph.D., *in Residence*
Stuart F. Sullivan, M.D., *Executive Vice Chair*
Leonard F. Walts, M.D.
John B. Dillon, M.D., *Emeritus*

Associate Professors

Jordan D. Miller, M.D.
Robert Reynolds, M.D., Ph.D.

Assistant Professors

Kenneth A. Conklin, M.D., Ph.D.
Nick Durant, Ph.D., *in Residence*
Patricia Kapur, M.D., *in Residence*
Robert D. Kaufman, M.D.
John Reeves, Ph.D., *in Residence*
Naomi Saucier, M.D., *in Residence*
Stanley Stead, M.D.
Denham Ward, M.D., Ph.D.
Susan Ward, Ph.D.
Thomas Webb, M.D.

Professors

Walter Comer, M.D., *Adjunct*
Edward Deland, Ph.D., *Adjunct*
Joan W. Flacke, M.D., *Adjunct*
Atsuo Fukunaga, M.D., *Adjunct*

Associate Professors

Theresa Ferrer-Brechner, M.D., *Adjunct*
George P. Herr, M.D., *Adjunct*
Kumiko Iwamoto, M.D., *Adjunct*
Leah E. Katz, CRNA, Ed.D., *Adjunct*
Richard Kroening, M.D., *Adjunct*
Maurice Lippman, M.D., *Adjunct*
Young-Zin Sohn, M.D., *Adjunct*

Assistant Professors

Emil G. Bishay, M.D., *Adjunct*
Byron Bloor, Ph.D., *Adjunct*
Joseph Cadranel, M.D., *Clinical*
Edith Echiverri, M.D., *Adjunct*
James Fitzpatrick, M.D., *Adjunct*
Sandy Frye, CRNA, M.S., *Adjunct*
Arnold Lee, *Adjunct*
Anthony Maister, M.D., *Adjunct*
Nandlal Manchanda, M.D., *Adjunct*
Suha Murad, M.D., *Adjunct*
Evelyn Norel, M.D., *Adjunct*
Carlisle Percival, M.D., *Adjunct*
Con Gia Pham, M.D., *Adjunct*
Saroja Rajashekera, M.D., *Adjunct*
Stanley Schneider, M.D., *Clinical*
Bruce Skolnick, Ph.D., *Adjunct*
Doris J. Tanaka, CRNA, M.S., *Adjunct*
Robert Tobin, M.D., *Adjunct*
Bang Tran, M.D., *Adjunct*
Elaine Yang, M.D., *Adjunct*

Clinical Instructors

John DeAngelis, M.D.
Ronald Wender, M.D.

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

(1) 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.

(2) 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.

(3) 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.

(4) Professional and academic competence attested through three letters of recommendation.

(5) Graduate Record Examination aptitude test results submitted to the program.

(6) Successful completion of the following undergraduate level courses: (a) inorganic chemistry, organic chemistry, and biochemistry, (b) introductory physics, (c) biology, (d) anatomy, (e) physiology, (f) English, (g) psychology, (h) statistics, and (i) a course in methods of research (highly recommended).

(7) A scholarship record satisfactory to the Graduate Division and the Nurse Anesthesia Program. Transcripts must be sent to both.

(8) Interview with the program director or designee and with members of the final selection committee, and observation in the clinical practicum.

Approximately five to six students will be selected for admission in Fall Quarter by the final selection committee which meets annually in February. Information regarding the program may be obtained by writing or calling the department office. All applicants must apply to both the department and the Graduate Division. Separate applications are needed.

Foreign Language Requirement

There is no foreign language requirement for the M.S. degree.

Course Requirements

Total courses required for the degree: 13¼; all must be graduate-level courses.

Required: 210A, 210B, 210C, 215A, 220A, 220B, 220C, 221, M222, 225, 290, 400A, 400B, 400C, 400D, 400E, 400F, 400G, 401, 402, 598A, 598B.

Completion of Anesthesiology 597 or 598A and 598B is required. Course 598A may be repeated twice, but only two of the courses may be applied toward the degree. Letter grading may be utilized in 500-series courses.

Thesis Plan

If you elect this option, the thesis committee is established during the second year of the program. The thesis proposal is written and approved during the Winter or Spring Quarter of the second year. You must take a written comprehensive examination for course completion.

Comprehensive Examination Plan

Students electing this option will have demonstrated didactic and clinical competence in the field and will have completed selected physiology or pharmacology and education courses.

If you elect the oral examination option, you must, in addition to the required curriculum in anesthesia, successfully complete designated courses in curriculum, testing and evaluation, and instruction to meet the accreditation requirements for teachers of anesthesia. The oral examination is general in scope and may include information from all aspects of the curriculum. A written comprehensive examination is also required for course completion. Examinations are offered quarterly.

Other Requirements

(1) You must complete all didactic and clinical work to earn the Master of Science degree.

(2) The program does not discriminate on any basis unless a handicap is determined by the selection committee to preclude the safe clinical practice of anesthesia.

(3) You must complete a minimum of 550 cases as the primary anesthetist.

(4) You must meet the requirements for application to sit for the Certification Examination of the AANA for program completion.

Graduate Courses

210A. Chemistry and Physics of Nurse Anesthesia I (½ course). 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 (½ course). 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 (½ course). Lecture, two hours; discussion, one hour. Prerequisite: course 210B. A continuation of the study of chemistry and physics as related to anesthesia management, with specific emphasis on biochemistry as related to acid-base balance and theories of narcosis. Mr. Katz

215A. Pharmacology of Nurse Anesthesia I (¼ course). Lecture, four hours; discussion, one to 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

220A. Respiratory Anatomy and Physiology for Nurse Anesthetists I (½ course). 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. Ms. Ward

220B. Respiratory Anatomy and Physiology for Nurse Anesthetists II (½ course). Lecture, two hours; discussion, one hour. A continuation of respiratory anatomy and physiology with emphasis on the respiratory system as related to anesthesia administration and relevant problems. Ms. Ward

220C. Respiratory Anatomy and Physiology for Nurse Anesthetists III (½ course). Lecture, two hours; discussion, one hour. A continuation of the study of respiratory anatomy and physiology as related to anesthesia administration and relevant problems. Ms. Tanaka

221. Cardiovascular Anatomy and Physiology for Nurse Anesthetists (¼ course). Lecture, four hours; discussion, one hour. An integrated study of the anatomy and physiology of the C-V system as related to the management of anesthesia administration. Mrs. Katz

M222. Biological Control Systems. (Same as System Science M222F.) Prerequisite: Engineering 122A 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 (Sp)

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 relevant to the management of anesthesia administration. Mr. Skolnick

225. Anatomy and Physiology of the Nervous System for Nurse Anesthetists. Lecture, four hours; discussion, one to two hours. An integrated study of the anatomy and physiology of the nervous system as it relates to the management of anesthesia administration. Mr. Skolnick

M268. Behavioral Management of Pain Problems (½ course). (Same as Psychiatry M268.) Prerequisite: consent of instructor. The course will review current knowledge and skills involved in the behavioral assessment and management of acute and chronic pain problems. The behavioral perspective will be integrated with related physiological and medical considerations. Mr. McCreary, Mr. Reeves

290. Anesthesia Seminar for Nurse Anesthetists (½ course). Discussion, two to three hours. Discussion of special problems in anesthesia of interest to the student. Mrs. Katz and the Staff

400A. Basic Clinical Anesthesia for Nurse Anesthetists I (½ course). Lecture, three hours; laboratory, thirty hours. Prerequisite: course 402. Correlation of techniques of anesthesia administration with basic science knowledge as applied in the clinical area with supervised practice. S/U grading.

400B. Basic Clinical Anesthesia for Nurse Anesthetists II (½ course). Lecture, two hours; laboratory, thirty 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.

400C. Basic Clinical Anesthesia for Nurse Anesthetists III (½ course). Lecture, two hours; laboratory, thirty hours. Prerequisite: course 400B. A continuation of techniques of anesthesia administration as applied in the clinical area with supervised practice. S/U grading.

400D. Clinical Anesthesia for Nurse Anesthetists IV (½ course). Lecture, two hours; laboratory, thirty 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.

400E. Clinical Anesthesia for Nurse Anesthetists V (½ course). Lecture, two hours; laboratory, thirty 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.

400F. Clinical Anesthesia for Nurse Anesthetists VI (½ course). Lecture, two hours; laboratory, thirty 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.

400G. Clinical Anesthesia for Nurse Anesthetists VII (½ course). Lecture, two hours; laboratory, thirty 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.

401. Orientation to Nurse Anesthesia (½ course). Lecture, two hours; discussion, one-half to one hour. Orientation to history, ethics, and legal aspects of nurse anesthesia. Psychology related to patient undergoing surgery and anesthesia. Ms. Tanaka

402. Fundamentals of Anesthesia Practice for Nurse Anesthetists. 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. Ms. Tanaka

597. Preparation for M.S. Oral Qualifying Examination (½ course). Prerequisite: consent of instructor. Opportunity to pursue comprehensive study in anesthesiology and related areas on an individual basis, with the opportunity for discussion of the material with the instructor. Mr. Katz

598A. Research in Anesthesia I (½ course). Prerequisite: consent of instructor. Opportunity is presented to pursue anesthesia research outlets for thesis preparation. Independent research of quality suitable for publication is required. This may be elected instead of the oral comprehensive examination for completion of the M.S. program. Mr. Katz

598B. Research in Anesthesia II (½ course). Prerequisite: course 598B. Opportunity is presented to pursue anesthesia research outlets for thesis preparation. Independent research of quality suitable for publication is required. This may be elected instead of the oral comprehensive examination for completion of the M.S. program. May be repeated twice for credit. Mr. Katz

Biological Chemistry

33-257 Center for Health Sciences, 825-6545

Professors

Roslyn B. Alfin-Slater, Ph.D.
Robert J. DeLange, Ph.D.
John Edmond, Ph.D.
Samuel Eiduson, Ph.D., *in Residence*
Armand J. Fulco, Ph.D.
Dohn G. Glitz, Ph.D., *Vice Chair*
Isaac Harary, Ph.D.
Harvey R. Herschman, Ph.D.
Bruce D. Howard, M.D.
James F. Mead, Ph.D.
John G. Pierce, Ph.D., *Chair*
George J. Popjak, M.D., D.Sc.
Sidney Roberts, Ph.D.
David S. Sigman, Ph.D.
Marian E. Swendseid, Ph.D.
William T. Wickner, M.D.
Irving Zabin, Ph.D.
Robert M. Fink, Ph.D., *Emeritus*
Ralph W. McKee, Ph.D., *Emeritus*
Joseph F. Nyc, Ph.D., *Emeritus*
Emil L. Smith, Ph.D., *Emeritus*
Stephen Zamenhof, Ph.D., *Emeritus*

Associate Professors

Peter Edwards, Ph.D., *in Residence*
James C. Paulson, Ph.D.
John E. Snoke, Ph.D.
Patrice J. Zamenhof, Ph.D.

Assistant Professors

Kathryn L. Calame, Ph.D.
William A. Coty, Ph.D.
Kathleen Dixon, Ph.D.
Kevin McEntee, Ph.D.
Leonard H. Rome, Ph.D.

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.

Biological chemistry at UCLA attempts to provide students with the necessary background for continued growth in this fast-changing science. As a part of the School of Medicine, the department is involved in the basic education of students who will be practicing physicians, as well as medical research specialists. But through its graduate program and its interactions with other graduate departments, it deals with students whose primary interests are in biochemistry and other related sciences.

The department emphasizes biochemical research leading to the Ph.D. degree; the faculty represents a variety of research areas, and graduates find employment in a multiplicity of research or research-related fields, as well as in teaching. The department also offers limited opportunities for research or nonresearch study toward the M.S. degree.

Requirements for Graduate Degrees

Admission

In addition to the University's minimum requirements, which include a bachelor's degree (preferably in chemistry or a biological science), students should normally have completed the following: general chemistry, quantitative chemistry, organic chemistry (with laboratory), physical chemistry (with laboratory), general physics, mathematics through calculus, and general biology (or bacteriology, botany, zoology, biochemistry, or molecular biology). More advanced courses in these areas are also recommended where possible.

You are expected to take the Graduate Record Examination (GRE) Aptitude Test, preferably in October or before, but no later than December of the year prior to expected admission. It is strongly recommended that you also take the GRE Advanced Test in either Biology or Chemistry. In exceptional circumstances, the GRE test requirements may be waived by the departmental graduate admissions committee. If your native language is other than English, you are expected to take an appropriate examination which tests proficiency in English (e.g., TOEFL) prior to the time of application to this department.

There is no separate application form required for admission to the department, but at least three letters of recommendation are required. Have them sent directly to the Graduate Information Office at the address below.

Departmental brochures and information may be obtained by writing to Graduate Information Office, Department of Biological Chemistry, UCLA School of Medicine, Los Angeles, CA 90024.

Course Requirements

All graduate students must take the three core courses (M253, M255, 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 these 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 must be taken to complete the total of nine courses (36 units) required for the degree.

No more than two courses (eight units) in the 500 series may be applied toward the nine course requirement, and only one (four units) of the two courses may be applied toward the minimum five graduate courses (20 units) required for the degree.

With the consent of the graduate adviser, courses 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 (2-12 units each time).

Comprehensive Examination Plan

In general, this 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 will a student be approved for the thesis plan. In either plan you must pass the departmental written examination at the master's level of achievement (see above). Only course requirements and the written examination are needed to complete the comprehensive examination plan.

Thesis Plan

In addition to coursework, a written thesis is required. A thesis committee will help you plan the thesis research, determine the acceptability of the thesis, administer a final examination (if deemed appropriate), and recommend 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 10-12 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) Biological Chemistry 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 the 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 will be 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.

Cooperative Degree Program

Students may apply for the M.D./Ph.D. program by making simultaneous applications for graduate status in this department and for admission to the School of Medicine. Acceptance by both of the concerned units is necessary for this program. 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 is required for nonmedical students.

101E. Biological Chemistry Laboratory. Laboratory, seven hours. Required in the medical curriculum; consent of instructor is required for nonmedical students. Experiments illustrating some of the procedures employed in clinical chemistry, enzymology, and metabolic studies.

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 is required for nondental students. The biochemical properties and structures of living systems are considered, with special emphasis on mineral metabolism and nutrition.

102C. Biological Chemistry Seminar (Dental Students) (¼ course). Seminar, four hours (five weeks). Required in the dental curriculum; consent of instructor is required for nondental students. The seminars, which will be given by the students to small discussion groups, involve presentation of material from current research dealing with biochemical studies.
Mr. Snoke and the Staff

Graduate Courses

201A-201B. Biological Chemistry. Lecture, three hours. Prerequisites: organic chemistry, an undergraduate course in biochemistry other than a beginning survey course, consent of instructor. A graduate-level course in fundamentals of biochemistry, with emphasis on mammalian biochemistry. Structure, function, and metabolism of major cell constituents.

220A-220B-220C. Research Laboratory Rotations (½ to 2 courses each). Lecture, one hour; laboratory, six hours. Prerequisite: consent of instructor. Students arrange apprenticeships in the laboratories of one or more departmental faculty members and engage in a research project under close faculty direction. This program allows students to acquire in-depth laboratory experience in specific research areas and facilitates an informed decision on their part in the selection of a thesis/research adviser.
Mr. Fulco and the Staff (F, 220A; W, 220B; Sp, 220C).

221. Functional Neurochemistry. Lecture or recitation, three hours. Prerequisites: courses 101A-101B-101C or equivalent. Chemistry and metabolism of neural tissue with particular relationship to specialized function in the central nervous system.
Mr. Roberts and the Staff

222. Biochemistry of the Synapse (½ course). Prerequisite: course 221. Detailed analysis of the research literature dealing with biochemistry of the synapse. Metabolism, storage, and release of transmitter; transmitter receptors and functions; neuronal plasticity.
Mr. Howard

223. Current Topics in Neurochemistry (½ course). Prerequisite: course 221. Detailed analysis of a circumscribed area of neurochemistry of current interest. Topics may include metabolic diseases affecting brain function, developmental neurochemistry, role of cyclic nucleotides in neural activity, biochemical differentiation of the nervous system, research methods in neurochemistry, brain specific macromolecules.

M226. Chromosome Structure and Regulation. (Same as Biology M226, Chemistry M226, and Microbiology and Immunology M226.) Lecture, three hours. Prerequisite: consent of instructor. Lectures and panel discussions on the structural and functional organization of eukaryotic chromosomes. S/U grading.
Mr. Martinson, Mr. Tobin, Mr. Wall

M237. Steroid Hormones (½ course). (Same as Biology M237). Highly recommended prerequisites: prior courses in biochemistry and cell biology. Detailed examination of the mode of action of steroid hormones on both *in vivo* and *in vitro* systems. Topics include steroid uptake, receptor purification and activation, and nuclear events, among others.
Mr. Coty, Mr. O'Connor

248. Molecular Genetics. Lecture, three hours. Prerequisite: consent of instructor. Basic concepts in modern genetics will be presented, drawing examples from both eukaryotic and prokaryotic systems. Emphasis will be placed 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, Ms. Dixon, Mr. McEntee

M253. Macromolecular Structure (1½ courses). (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, nucleic acids, and other macromolecular complexes, with emphasis on theory and methodology; correlation of structure and biological properties; chemical synthesis and properties of polypeptides and polynucleotides.

M255. Enzymes, Metabolism, and Regulation (1½ courses). (Same as Chemistry M255.) Lecture or recitation, five hours. Prerequisites: courses 101A-101B or 201A-201B or Chemistry 110A, 156, 157A, and 157B, or equivalent. Recommended: course M253. Thermodynamic and kinetic aspects of metabolism; regulatory properties of enzymes; metabolic regulation; consideration of comparative aspects of metabolism in relation to physiological function; enzymic mechanisms and methods for their study.

M257. Physical Chemistry of Biological Macromolecules (½ course). (Same as Chemistry M257.) Prerequisite: Chemistry 110A or 25 or consent of instructor. Theory of hydrodynamic, thermodynamic, optical, and X-ray techniques used to study the structure and function of biological macromolecules.
Mr. Schumaker (F)

259. Biochemical Endocrinology (½ course). Prerequisites: courses 101A-101B or 201A-201B or Chemistry 157A and 157B, or equivalent. A lecture course emphasizing aspects of the structures of peptide and steroid hormones which are important for their biological actions, the interaction of these hormones with cell receptors, the molecular mode of action of peptide and steroid hormones, and the role of second and third messengers in hormone action.
Mr. Coty, Mr. Pierce, Mr. Roberts (W, alternate years)

M261. Advanced Chemistry and Biochemistry of Lipids (½ course). (Same as Chemistry M261.) Prerequisites: courses 101A-101B or 201A-201B, Chemistry 157A and 157B, or equivalent. Knowledge of elementary chemistry and biochemistry of lipids is essential. The biochemistry of lipids, including chemical and physical characteristics of lipids and their metabolism. Mr. Mead, Mr. Popjak

M264A-M264B-M264C. Molecular Basis of Atherosclerosis: Selected Topics (½ course each). (Formerly numbered M264.) (Same as Chemistry M264A-M264B-M264C and Microbiology M264A-M264B-M264C.) Prerequisites: course M261 or equivalent and consent of instructor. The courses will cover a variety of topics concerning the biochemistry, morphology, and physiology of atherosclerosis. Emphasis will be on the chemistry of lipoproteins and the role of plasma lipoproteins in the regulation of tissue lipid metabolism and the development of atherosclerosis. Each course may be taken independently for credit.

265. Seminar in the Biochemistry of Nucleic Acids (½ course). Lecture or recitation, one hour. Prerequisite: course M253 or equivalent. Biochemistry and chemistry of nucleic acids and nucleotides.
Mr. Glitz

266A-266B-266C. Seminar in the Biochemistry of Differentiation (½ course each). Lecture or recitation, one hour. Prerequisite: consent of instructor. A review of the current literature in the areas of specific expression of function and control of enzyme synthesis; metabolism in developing systems; and the control of gene expression pertaining to the biochemistry of development. Mr. Harary, Mr. Herschman

M267. Macromolecular Metabolism and Subcellular Organization (1½ courses). (Same as Chemistry M267.) Lecture or recitation, five hours. Prerequisites: courses 101A-101B or 201A-201B or Chemistry 157A and 157B, or equivalent. Recommended: course M253. Metabolism of nucleic acids and proteins; biosynthesis of complex lipids and polysaccharides; structure and properties of cellular organelles.

M269. Developmental Biochemistry (½ course). (Same as Chemistry M269.) Prerequisite: course M267 or consent of instructor. The course will deal with the biochemical aspects of development, specific tissue and cell function, and differential gene expression. The biochemistry of cell division, macromolecular synthesis, chromatin function in gene expression, cell-cell interactions, membrane organization, and growth will be studied as they contribute to such topics as hormone induction, morphogenesis, and viral transformation. Emphasis will be placed on the use of differentiating *in vivo* systems and cell culture as models. Mr. Harary, Mr. Herschman

M298. Seminar in Current Topics in Molecular Biology (½ course). (Same as Biology M298, Chemistry M298, Microbiology M298, Microbiology and Immunology M298, and Molecular Biology M298.) Discussion, one hour. Prerequisite: consent of instructor and graduate adviser of interdepartmental Molecular Biology Ph.D. committee. Each student conducts or participates in discussions on assigned topics. May be repeated for credit.

596. Directed Individual Study and Research (½ to 3 courses). Laboratory, to be arranged. Prerequisite: consent of graduate adviser. S/U grading.

597. Preparation for Examinations (½ to 1 course). Prerequisite: consent of graduate adviser. Individual study for Ph.D. qualifying examination or M.S. comprehensive examination. S/U grading.

598. Preparation of M.S. Thesis. Prerequisite: consent of graduate adviser. Preparation of research data and writing of M.S. thesis. S/U grading.

599. Research for and Preparation of Ph.D. Dissertation (½ to 3 courses). Prerequisite: consent of graduate adviser. Preparation of research data and writing of Ph.D. dissertation. S/U grading.

Biomathematics

AV-617 Center for Health Sciences, 825-5800

Professors
Abdelmonem A. Afifi, Ph.D.
Virginia A. Clark, Ph.D.
Wilfrid J. Dixon, Ph.D., *Vice Chair*
O. Jean Dunn, Ph.D.
Robert M. Elashoff, Ph.D.
Donald J. Jenden, M.D.
Robert I. Jennrich, Ph.D.
Frank J. Massey, Ph.D.
Carol M. Newton, M.D., Ph.D., *Chair*
Michael E. Phelps, Ph.D.
M. Anne Spence, Ph.D., *in Residence*

Associate Professor
Kenneth L. Lange, Ph.D.

Assistant Professors
Susan E. Hodge, D.Sc., *in Residence*
Henry Huang, D.Sc., *in Residence*
Edward Korn, Ph.D., *in Residence*
Elliot M. Landaw, M.D., Ph.D.

Professors
Kenneth Berk, Ph.D., *Visiting*
Edward C. DeLand, Ph.D., *Adjunct*
Janet E. Elashoff, Ph.D., *Adjunct*
Harlley E. McKean, Ph.D., *Visiting*
Arthur Peskoff, Ph.D., *Adjunct*

Associate Professors
Graydon Bell, Ph.D., *Visiting*
Henry Tuckwell, Ph.D., *Visiting*

Assistant Professors
Eli Engel, M.D., Ph.D., *Adjunct*
David Greenberg, Ph.D., *Adjunct*

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 — biomathematics is contributing both in its basic research and the development of specialized computer software to support investigation and health care. UCLA has one of the few departments in this relatively new, rapidly evolving field.

The Department of Biomathematics welcomes both undergraduate and graduate students in other majors to its courses in biomedical computing, modeling, and statistics. Premedical majors with mathematical/computer interests can receive early guidance toward an M.D./Ph.D. program in Biomathematics. The department is responsible for statistical and biomathematical training in the medical curriculum.

The department's orientation is away from abstract modeling and toward theoretical research vital to the advancement of current biomedical research frontiers. The doctoral program reflects this in requirements for advanced training in a biomedical research specialty and for the mathematical and computing skills required to contend realistically with complex phenomena encountered in biology and medicine. The art of biomathematical research is developed individually from the first year on. The master's program adapts to the various needs of researchers desiring supplemental biomathematical training, people preparing to provide methodological support to researchers in biology or medicine, or students pursuing a stepwise approach to graduate training in biomathematics.

Requirements for Graduate Degrees

Admission

High academic achievement in one scientific or mathematical field is required. It is not necessary to be proficient in both mathematics and biology, though some prior preparation in both fields is desirable. Both the Aptitude and Advanced Tests of the Graduate Record Examination (GRE) should be taken. At least three letters of recommendation are required from faculty competent to evaluate your qualifications for pursuing graduate study and a creative research career; additional letters are welcomed and may be requested.

In addition to completing the Graduate Admissions Office application forms, you are required to complete a departmental application form, which should be sent directly to the department. All communications with the department, including requests for brochures and for the departmental forms, should be sent to Chair, Graduate Admissions Committee, Department of Biomathematics, School of Medicine, UCLA, Los Angeles, CA 90024.

You are admitted to either program after you have achieved admission to the Graduate Division and have been approved by the departmental graduate admissions committee.

Master of Science Degree

Course Requirements

In fulfilling the University's minimum requirement of nine courses, master's candidates must complete at least five graduate-level courses in biomathematics, of which Biomathematics 201, 202, and 203 are required.

No more than two 596 courses may be applied toward the required nine courses, and none may be applied toward the graduate course requirement.

Thesis Plan

You generally will be 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, will cover material presented in your coursework. This will usually be the written comprehensive examination for the doctoral program given during the summer, but in exceptional cases a special committee and written examination will be provided.

Ph.D. Degree

Major Fields or Subdisciplines

Each student will complete the requirements for a field of special emphasis in biology. Presently approved fields of special emphasis for which courses of study have been developed include genetics, immunology, neurosciences, pharmacology, and physiology. Others may be added in response to students' requests.

Course Requirements

The following courses are required:

Biomathematics: 201, 202, 203, 204, and eight units chosen from 205, 206, M207, 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 curriculum 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 will be an increasing emphasis on research and encouragement to publish. Failure to advance in capacity for independent, creative research is a primary indication for recommended withdrawal from the program.

The following courses are recommended:

Mathematics: By individual study or coursework, you should have strength in differential equations, probability and statistics, and real and complex analysis. Offerings in the Department of Mathematics are especially recommended.

Statistics: Additional training in biostatistics is highly recommended (see offerings in the School of Public Health).

Computer Methods: You must be a facile programmer and acquainted with numerical methods needed for your area of research. The numerical analysis sequence in the Department of Mathematics and computing courses in biomathematics are suggested.

Biology and Biological Chemistry: A broad background is expected, from molecular to organ-system levels. This probably will be provided in requirements for the field of major biological emphasis; supplemental coursework will be advised, if needed.

Teaching Experience

One teaching preceptorship (Biomathematics 596) is required. You participate fully in the planning and delivery of one course in Biomathematics. 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 will be 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 will be exempt from the above requirements. Students with an M.D. will be 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, will critically probe the quality, scope, and feasibility of your proposed dissertation work. It will also explore the strength of biomathematical, mathematical, and biological-biomathematical research in your intended area of expertise. You advance to candidacy after passing this examination.

Final Oral Examination

A final oral examination is required of all candidates and is a defense of the dissertation, administered by the doctoral committee.

Upper Division Courses

110. Elements of Biomathematics. Prerequisite: calculus. Analysis of deterministic models, including some general approaches to the study of homeostasis. Conditions under which deterministic and probabilistic descriptions of biological phenomena are appropriate. Both approaches will be applied to selected examples in epidemiology and enzyme kinetics. Mr. Engel (F)

M153. Introduction to Computational Statistics. (Same as Mathematics M153.) Prerequisite: Mathematics 150C or 152B or equivalent. Statistical analysis of data by means of package programs. Regression, analysis of variance, discriminant analysis, and analysis of categorical data. Emphasis will be on understanding the connection between statistical theory, numerical results, and analysis of real data. Mr. Jennrich (Sp)

CM156. Human Genetics. (Formerly numbered M134.) (Same as Biology CM156.) 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 will focus on current questions in the fields of medical and human genetics and the methodologies appropriate to answer such questions. Concurrently scheduled with course CM256.
Mr. Merriam, Ms. Spence (W)

170A-170B. Selected Biomathematical Topics for Researchers in Medicine and Biology. (Formerly numbered 170A-170B-170C.) Lecture, four hours; discussion, 90 minutes. Prerequisite for course 170B: elementary calculus. Basic techniques for examination of data, planning of experiments, comparison of theory and experiment. Commonly used models (e.g., compartment, transport) will be developed and used to illustrate the latter. Techniques include use of computer. (F,W)

171A-171B. Selected Topics for Dental Researchers (½ course each). Instruction in critical and efficient reading of the dental literature, experimental designs, analysis of data using BMDP programs, and some basic modeling techniques. Review of modern biomathematical techniques in craniofacial research and other areas of interest to dentistry students. In Progress grading. (F,W)

172. Design, Conduct, and Analysis of Clinical Investigations (½ course). Lecture, two hours (five weeks only); discussion, two hours (five weeks only). Topics include steps in bringing a possible therapy to clinical use; design of studies in animals to assess antitumor response; randomization, historical controls, p-values, size of study, stratification, and points; ethics of human experimentation; informed consent; three phases of human studies; indications for various types of controls, prognostic factors, survivorship studies, design of prognostic studies; organization of a clinical trial — administration, comparability, protocols, nursing and clinical standards, data collection and management. P/NP grading.
Mr. Elashoff (Sp)

190HA-190HB. Honors Research in Biomathematics. Prerequisites: upper division standing, consent of instructor and department Chair. Individual research in some aspect of biomathematics designed to acquaint the student in depth with mathematical models and computer applications in biology. Must be taken for at least two quarters and for a total of at least eight units. A thesis is required.
Ms. Spence (F,W,Sp)

199. Special Studies in Biomathematics (½ to 2 courses). Prerequisites: upper division standing and consent of instructor. Special studies in biomathematics, including either reading assignments or laboratory work or both, designed for appropriate training of students. (F,W,Sp)

Graduate Courses

200. Research Frontiers in Biomathematics (½ course). Prerequisite: consent of instructor. A series of presentations by the faculty on research frontiers in biomathematics. Mr. Landaw (F)

201. Deterministic Models in Biology. Prerequisite: knowledge of linear algebra and differential equations. The conditions under which deterministic approaches can be employed are examined, as are conditions where they may be expected to fail. Topics include compartmental analysis, enzyme kinetics, physiological control systems, and cellular/animal population models. Ms. Newton and the Staff (F)

202. Fourier Analysis in Biology. Prerequisite: knowledge of calculus, linear algebra, and probability. Introduction to the theory of Fourier transforms and Fourier series from the point of view of generalized functions. Elementary applications to differential equations, quantum mechanics, image reconstruction, X-ray crystallography, branching processes, and time series. Brief review of computational techniques based on the fast Fourier transform.
Mr. Lange (Sp)

203. Stochastic Models in Biology. Prerequisite: Mathematics 150A or equivalent experience in probability. The mathematical description of biological relationships, with particular attention directed to areas where the conditions for deterministic models are inadequate. Examples of stochastic models drawn from genetics, physiology, ecology, and a variety of other biological and medical disciplines.
Mr. Lange (W)

204. Biomedical Data Analysis. Prerequisite: consent of instructor. The quantity and quality of observations has been greatly affected by the present-day extensive use of computers. The course is a problem-oriented study of the latest methods in statistical data analysis and their use for such arising laboratory and clinical research. Mr. Dixon (F)

205. Electric Potential Problems in Membranes, Cells, and Tissues. Prerequisite: knowledge of differential equations and electrostatistics, or consent of instructor. Review of electrostatistics; potential problems in rectangular, spherical, and cylindrical coordinates; modeling subthreshold electrical properties of cells; microelectrode measurements of intracellular potentials; boundary conditions for current flow across membranes; eigenfunction expansions and singular perturbation analysis of intracellular and extracellular potential distribution in spherical and cylindrical cells and syncytia; computation of potential barriers for ions traversing a membrane pore.
Mr. Peskoff (Sp)

206. Modeling of Cellular Systems (½ to 1 course). Students who can contribute to the class either as biologists or theoreticians may attend. Expected performance will be based on each individual's background. Study of recently reported characterizations of differentiating systems, flow cytometry, etc. Deterministic, stochastic, and computer simulation models are developed from simple dividing systems through special cell populations. Biological assumptions, indications for various approaches, and relationships to laboratory research and clinical applications are emphasized. Ms. Newton (W)

M207. Modeling in Genetic Analysis. (Same as Anthropology M222R.) Lecture, three hours. Prerequisites: Anthropology M222Q and graduate standing, or consent of instructor. Basic concepts of human genetics, with emphasis on methods of computer-oriented genetic analysis. Topics include segregation analysis, genetic linkage, polygenic (quantitative) models, and population structure.
Ms. Spence (F)

208. Modeling and Analysis of Neuroelectric Data. For biologists (especially neuroscientists), but open to other science majors. Mathematical approaches for modeling and developing neural theory are applied to basic neurophysiological phenomena and neural models. Appropriate practical approaches are also presented. Mr. Tuckwell (Sp)

209. Problems in Fluid and Electrolyte Management (½ course). Prerequisites: biochemistry, physiology, FORTRAN equivalent. Principles of fluid and electrolyte balance and acid-base chemistry. The course begins with a brief review of fluid and electrolyte metabolism and mechanisms of physiologic control, with reference to the research literature. This is followed by development and demonstration of the principles for management of acute imbalance, using computer-based patient simulation. Depending upon each student's interests, special topics include analysis of patient data, design of parenteral and dialysate fluids, mathematical principles, patient simulation using on-line patient data, or analysis of physiologic mechanisms. Mr. DeLand (F)

210. Introduction to Biomedical Computation. Prerequisite: graduate standing. Basic concepts of data acquisition and machine computation, with special reference to biomedical applications.
Mr. Greenberg (F)

213. Biomedical Laboratory Computing (Biomedical Minicomputing). Computational and data management problems encountered in the use of small digital computers for biomedical research are analyzed. Practical experience will be acquired with the department's minicomputer in system generation and patching, documentation, interfacing, file management, assembler language, and higher order language programming with computer graphics. Selected laboratories will be used for experience in the direct processing of physiological data and in controlling laboratory experiments. Mr. Landaw (W)

215A. Advanced Biomedical Computation: Graphics. Lecture, four and one-half hours. Prerequisite: Fortran programming skills. Survey of biomedical graphics applications, rationale. Graphics hardware, software. Graphical representation: glyphs, projections, hidden lines. Interactive graphics programming, individual term projects. S/U or letter grading. Ms. Newton

M230. Computed Tomography: Theory and Applications. (Same as Radiological Sciences M230.) Prerequisite: consent of instructor. Computed tomography is a three-dimensional imaging technique being widely used in radiology and is becoming an active research area in biomedicine. The course covers basic principles of computed tomography (CT), various reconstruction algorithms, special characteristics of CT, physics in CT, and various biomedical applications. Mr. S. Huang (W)

M231. Special Topics: Statistical Methods for Categorical Data. (Same as Public Health M201E.) Lecture, three hours; discussion, one hour. Prerequisites: Public Health 100B or 101B, Mathematics 150C or 152B, or equivalent, and consent of instructor. Statistical techniques for the analysis of categorical data; discussion and illustration of their applications and limitations. Mr. Korn (W)

M246. Probability Models and Statistical Methods in Genetics. (Same as Anthropology M222Q.) Lecture, three hours. Prerequisites: Anthropology 222P, Mathematics 3A, two quarters of statistics, graduate standing. An introduction to probability models and statistical methods in genetics. Maximum likelihood methods for estimating genetics parameters will be introduced and discussed in detail. Mr. Read (F)

248. Likelihood Theory and Genetic Modeling. Prerequisite: consent of instructor. The statistical concept of likelihood and its application to scientific inference, with particular reference to genetic modeling. The method of support will be contrasted with the more conventional methods (based on significance testing) of likelihood ratio testing and maximum likelihood estimation. Individual projects (computer use optional) may, but need not, involve genetics.
Ms. Hodge (Sp)

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 will focus on current questions in the fields of medical and human genetics and the methodologies appropriate to answer such questions. Independent research project is required. Concurrently scheduled with course CM156.
Mr. Merriam, Ms. Spence (W)

M280. Computational Statistics. (Same as Mathematics M280 and Public Health M207J.) Lecture, three hours. Prerequisites: Mathematics 115 and 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.

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, and consent of instructor. Statistical methods for the analysis of survival data. (W)

M282. Problems of Statistical Consultation. (Same as Public Health M202E.) Lecture, two hours; discussion, one hour; laboratory, two hours. Prerequisite: graduate course in applied statistics. Textbook and original problems requiring special expertise in design and analysis. Computer packages are used to diagnose failure of assumptions, suitability of models, and alternate analyses. Mr. Dixon

295. Supervised Statistical/Biomathematical Consulting. Prerequisites: consent of instructor; two graduate-level courses (six units) in biomathematics, biostatistics, or applied statistics; prior experience using computer programs to manage and analyze data. Hands-on experience with data management, modeling, and statistical analysis problems in actual consulting in biomedical and other research areas. Development of skills in formulating analytic problems, choosing techniques, managing data, executing analyses, interpreting results, and preparing reports. S/U or letter grading.
Ms. Wheeler and the Staff (W)

401. Biomathematics (½ course). An introduction to research design and statistical and mathematical methods in biomedical research. Special emphasis on tools for critically reading the medical literature. Illustration of computer use in data retrieval and scientific computation in advanced sections. In Progress grading. (F,W)

596. Directed Individual Study or Research in Biomathematics (½ to 3 courses). Individual study on topics not yet covered by the offerings of the department. May be repeated for credit with topic change. (F,W,Sp)

Microbiology and Immunology

43-239 Center for Health Sciences, 825-5661

Professors

John L. Fahey, M.D. *(Immunology)*
William H. Hildemann, Ph.D. *(Immunology)*
Dexter H. Howard, Ph.D. *(Mycology)*
David T. Imagawa, Ph.D. *(Virology)*
James N. Miller, Ph.D. *(Bacteriology)*
Debi P. Nayak, D.V.Sc., Ph.D. *(Virology)*
A. F. Rasmussen, Jr., M.D., Ph.D. *(Virology)*
George R. Riviere, D.D.S., Ph.D. *(Immunology)*
Jack G. Stevens, D.V.M., Ph.D. *(Virology), Chair*
Jerrold A. Turner, M.D. *(Parasitology)*
Marietta Voge, Ph.D. *(Parasitology)*
Randolph Wall, Ph.D. *(Molecular Biology)*
Felix O. Wettstein, Ph.D. *(Molecular Biology)*
Telford H. Work, M.D., M.Ph.H., D.T.M.&H. *(Virology)*
Ruth A. Boak, M.D., Ph.D., *Emeritus*
David McVickar, M.D., Ph.D., *Emeritus*
Margret I. Sellers, Ph.D., *Emeritus*
Stephen Zamenhof, Ph.D., *Emeritus*

Associate Professors

Benjamin Bonavida, Ph.D. *(Immunology)*
George Fareed, M.D. *(Molecular Biology)*
Sidney H. Golub, Ph.D., *in Residence (Immunology)*
Ronald H. Stevens, Ph.D. *(Immunology)*
Jacob Zighelboim, M.D. *(Immunology)*

Assistant Professors

John Bramhall, Ph.D. *(Molecular Biology)*
Asim Dasgupta, Ph.D. *(Virology)*
Michael Lovett, M.D., Ph.D. *(Bacteriology)*

Lecturers

Charles Bigger, Ph.D. *(Immunology)*
Margery L. Cook, Ph.D. *(Virology)*
Nina Dabrowa, Ph.D. *(Mycology)*
Alan Davis, Ph.D. *(Virology)*
Yoko S. Mullen, M.D., Ph.D. *(Immunology)*
Maurice L. White, Ph.D. *(Bacteriology)*

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 classic 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 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 (Aptitude Test and Advanced 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 School of Medicine, Los Angeles, CA 90024.

Major Fields or Subdisciplines

You are expected to be competent in both microbiology and immunology. However, you must do your thesis work in one or another of the following subdisciplines: (1) cell biology (several areas of specialization available); (2) immunology (several areas of specialization available); (3) medical bacteriology; (4) mycology; (5) parasitology; (6) virology (animal virology, viral oncology).

Foreign Language Requirement

There is no foreign language requirement for the degree.

Course Requirements

(1) Microbiology and Immunology 202A, 202B, 202C, 202D, or equivalent (to be completed during the first year of study) are required. All or portions of this requirement may be met by examination. Prior to the beginning of Fall Quarter, a series of examinations will be given in the major subdivisions of course 202 (bacteriology, immunology, virology, mycology/parasitology). If you pass any examination with 80% or above, you may elect not to take that portion of course 202.

(2) Microbiology and Immunology 596 is required. You will complete a laboratory rotation program during the first year of study.

(3) Three courses (12 units) in biochemistry (prerequisites: mathematics through calculus and general physical chemistry) are required. These courses will be chosen from the following list (other substitutes may be selected with the consent of the graduate adviser): Biological Chemistry M253, M255, M257, M267, M269.

(4) Advanced seminars and courses selected on an individual basis in consultation with the graduate committee or major professor are required.

Teaching Experience

Teaching assignment in one laboratory section for Microbiology and Immunology 201, 203, M212, 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 the first year of graduate study. The examination consists of two parts: (1) cell and molecular biology (mandatory) and (2) four of the following six areas: bacteriology, genetics, immunology, mycology, parasitology, and virology. You may choose to fulfill up to two of the required areas in item 2 through coursework (as defined by a list available from the graduate adviser) to be complet-

ed by the end of the second year. A score of 75% is required to pass each part of the written examination. Parts failed may be repeated once.

You have the option of completing the University Oral Qualifying Examination by the end of either the second year (Plan I) or the third year (Plan II). Advancement to candidacy is awarded upon successful completion of this examination. If inadequacies are encountered, you may be required to repeat the examination, in which case Plan II becomes mandatory.

Plan I (passed within 24 months) includes the preparation and defense of a research proposal (the topic will be the same as the research that you intend to use as your thesis work) and the demonstration of general knowledge of microbiology and immunology.

Plan II (passed within 36 months) includes the preparation and defense of a research proposal (the topic will be in a different area and will use a different approach from that of your thesis project and research, but within the fields of interest in the department), an explanation of the research and results, and the demonstration of general knowledge of microbiology and immunology.

The details of the dissertation requirement are supervised by your professor and doctoral committee. The dissertation will demonstrate an original and independent contribution to scientific knowledge acceptable for publication in a major scientific journal and presented in the University-required format.

Final Oral Examination

The final oral examination is optional with the doctoral committee. However, you are required to present a special seminar based on your dissertation.

Upper Division Courses

M185. Immunology. (Same as Biology M185 and Microbiology M185.) Lecture, three hours; discussion, one hour. Prerequisites: Biology 8, Chemistry 23, 25. Chemistry 152 or 156 should be taken concurrently. Introduction to experimental immunobiology and immunochemistry; 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, twelve hours. Prerequisites: course M185 and consent of instructor. Course M187 must be taken concurrently. The course will focus 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 (½ course). (Same as Biology M187 and Microbiology M187.) Prerequisites: course M185 and consent of instructor. Course M186 must be taken concurrently. 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)

M188. Immunological Techniques (½ course). (Same as Microbiology M188.) Prerequisites: course M185 with a grade of A and consent of instructor. Techniques in immunochemistry and immunobiology. State of the art advanced technology for performance of experiments in modern immunology in a workshop format. Each workshop is of approximately two full days duration. Mr. Sercarz (W)

199. Directed Individual Research Studies in Microbiology and Immunology (½ to 2 courses). Prerequisites: senior standing and 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 by consent of instructor.

201. Microbiology and Immunology (2 courses). Lectures and laboratory. 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. For medical students only.

202A. Fundamentals of Immunology (½ course). (Formerly numbered 202.) Prerequisite: consent of instructor. Introduction to experimental immunobiology and immunochemistry; cellular and molecular aspects of humoral and cell-mediated immune functions. (F, first weeks in September)

202B. Medical Bacteriology (½ course). (Formerly numbered 202.) Prerequisite: consent of instructor. Characteristics of bacteria rickettsiae and chlamydiae associated with diseases of humans; host-parasite interactions and immunity; identification and laboratory diagnosis; principles of prevention and treatment; introduction to microbial genetics as it pertains to pathogenicity. (F)

202C. Medical Virology (½ course). (Formerly numbered 202.) 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 (½ course). (Formerly numbered 202.) 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)

M206. Secretory and Gastrointestinal Immunity (½ course). (Same as Oral Biology M206.) The anatomy and physiology of the oral cavity, the intestines, and the related lymphatic and blood vascular systems will be reviewed in reference to the immune system. The secretory and systemic immune systems will be discussed in detail with particular emphasis on the unique properties of SIgA. The ability to process enteric antigens, to respond, and to regulate enteric immunity will be discussed in terms of recent experimental findings. The role that enteric immunity may play in diseases of the GI tract, such as dental caries and inflammatory bowel diseases, will be presented. Students will participate in discussions following each lecture and will present seminars based on a review of the relevant scientific literature.
Mr. Riviere (Sp, alternate years)

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 with a major in public health, biology, or microbiology and for graduate students with an interest in any field of biology or chemistry. The course encompasses an overview of animal viruses, including viral structure, virus cell interaction, virus replication, and viral oncogenesis. Special emphasis is placed in understanding the molecular mechanism involved in the control and regulation of replication, transcription, and translation of viral genome and its complex interaction with host. Mr. Nayak (Sp)

210. Medical Mycology (¾ course). Prerequisites: Microbiology 101, C103A, C103B, and M185. Recommended: Microbiology 110 (consent of instructor may be obtained in special cases). A study of the morphology, physiology, and pathogenicity of fungi causing human and animal diseases.
Mr. Howard (Sp)

210L. Medical Mycology (½ course). Prerequisites: Microbiology 101, C103A, C103B, and M185. Recommended: Microbiology 110 (consent of instructor may be obtained in special cases). Laboratory application of principles discussed in course 210. Laboratory must be taken by undergraduate students.
Mr. Howard (Sp)

M212. Laboratory Procedures in Immunological Research (½ course). (Same as Microbiology M212.) Prerequisites: course M185 or equivalent and consent of instructor. Limited to 25 students (enroll through Microbiology and Immunology). A series of intensive laboratory workshops designed to acquaint the student with the advanced methodologies utilized for immunological research. Workshops will be offered at regular intervals and will have a duration of 2 to 3 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)

214. Bacterial Pathogenesis (½ course). Prerequisites: course 202B and/or consent of instructor. A study of the genetic and biochemical properties of bacteria and factors of the host which are relevant to the pathogenesis of bacterial diseases.
Mr. Lovett, Mr. Miller (W)

M215. Interdepartmental Course in Tropical Medicine (½ course). (Same as Medicine M215, Pathology M215, and Pediatrics M215.) Prerequisites: basic courses in microbiology and parasitology of infectious diseases in the School of Medicine or Public Health. The course draws upon expertise in the Departments of Medicine, Pediatrics, Pathology, and Microbiology and Immunology to present current knowledge about diseases prevalent in tropical areas of the world. Lectures, demonstrations, and audiovisual materials are used to describe diseases which are prevalent in or localized to certain geographic areas. Although major emphasis is in infectious diseases, problems in nutrition and exotic noninfectious diseases are covered. A syllabus supplements the topics covered in the classroom. S/U grading.
Ms. Voge (Sp, alternate years)

M226. Chromosome Structure and Regulation. (Same as Biological Chemistry M226, Biology M226, and Chemistry M226.) Lecture, three hours. Prerequisite: consent of instructor. Lectures and panel discussions on the structural and functional organization of eukaryotic chromosomes. S/U grading.
Mr. Martinson, Mr. Tobin, Mr. Wall

250. Topics in New Biology. Lectures and student seminar presentations. A review of selected current topics in molecular and cell biology. Topics include recent experimental results on the organization, expression, and regulation of genes in eukaryotic cells. S/U grading. Mr. Wall (W)

251. Seminar in Microbiology and Immunology (½ course). Consideration of the history of infectious diseases, their host-parasite relationships, etiology, pathogenesis, epidemiology, diagnosis, and immunity. S/U or letter grading. Mr. Howard (W)

252. Seminar in Viral Pathogenesis (½ course). Prerequisites: course 201, Microbiology 102, or equivalent, or consent of instructor. A consideration of basic phenomena involved in pathogenesis of viral disease, using carefully selected examples. Emphasis is given to those systems which have been meaningfully dissected by quantitative immunological and molecular biological methods. Mr. Stevens (F)

254. Immunogenetics (½ course). Review of current literature in the field of immunogenetics, with emphasis on fundamental studies involving genetic and immunologic principles and techniques. Selected topics will be discussed and results interpreted; conclusions and experimental methods will be evaluated. Mr. Hildemann (Sp)

255. Seminar in Medical Mycology (½ course). Corequisite: course 210. Review of current and recent literature in the field of medical mycology, with emphasis on the host-parasite relationships in the human and animal mycoses. Students will be expected 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)

M256. Seminar in Viral Oncology (½ course). (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

M257. Seminar in Host-Parasite Relationships (½ course). (Same as Microbiology M257.) Prerequisite: consent of instructor. Recent advances in the knowledge of host-parasite interactions and means of controlling the parasites. Mr. Miller, Mr. Pickett (Sp)

M258A. Advanced Immunology (¾ course). (Same as Biology M250A and Microbiology M258A.) Lecture, 90 minutes; discussion, 90 minutes. Prerequisite: course M185 or 202A or equivalent or consent of instructor. The course is designed to provide continuity between the basic immunology courses and the original research literature. The major aspects of the immune system will be intensively examined, with emphasis on fundamental principles and on advances of the past five years. Featured will be lectures dealing with the development of B and T lymphocytes, the interaction of these two lymphocyte subpopulations in the production of immunoglobulin, and cell-mediated immunity. S/U or letter grading. (F)

M258B. Advanced Immunology (¾ course). (Same as Biology M250B and Microbiology M258B.) Lecture, 90 minutes; discussion, 90 minutes. Prerequisites: course M185 or 202A, or equivalent, and course M258A, or consent of instructor. A continuaton of course M258A which will consider the fields of immunochemistry, surface membrane receptors, and lymphokines. S/U or letter grading. (W)

M260. Immunology Forum (½ course). (Same as Microbiology M260.) Prerequisite: course M185. A broad range of current topics in immunology will be presented and discussed at an advanced frontier level. This is a continuing UCLA-wide, general graduate-level seminar involving faculty, postdoctoral immunologists, and graduate students from diverse departments. Mr. Sercarz (F,W,Sp)

261. Tumor Immunology (½ course). Prerequisites: courses M258A and M258B, or equivalent. Experimental basis for investigation of immune response to tumors; review of cell-mediated immunity and related humoral immunity; evidence for tumor-associated antigens in man; evaluation of attempts at immunotherapy of tumors. S/U or letter grading. Mr. Golub (Sp, alternate years)

262. Seminar in Immunobiology of Cancer (½ course). Prerequisite: consent of instructor. Review of recent literature in the fields of immunology, biology, and biochemistry of cancer, with emphasis on fundamental studies involving cell-mediated immunity, humoral response, tumor specific antigens, and new techniques. Reports on scientific meetings will be discussed and evaluated. S/U grading. Mr. Bonavida (W)

M263. Cellular Immunology Seminar (½ course). (Same as Microbiology M263.) Prerequisite: consent of instructor. Critical discussions of the current literature in T and B cell immunology, with emphasis on molecular mechanisms. Mr. Sercarz (F,W,Sp)

264. Molecular Microbiology and Cell Biology (½ course). Prerequisites: courses 202A, 202B, 202C, 202D, 250, or consent of instructor. Discussion of selected current topics related to microbiology and cell biology, with special emphasis on an understanding of the basic phenomena at the molecular level. S/U grading. Mr. Wettstein (F)

265. Co-Seminar in Molecular Biology of Animal Viruses (½ course). Prerequisites or corequisites: course 208 and consent of instructor. Critical review and analysis of selected papers in the field. Topics include structure and biology of animal viruses and virus host interaction at the cellular and molecular level. Mr. Nayak (Sp)

270. Immunology in Disease (½ course). Lecture, one hour; discussion, one hour. Prerequisite: basic immunology. Introduction to the role of immune processes in disease for students with prior knowledge of basic immunology. Topics include immunodeficiency, immediate hypersensitivity reactions, autoimmune disease, and immune complex-mediated diseases, together with transplantation immunology, tumor immunology (re the role of immunity in infection). Students prepare a 20-30 minute presentation on a selected topic. Mr. Fahey (W, alternate years)

271. Research Seminar in Virology (½ course). Prerequisite: consent of instructor. Selected topics in virology, including viral structures, host virus interaction, and regulation of viral and host gene expression, will be presented and discussed in depth. Mr. Nayak (Sp)

M282. Major Histocompatibility Complexes: Genetics, Biochemistry, and Biology (½ course). (Same as Biology 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 is on the murine MHC (H-2), but where appropriate and illustrative, the human MHC is discussed. Mr. Clark (W)

M293. Major Concepts in Oncology. (Same as Oral Biology M293 and Pathology M293.) Lecture, three hours. Prerequisite: graduate standing or consent of instructor. Designed for graduate students contemplating research in oncology. Topics include cancer pathophysiology, genetics, membranes, macromolecular synthesis and control, cell cycle, growth control; physical, chemical, and viral oncogenesis, epidemiology of cancer; tumor immunology; principles of cancer surgery, radiation therapy, and chemotherapy. S/U or letter grading. Mr. Hankinson, Mr. Seeger (W)

M298. Seminar in Current Topics in Molecular Biology (½ course). (Same as Biological Chemistry M298, Biology M298, Chemistry M298, Microbiology M298, and Molecular Biology M298.) Discussion, one hour. Prerequisite: consent of instructor and graduate adviser of interdepartmental Molecular Biology Ph.D. committee. Each student conducts or participates in discussions on assigned topics. May be repeated for credit.

596. Directed Individual Study or Research (½ to 2 courses). Laboratory to be arranged. Prerequisite: consent of graduate adviser. S/U grading.

597. Preparation for Ph.D. Qualifying Examination (½ to 1½ courses).

599. Research for and Preparation of Ph.D. Dissertation (½ to 3 courses). Research on an original problem in the field of microbiology and immunology to be selected by the graduate student with the advice of the adviser. Fields of study may be in bacteriology, immunology, mycology, parasitology, virology, tumor biology, or cell biology.

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.

Neuroscience
(Interdepartmental)

73-346 Center for Health Sciences, 825-8153

Professors

Larry L. Butcher, Ph.D. *(Psychology)*
Carmine D. Clemente, Ph.D. *(Anatomy)*
Roger O. Eckert, Ph.D. *(Biology)*
Samuel Eiduson, Ph.D., *in Residence (Psychiatry and Biological Chemistry), Chair*
Robert George, Ph.D. *(Pharmacology)*
Ronald M. Harper, Ph.D. *(Anatomy)*
Michael T. McGuire, M.D. *(Psychiatry)*
Carol M. Newton, M.D., Ph.D. *(Biomathematics)*
Charles D. Woody, M.D., *in Residence (Anatomy)*
Stephen Zamenhof, Ph.D., *Emeritus (Microbiology and Immunology)*

Associate Professor

Michael S. Letinsky, Ph.D. *(Physiology)*

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 Neuroscience Office, 73-346 CHS, UCLA, Los Angeles, CA 90024.

Major Fields or Subdisciplines

Biobehavioral sciences; neuroanatomy; neurochemistry; neurocybernetics and communication; neuroendocrinology; neuroimmunology; neuropathology; neuropharmacology; neurophysiology.

Foreign Language Requirement

The program does not have a language requirement but does have a breadth requirement which can be satisfied in one of the following ways:

(1) Passing the Graduate School Foreign Language Test in one of the approved languages (French, German, or Russian) with a score of 500 or better. Any exceptions must be approved by the neuroscience committee.

(2) Completing one of the recommended series of biomathematics computer courses.

(3) 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 will be advanced to candidacy who has not met this breadth requirement.

Course Requirements

Basic course requirements include Anatomy M206A-M206B, Biological Chemistry 201A-201B, Biology 166, 171, Neuroscience 233, 254, electives and lab rotations as determined in consultation with your adviser.

Substitutions to the basic requirements may be made depending upon your background and with the consent of the graduate adviser. You are expected to complete core courses within the 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 choose the 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

200A-200B-200C. Clinical Concepts in the Neurosciences (½ course each). Presents information concerning neurological and psychiatric disorders for students from basic science backgrounds.
Mr. Walter

M201A-M201B-M201C. The Functional Organization of Behavior (½ course each). (Same as Psychiatry M201A-M201B-M201C.) Prerequisite: consent of instructor. Course M201A is prerequisite to M201B, which is prerequisite to M201C. **M201A** is introductory and focuses on the development of behaviors within different species and the functional uses of behaviors. An evolutionary biological perspective is used as the framework. **M201B** focuses on research studies designed to take into account the functional behavior of animals. **M201C** focuses on special questions of interest to students.
Mr. Eiduson, Mr. McGuire (F,W,Sp)

M204. Structure and Function of the Limbic System (½ course). (Same as Neurology M204.) Prerequisite: consent of instructor. Current knowledge of the mammalian limbic system will be 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 will be related to normal limbic system structure and functions. Mr. Babb

205. Brain-Behavioral Strategies for the Neurosciences (¾ course). Prerequisite: consent of instructor. Emphasis will be placed on behavioral designs, methods, and instruments employed to test specific neurological afferent-efferent and integrative systems of the central nervous system. The programming of signals and incentives in arousal, habituation, classical conditioning, and operant conditioning paradigms will be discussed in terms of the neural challenges for the coping animal. Behavioral methods will be emphasized, along with concurrent recording of neurophysiological data. The course is designed primarily to present practical behavioral techniques for neuroscience students. Mr. McGuire

M206A-M206B. Neurosciences: The Introductory Course for Graduate Students (1¼ courses, 1¾ courses). (Same as Anatomy M206A-M206B.) Lecture, three hours; laboratory, two hours (Winter). Lecture, six hours; laboratory, two hours (Spring). Prerequisite: a course (or equivalent) in basic and/or general physiology (such as Biology 171 or Physiology 101) or consent of instructor. Introductory course in the basic principles of the nervous system for graduate students as a prerequisite to more advanced courses. Fundamental approaches to neuroanatomy (Winter), neurophysiology and the brain mechanisms for behavior (Spring) will be stressed. In Progress grading.
Mr. Decima, Mr. Scheibel, and the Staff (W,Sp)

233. Seminar in Neuroscience (½ course). Topics of current importance will be presented for discussion. Subject matter to be announced.

M235. Gut and Brain Peptides (½ course). (Same as Anatomy M235 and Physiology M235.) Prerequisite: consent of instructor. Current knowledge of gut and brain peptides will be presented by surveying their chemistry, anatomy, and physiology. Experimental approaches used to study biologically active peptides will be discussed. In addition, current information about each of the major gut and brain peptides will be reviewed. S/U or letter grading.
Mr. Brecha, Mr. Reeve, Ms. Tache (W)

254. Interdisciplinary Research Seminar (½ course). Lectures and discussions concern many different disciplinary approaches to knowledge of brain function. The subject matter serves to broaden the experience of students studying in fields other than that of the lecturer and offers new information in depth from students in fields closely related to the subject discussed.

256A-256B-256C. Survey of the Basic Neurological Sciences (½ course 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.

259A-259B-259C. Neurophysiology of Behavior: The Fetus, Newborn, and Infant (½ course each). An integrated review of neuroanatomic, neurophysiologic, and behavioral development of human and animal fetuses and infants. Behavior will be correlated with the development of the brain during this period of rapid change in both. Mr. Parmelee

M260. Fundamental Concepts of Neuroendocrinology. (Same as Anatomy M260.) Lecture, two hours; discussion, two hours. Prerequisites: Anatomy M206A-M206B and Biological Chemistry 101C, or consent of instructor. Basic concepts of neuroendocrine integration, including analysis of the current literature and research techniques.
Mr. Gorski (W, odd years)

M261. Neuronal Circuit Analysis (½ course). (Same as Anatomy M261.) Lecture/discussion, three hours. Prerequisites: Anatomy M206A-M206B or equivalent. The course will be run in a seminar form with strong emphasis on specific reading assignments. It will present an integrated view of neuronal circuit analysis at an advanced level and will examine the layout and performance of a variety of basic neuronal circuits serving different control functions.
Mr. Schlag (W)

596. Directed Individual Study or Research (½ to 3 courses). Prerequisite: consent of instructor.
Mr. Eiduson

597. Preparation for Ph.D. Qualifying Examination (½ to 3 courses). Prerequisite: consent of instructor. Mr. Eiduson

599. Dissertation Research for Ph.D. Candidates (1 to 3 courses). Designed for students requiring special instruction or time to work on dissertation.
Mr. Eiduson

Pathology

13-327 Center for Health Sciences, 206-6307

Professors
Marcel A. Baluda, Ph.D.
Luciano Barajas, M.D., *in Residence*
W. Jann Brown, M.D.
Alistair J. Cochran, M.D., *in Residence*
Walter F. Coulson, M.D.
Robert Y. Foos, M.D.
Hideo E. Itabashi, M.D., *in Residence*
Harrison Latta, M.D.
Klaus J. Lewin, M.D., *Vice Chair*
M. Michael Lubran, M.D., Ph.D., *in Residence*
Robert J. Morin, M.D., *in Residence*
Byron A. Myhre, M.D., Ph.D., *in Residence*
Donald E. Paglia, M.D.
David D. Porter, M.D.
Denis O. Rodgerson, Ph.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*
William H. Carnes, M.D., *Emeritus*
Sidney Madden, M.D., *Emeritus*

Associate Professors
Judith A. Berliner, Ph.D., *in Residence*
Arthur M. Cohen, M.D., *in Residence*
Paul C. Fu, Ph.D., *in Residence*
Juan Lechago, M.D., Ph.D., *in Residence*
Joseph M. Mirra, M.D.

Assistant Professors
David S. Bruckner, Sc.D., *in Residence*
Gloria Duane, M.D., *in Residence*
Faye A. Eggerding, M.D., Ph.D.
Oliver Hankinson, Ph.D., *in Residence*
Nora C. J. Sun., M.D., *in Residence*

Professor
Ruth Gussen, M.D., *Adjunct*

Associate Professor
Dorothy Rosenthal, M.D., *Adjunct*

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 was unable to finish the full Ph.D. program but whose completed work was 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 will also be expected to enroll in a minimum of eight units of course 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 Aptitude Test scores and three letters of recommendation are required. There is no application form in addition to the one used by the Graduate Division. Because of the sequencing of classes, applicants are generally considered for admission to the Fall Quarter only. For departmental brochures, write to the Chair, Department of Pathology, 13-327 CHS, UCLA, Los Angeles, CA 90024.

Students intending to take advanced degrees in the Department of Pathology must have a bachelor's degree in physical or biological sciences or in the premedical curriculum. M.D.s are also encouraged to apply. Minimum course requirements for admission normally include one year of calculus, physics, general chemistry, organic chemistry, and biological sciences. A physical chemistry course requiring calculus, a course in molecular biology, and a course in histology are recommended and are required before taking the written qualifying examination. In some cases, deficiencies in the prerequisites may be fulfilled in the first year of study.

Course Requirements

The following courses are required: Pathology 231A, M240, 242A, 242B, 242C, 244, 250A-250B-250C, 251, and Biomathematics 170A. Three laboratory rotations (Pathology 261A-261B-261C) must be taken to intelligently choose 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 will be 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 will be expected to have done preliminary work before the examination and to demonstrate a wide and comprehensive knowledge of your special subject. Upon passing, you will advance to candidacy.

Final Oral Examination

All candidates are required to defend their dissertation at an oral examination open to the public. The purpose of the dissertation is to demonstrate ability for independent investigation and proficiency in the field.

Graduate Courses

200A. Dental Pathology (¾ course). Prerequisite: consent of instructor. Emphasizes the fundamental causes of disease processes, using as examples selected lesions or diseases of major organ systems.
Mr. Foos and the Staff

M215. Interdepartmental Course in Tropical Medicine (½ course). (Same as Medicine M215, Microbiology and Immunology M215, and Pediatrics M215.) Prerequisites: basic courses in microbiology and parasitology of infectious diseases in the School of Medicine or Public Health. The course draws upon expertise in the Departments of Medicine, Pediatrics, Pathology, and Microbiology and Immunology to present current knowledge about diseases prevalent in tropical areas of the world. Lectures, demonstrations, and audiovisual materials are used to describe diseases which are prevalent in or localized to certain geographic areas. Although major emphasis is in infectious diseases, problems in nutrition and exotic noninfectious diseases are covered. A syllabus supplements the topics covered in the classroom. S/U grading. Ms. Voge (Sp, alternate years)

231A. Pathological Anatomy and Physiology (1½ courses). Lecture, two hours; discussion, six hours; laboratory, four hours; other, six hours. Prerequisites: graduate standing and 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 will be presented. Concentration will be in the area of general pathology.
Mr. Verity and the Staff

231B-231C. Pathophysiology of Disease (1½ courses each). Prerequisites: course 200A, graduate standing, and 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 will be presented. Concentration will be in the area of general pathology. In Progress grading.
Mr. Lewin and the Staff

232. Topics in Vertebrate Neurobiology (½ course). An introduction to the cell biology of the vertebrate central nervous system, with special reference to its development, structure, and potential disease processes.

235A-235B. Regulation of Gene Expression in Mammalian Cells (½ course each). Prerequisite: consent of instructor. Description of intracellular information flow in mammalian cells by stimuli of different natures, as well as induced changes such as induction, repression, differentiation, and neoplastic transformation, will be analyzed. Use of culture models and the biopathological implications will be stressed.
(F, 235A; W, 235B; alternate years)

M240. Immunopathology (½ course). (Same as Medicine M240.) Prerequisites: immunology course and consent of instructor. Study of the role of immunologic phenomena in the production of lesions and disease. Topics include immuno complex disease, antitissues antibody, immunologic mediators, cell-mediated immunity, and infectious diseases.
Mr. Glassock, Mr. Porter

242A. Molecular Mechanisms in Disease (½ course). Prerequisites: course 231A, consent of instructor. A description of molecular events resulting from administration of injurious chemical and physical agents (u.v., X rays, carcinogens, toxins, etc.) and from reactions to injuries, (e.g., necrosis, degeneration, hyperplasia, neoplasia, inflammation, etc.) and an interpretation of structural and functional disturbances in terms of the molecular alterations.
Mr. Van Lancker and the Staff

242B. Molecular Mechanisms in Disease (½ course). Prerequisites: course 242A, consent of instructor. A description of molecular events resulting from administration of injurious chemical and physical agents (u.v., X rays, carcinogens, toxins, etc.) and from reactions to injuries (e.g., necrosis, degeneration, hyperplasia, neoplasia, inflammation, etc.) and an interpretation of structural and functional disturbances in terms of molecular alterations.
Mr. Van Lancker and the Staff

242C. Molecular Mechanisms in Disease. Prerequisite: consent of instructor. The course covers aspects of neoplasia in relation to alterations in the control of cell growth, chemical carcinogenesis, and the biology of cancer. Mr. Hankinson

244. Electron Microscopy in Experimental Pathology (¾ course). Prerequisite: consent of instructor. Ultrastructural aspects of pathology, including introduction to use of modern methods of electron microscopy in pathological studies, essentials of normal ultrastructure, and ultrastructural phenomena in general pathology. Ms. Berliner, Mr. Zamboni

245. Environmental Pathology. Prerequisites: graduate standing and consent of instructor. The course is designed to explore the interrelationships of man with his total environment. A series of special topics are presented to discuss the effect on man of changes in the compositions of air, water, soil, and other materials. S/U grading. Mr. O'Donnell and the Staff

250A-250B-250C. Pathology Graduate Student Seminar. 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. Prerequisite: consent of instructor. The course consists of ten, two-hour seminars which may include demonstrations of apparatus and methods dealing with new and advanced experimental techniques of value in experimental pathology. The seminars will be conducted by Pathology Department staff and guest lecturers. Subjects include the biochemistry, biological and morphological techniques in tissue fractionation, tissue culture, and radioautography (electron microscopy, etc.) that are frequently used in the study of disease mechanisms. Mr. Hankinson

253. Free Radical Pathology (½ course). Lecture, four and one-half hours. Prerequisites: basic biochemistry, physical chemistry. Free radicals, mechanisms of formation, properties, and reactions. Reactions with significant biomolecules. Modes of production *in vivo*. Reactions *in vivo*. Protection against and sensitization toward these damaging effects.
Mr. O'Donnell

M256. Seminar in Viral Oncology (½ course). (Same as Microbiology and Immunology M256.) An advanced research seminar designed to consider the current developments in the field. Selection of current subjects and publications dealing with tumor viruses, oncogenesis, development, and cellular regulation.
Mr. Baluda

M257. Introduction to Toxicology. (Same as Pharmacology M257.) Prerequisite: Pharmacology 241 or consent of instructor. Biochemical and systemic toxicology, basic mechanisms of toxicology, and the interaction of toxic agents with specific organ systems.
Mr. Taylor

M258. Pathologic Changes in Toxicology. (Same as Pharmacology M258.) The course is designed to give students experience in learning the normal histology of tissues which are major targets of toxin and the range of pathologic changes that occur in these tissues. Liver, bladder, lung, kidney, nervous system, and vascular system are covered. Ms. Berliner

260. Quantitative Approaches to Microscopic Anatomy (½ course). Prerequisite: consent of instructor. Practical and theoretical approaches in the application of measurement to anatomical structures. General principles of estimation of volume, surface area, and number are covered by stereology and other techniques. Ms. Berliner

261A-261B-261C. Laboratory Rotation (½ course each). (Formerly numbered 251A-251B-251C.) Laboratory, six hours. An introduction to research with individual instructors, laboratories.

M293. Major Concepts in Oncology. (Same as Microbiology and Immunology M293 and Oral Biology M293.) Lecture, three hours. Prerequisite: graduate standing or consent of instructor. Designed for graduate students contemplating research in oncology. Topics include cancer pathophysiology, genetics, membranes, macromolecular synthesis and control, cell cycle, growth control; physical, chemical, and viral oncogenesis, epidemiology of cancer; tumor immunology; principles of cancer surgery, radiation therapy, and chemotherapy. S/U or letter grading.
Mr. Hankinson, Mr. Seeger (W)

596. Directed Individual Study or Research (1 to 3 courses). Individual research with members of the staff or of other departments, the latter for the purpose of supplementing programs available in the department. S/U grading.

597. Preparation for Qualifying Examinations (½ to 2 courses). Prerequisite: one year of coursework in pathology. Individual study for qualifying examinations. S/U grading.

599. Preparation of Ph.D. Dissertation (½ to 2 courses). Prerequisite: completion of qualifying examinations and majority of Ph.D. research. Completion and writing of thesis. S/U grading.

Pharmacology

23-278 Center for Health Sciences, 825-5596

Professors

Robert O. Bauer, M.D.
Arthur K. Cho, Ph.D., *Vice Chair*
Matthew E. Conolly, M.D.
Werner E. Flacke, M.D.
Robert George, Ph.D.
Mark A. Goldberg, M.D., Ph.D., *in Residence*
William L. Hewitt, M.D.
Murray E. Jarvik, M.D., Ph.D.
Donald J. Jenden, M.D., *Chair*
Peter Lomax, M.D., D.Sc.
Ronald Okun, M.D., *in Residence*
Dermot B. Taylor, M.A., M.D.
Jeremy H. Thompson, M.D., F.R.C.P.I.

Associate Professors

Jorge R. Barrio, Ph.D.
Don H. Catlin, M.D.

Assistant Professors

Sherrel G. Howard-Butcher, Ph.D.
R. Craig Kammerer, Ph.D.

Lecturer

Joseph H. Beckerman, Pharm.D.

Professors

Il Jin Bak, Ph.D., D.D.S., *Adjunct*
Yi-Han Chang, Ph.D., *Adjunct*
Louis Levy, Ph.D., *Adjunct*
Roger W. Russell, Ph.D., *Visiting*

Associate Professors

M. David Fairchild, Ph.D., *Adjunct*
Larry A. Wheeler, Ph.D., *Adjunct*

Lecturer

Bjorn Ringdahl, Ph.D., *Visiting*

Scope and Objectives

The Department of Pharmacology offers instruction for undergraduate, graduate, medical, and dental students. It includes a systematic treatment of the effects of drugs in normal and pathological states, the mechanisms by which these effects are exerted, and the factors influencing their absorption, distribution, and biological disposition. Consideration is also given to the medical and social problems created by the increasing use of drugs by both the medical profession and the public.

Although the department offers only graduate degrees, upper division undergraduate courses are offered with enrollment restrictions as indicated in the course descriptions.

Master of Science Degree

The Pharmacology Department offers the Ph.D. degree, and students may obtain the M.S. degree; however, the department normally does not admit candidates for the M.S. degree only.

Ph.D. Degree

Admission

In addition to meeting University requirements for graduate admission, you must have received a bachelor's degree in a biological or physical science or in the premedical curriculum.

In suitable cases, students who have course deficiencies may be admitted to graduate standing, but any deficiencies will have to be removed within a specified time. Graduate Record Examination scores, TOEFL scores for foreign students, and three letters of recommendation are required.

Prospective students may write for a departmental brochure to the Graduate Student Office, Department of Pharmacology, UCLA School of Medicine, Los Angeles, CA 90024.

Major Fields or Subdisciplines

Cardiovascular pharmacology; chemical pharmacology; clinical pharmacology; immunopharmacology; neuroendocrine pharmacology; neuropharmacology; psychopharmacology.

Course Requirements

Required: Pharmacology 200 (three quarters), 201, 202A-202B, 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; one course in biostatistics.

All coursework should be completed by the end of the sixth quarter prior to taking the departmental comprehensive examinations.

The Pharmacology Department provides a system of laboratory rotations (Pharmacology 200) in order to familiarize students with a variety of pharmacological research areas and techniques. During the first six quarters in the department, you will participate in projects of your choosing. If possible, two of these will be during the regular academic year and the third during the summer. You will 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.

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 will be required to take a departmental comprehensive examination consisting of a written part and an oral part. You will then be 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 will be expected to know basic principles of pharmacology and also the status of topics of current interest in pharmacology.

After passing the departmental comprehensive examination, you must take the University Oral Qualifying Examination within 18 months. This examination is administered by the doctoral guidance committee.

Most questions will concentrate on the background literature, experimental methods, and implications of your field of interest and dissertation project. When you pass this examination, you are eligible to petition the Graduate Division for advancement to doctoral candidacy.

If you fail any one of the above required examinations, you may be reexamined at a later date determined by the guidance committee.

Final Oral Examination

A final oral examination is administered upon submission of the dissertation.

Cooperative Degree Program

The Department of Pharmacology offers an M.D./Ph.D. program concurrently with the UCLA School of Medicine. Candidates must be accepted by the School of Medicine Admissions Office in order to qualify.

Upper Division Courses

101A-101B-101C. Elements of Pharmacology (2 courses). Prerequisite: dental student standing or consent of instructor. Required of junior dental students. A general consideration of the modes of action and the pharmacological and toxicological effect of drugs, with a more detailed study of those agents used in clinical dentistry and the principles governing their use. Mr. Lomax in charge

110. Drugs: Mechanisms, Uses, and Misuse. Lecture, four hours (seven weeks); discussion, four hours (three weeks). Prerequisites: Biology 5, 6, 7, Chemistry 21, 23, 25, or equivalent. An introduction to pharmacology for undergraduate students, emphasizing the principles underlying the mechanism of action of drugs, their development, control, rational use, and misuse. Mr. Jenden

199. Special Studies (½ to 2 courses). 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.

Graduate Courses

200. Introduction to Laboratory Research (½ to 1 course). Prerequisite: consent of instructor. Individual projects in laboratory research for beginning graduate students. At the end of each quarter students submit to their supervisor a report covering the research performed. Pharmacology graduate students must take this course three times during their first two years in residence.

201. Principles of Pharmacology. Prerequisites: mammalian physiology and 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 is focused on the modes of action, pharmacokinetics, and disposition to provide a scientific basis for their rational use in medicine. Mr. Thompson in charge

202A-202B. Clinical Pharmacology. A series of lectures and case presentations designed to illustrate the principles of pharmacology in a clinical context, and the solution of problems of practical therapeutics by reference to pharmacokinetics, mechanisms of action, and disposition of drugs. Mr. Catlin in charge

212A-212B. Graduate Commentary: Clinical Pharmacology (½ course each). Prerequisites: mammalian physiology and biochemistry. A supplementation of topics covered in courses 202A and 202B. Primarily for graduate students. Mr. Catlin

234A-234B-234C. Experimental Methods in Pharmacology (½ course 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

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

237A-237B-237C. Neurotransmission. Prerequisites: courses 234A-234B-234C, 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. The evidence for mechanisms involving other possible transmitters will also be critically examined.
Mr. George, Mr. Jenden

238. Behavioral Toxicology. Prerequisite: consent of instructor. Lectures and discussions designed to examine effects of exposures to a wide variety of chemical and physical agents on behavior of the total organism as it adjusts to changes in its physical and social environments. Such effects may be reflected as subtle disturbances of behavior before classic symptoms of toxic states become apparent. Consideration will be given 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 will be on the relevance of this knowledge to human behavior. Mr. Russell

M239. Psychopharmacology. (Same as Psychiatry M239.) Prerequisite: consent of instructor. A presentation of the effects of drugs upon behavior, with special attention to drugs used in psychiatry and drug seeking behavior. Physiological and biochemical mechanisms underlying such actions will be analyzed. Reports on relevant current research will be made. Mr. Jarvik

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

251. Seminar in Pharmacology (½ course). Seminars presented by students, faculty, and guest lecturers on a variety of topics. Mr. Lomax

253. Seminar in Environmental Toxicology (½ course). 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

M257. Introduction to Toxicology. (Same as Pathology M257.) Prerequisite: course 241 or consent of insructor. Biochemical and systemic toxicology, basic mechanisms of toxicology, and interaction of toxic agents with specific organ systems. Mr. Taylor

M258. Pathologic Changes in Toxicology. (Same as Pathology M258.) The course is designed to give students experience in learning the normal histology of tissues which are major targets of toxin and the range of pathologic changes that occur in these tissues. Liver, bladder, lung, kidney, nervous system, and vascular system are covered. Ms. Berliner

261. Introduction to Clinical Pharmacology (½ course). 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.

291. Special Topics in Pharmacology (½ to 1 course). Prerequisite: consent of instructor. Examination in depth of topics of current importance in pharmacology. Emphasis on recent contributions of special interest to advanced doctoral candidates, academic staff, or visiting faculty. May be repeated twice for credit.

596. Directed Individual Research in Pharmacology (1 to 3 courses).

599. Research for and Preparation of Ph.D. Dissertation (1 to 3 courses).

Physiology

53-251 Center for Health Sciences, 825-6717

Professors

Francisco J. Bezanilla, Ph.D. *(Neuroscience)*
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. Grinnell, Ph.D.
Susumu Hagiwara, M.D., Ph.D. *(Eleanor I. Leslie Professor of Neuroscience)*
Earl Homsher, Ph.D.
Douglas Junge, Ph.D.
Glenn A. Langer, M.D. *(Castera Professor of Cardiology)*
Wilfried F.H.M. Mommaerts, Ph.D., *Chair*
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)*
Ralph R. Sonnenschein, M.D., Ph.D.
John McD. Tormey, M.D.
Bernice M. Wenzel, Ph.D.
Brian Whipp, Ph.D.
Ernest M. Wright, D.Sc.
Mary A.B. Brazier, D.Sc., *Emeritus, in Residence*
John Field, Ph.D., *Emeritus*
Donald B. Lindsley, Ph.D., *Emeritus*

Associate Professors

Thomas Berglindh, Ph.D., *in Residence*
Joy Frank, Ph.D., *in Residence*
Sally Krasne, Ph.D.
Michael S. Letinsky, Ph.D.
Paul Quinton, Ph.D.
Julio Vergara, Ph.D.

Assistant Professors

Richard Horn, Ph.D., *in Residence*
Kenneth D. Philipson, Ph.D., *in Residence*

Lecturer

Jesse O. Washington, D.V.M.

Associate Professor

Oscar Scremin, M.D., *Adjunct*

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 1982 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 concurrent 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 (equivalent to Mathematics 31A, 31B); 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. Students may also be admitted upon the recommendation and sponsorship of staff members subject to admission committee approval.

The Graduate Record Examination Aptitude Test is required as well as the Advanced Test in Biology or in your major field. MCAT scores will be 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, UCLA School of Medicine, Los Angeles, CA 90024.

Major Fields or Subdisciplines

Cellular electrophysiology; membrane transport; excitation, contraction, energetics, and protein chemistry of muscle; fundamental neurophysiology; cardiovascular, respiratory, and gastrointestinal physiology.

Course Requirements

At least two areas from the following in-depth courses are required: Physiology 205; 208; 213; 214; 215; 230A-230B-230C.

The graduate training program consists of two levels of basic subject matter. One level is comprehensive but qualitative rather than extensively analytical. The other level involves in-depth study which is rigorous and quantitative. First-year students have the option of taking courses at either level but will be required to take at least two areas of in-depth study.

Qualifying Examinations

A departmental written qualifying examination is usually taken at the end of the first year of study, although this requirement may be waived provided other methods of performance evaluation indicate satisfactory progress. 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 written examination, you must select a sponsor who will act as chair of your doctoral committee and direct 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 written examination, and will have devoted approximately a year to a research project. Upon successful completion of the oral 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 (1½ courses). Prerequisite: dental student standing or consent of instructor. Required of first-year dental students. Lectures, laboratories, and demonstration/discussions concerning functional activities of the living body in terms of both cellular and systemic functions. Examples will be presented, where possible, on the basis of information relevant to oral function.
Mr. Homsher and the Staff (F)

101. Neuromuscular and Cardiovascular Physiology (1¾ courses). Prerequisites: basic courses in chemistry, physics, and biology, at least one year each; organic chemistry; histology; gross anatomy, human or comparative. Primarily for first-year medical students, but open to other students by consent of instructor. Lectures, laboratory, and conferences. An analysis of the electrical properties of muscle and nerve, the contractility of muscle and the heart, and the cardiovascular system and its regulation.
Ms. Wenzel (W)

102. Renal, Respiratory, and Gastrointestinal Physiology (1½ courses). Prerequisites: same as for course 101. Primarily for first-year medical students, but open to other students by consent of instructor. Lectures, laboratory, and conferences. A continuation of course 101, dealing with respiration, and the distribution of water, electrolytes and metabolites by the renal and gastrointestinal systems, and the special physiology of certain organs.
Mr. Tormey, Ms. Wenzel (Sp)

103A-103B. Basic Neurology (¼ course, ¾ course). Lecture/laboratory, two four-hour sessions and one three-hour session per week (Winter — last three weeks); two two-hour sessions and two three-hour sessions per week (Spring). Prerequisite: medical student standing or consent of instructor. Corequisites: Anatomy 103A-103B. Lectures, conferences, demonstrations, and laboratory procedures necessary for an understanding of the functions of the human nervous system. In Progress grading.
Mr. Chase and the Staff (W,Sp)

105N. Human Physiology. Prerequisite: nursing student standing or consent of instructor. Required of third-year nursing students. Lecture and discussion emphasizing a correlative approach to anatomy and physiology of the human body.
Ms. Seraydarian (F)

199. Special Studies (¼ to 2 courses). 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. Lectures include such topics as membrane structure, the passive permeability 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. Mr. Wright

202. Permeability of Biological Membranes to Ions (1½ course). Prerequisites: Chemistry 113B and 113C, or equivalent, or consent of instructor. Topics include ion permeation mechanisms, ion distribution, and physical basis of ion discrimination across cell membranes. Mr. Diamond

M203. Oral Physiology. (Same as Oral Biology M205.) Lecture, one hour; discussion, one hour. The organ-level and cellular physiology of the following systems will be discussed, in a somewhat flexible framework: (1) salivary glands, including the mechanisms of secretion, abnormalities such as Mikulicz-Sjorgren 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 are supplemented with audiovisual materials and many references from the literature. Mr. Junge (F)

205. Physical Chemistry of Membrane and Cellular Systems. Prerequisite: consent of instructor. Survey of the principles of equilibrium and nonequilibrium thermodynamics, electrostatics and fluid mechanics, and their application to problems of electrochemistry, ionic process in solutions, electrode kinetics, and transport in membranes. Mr. Ciani

207. Neurophysiology. Prerequisite: consent of instructor. Seminar and laboratory course designed to acquaint the student with behavioral techniques and concepts relevant to research problems encountered in modern neurophysiology, and to consider means of integrating them with neurophysiological methods.
Ms. Wengel

208. Biophysics of Membrane Transport (1½ courses). Prerequisites: physical chemistry (equivalent to course 205 or Chemistry 110A-110B), differential equations (equivalent to course 205 or Mathematics 33A, which may be taken concurrently), or consent of instructor. Studies of transport mechanisms in simple model membrane systems are used as a basis for understanding mechanisms of ion and nonelectrolyte permeation, excitability, and gating phenomena in biological membranes. The significance of such physical variables as membrane surface charges, surface dipoles, dielectric constant, and viscosity for transport phenomena are discussed in detail. Mr. Ciani, Ms. Krasne

212A-212B-212C. Critical Topics in Physiology (¼ to 2 courses each). Prerequisite: consent of instructor. Advanced treatment of critical topics in physiology by staff and guest lecturers for graduate and postdoctoral students in the biomedical sciences.

213. Methods in Cell Physiology (1½ courses). Prerequisite: consent of instructor. The lectures and laboratory will deal with the integrated circuits and other solid-state devices employed in modern instruments, so that students will learn to design and build many of the simpler circuits often required in their research. The emphasis will be on the particular circuits used in electrophysiology, RC analysis, and an introduction to cable theory.
Mr. Bezanilla, Mr. Vergara

214. Cell Physiology: Transport and Electrochemical Properties (½ to 1½ courses). Prerequisite: course 213 or consent of instructor. Introductory concepts of transport across cell membranes, models of permeation mechanisms, linear cable properties of cells, and nonlinear conductance changes in excitation and impulse conduction.

215. Cell Physiology: Cellular Interaction (1½ courses). Prerequisites: courses 213, 214. Synaptic transmission mechanisms and potential generation in the special senses receptors.

216. Cellular Electrophysiology (1½ courses). Lecture, six hours. Prerequisites: basic knowledge of the physics of electricity, integral and differential calculus, and biology (equivalent to Biology 5), and consent of instructor. The course presents basic concepts of membrane structure, passive cable properties, nonlinear properties of excitation and conduction, and biophysics of transport phenomena. This material will be presented in semi-quantitative terms. Rigorous in-depth coverage is offered in course 213.

217A. A Survey of Transport Processes in Biological Membranes. Prerequisite: consent of instructor. An introduction to the transport ions, nonelectrolytes, and water across plasma membranes of single cells and epithelia. Lectures include such topics as membrane structure, the passive permeability of membranes to ions and nonelectrolytes, active transport of sugars and amino acids, active ion transport, and the mechanisms of water transport.

217B. Cellular Neurophysiology. 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 217B or consent of instructor. Structure and function of CNS neurons, structure and function of visual, cerebellum, and other CNS systems. Structure and function of autonomic nervous system.

218B. Physiology of Muscle. Prerequisite: course 216 or consent of instructor. Ultrastructure of muscle. Excitation, excitation-contraction coupling, calcium regulation of contraction, myofilament interactions, energetics mechanics, and chemical kinetics of contraction in vertebrate muscle.

221A-221B-221C. Concepts of Excitation and Contraction in Muscle (½ to 1½ courses 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. Contents vary according to the special interests of the students.

222. Graduate Commentary: Renal, Respiratory, and Gastrointestinal Physiology (½ course). Prerequisite: course 101. An advanced supplementation for graduate students of the topics presented in course 102.

223. Graduate Commentary: Physiology of the Nervous System (½ course). Prerequisites: basic courses in chemistry, physics, and biology, at least one year each; organic chemistry; histology; gross anatomy, human or comparative; consent of instructor. An advanced supplementation for graduate students of the topics presented in basic neurology. Ms. Buchwald

224. Permeation and Gating in Ionic Channels. Prerequisites: course 225 or equivalent and consent of instructor. An advanced seminar on the "state of the art" in research on permeation and gating in ionic channels, both biological and artificial. Students present one or more seminars on a chosen subject, under guidance of the instructor. Mr. Eisenman

225. Molecular Aspects of Ion Permeation through Peptide Channels. Prerequisites: course 208 (unless waived) and consent of instructor. Advanced course for students well-grounded in fundamentals of membrane permeation. Covers the most recent theoretical and experimental "state of the art" for the molecular details of ion permeation in the well-characterized peptide channel of gramicidin, as well as relevant observations in biological channels. Ten hours of reading are expected for every two hours of lecture. Mr. Eisenman

226. Bilayer Membranes. Prerequisite: consent of instructor. Advanced lectures and laboratory demonstrating physical and chemical principles that underlie the behavior of lipid bilayer membranes, both artificial and natural.

227. Theoretical Problems in Membrane Permeation (½ course). Prerequisite: consent of instructor. Tutorial directed to specific theoretical problems of interest to the student. Mr. Ciani

228. Epithelia: Structure and Function (½ course). Prerequisite: consent of instructor. Lectures and seminars on the physiology of epithelia cells, with particular emphasis on membrane transport. S/U grading. Mr. Wright (W)

229. Research Topics in Neurobiology (½ course). Prerequisite: consent of instructor. Discussion of current literature covering research problems in neurobiology. S/U grading. Mr. Letinsky

230A-230B-230C. Selected Topics in Organ Physiology (1 to 2 courses 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. In Progress grading. Mr. Ross and the Staff

231A-231B-231C. Cardiovascular and Respiratory Physiology (½ to 1½ courses each). Prerequisite: consent of instructor. In-depth study of the cardiovascular and respiratory systems. **231A** emphasizes respiratory mechanisms and control. **231B** and **231C** include the function and control of the cardiovascular system and its relation to the mechanics of respiration and cellular gas exchange. Study material consists of critical reviews and discussion of selected articles in journals.

M235. Gut and Brain Peptides (½ course). (Same as Anatomy M235 and Neuroscience M235.) Prerequisite: consent of instructor. Current knowledge of gut and brain peptides will be presented by surveying their chemistry, anatomy, and physiology. Experimental approaches used to study biologically active peptides will be discussed. In addition, current information about each of the major gut and brain peptides will be reviewed. S/U or letter grading. Mr. Brecha, Mr. Reeve, Ms. Tache (W)

245. Stochastic Analysis of Channel Gating. Prerequisite: consent of instructor. Review of probability theory; combinatorial analysis; introduction to theory of stochastic processes; renewal theory; discrete and continuous-time Markov processes; analysis of kinetic models of channel gating; applications for single channel and "noise" measurements. S/U or letter grading. Mr. Horn

251A-251B-251C. Seminar in Physiology (¼ course each). Prerequisite: consent of instructor. Review and discussion of current physiological literature, research in progress, and special topics.

M252A-M252B. Seminar in Behavioral Biology. (Same as Anthropology M228A-M228B, Biology M252A-M252B, Education M229A-M229B, Psychiatry M291A-M291B, and Psychology M230A-M230B.) Discussion, six hours. Prerequisite: consent of instructor. Basic seminar for graduates interested in behavioral biology. An interdisciplinary course dealing with behavioral research in anthropology, biology, psychology, and the medical sciences. Proximate causation, development, and evolution in animal behavior. Physiology and the organization of behavior. Vertebrate social organization. Animal communication. The application of natural selection theory to human social behavior. In Progress grading.

260. The Use of Laboratory Animals in Research. (Formerly numbered 301.) Prerequisite: consent of instructor. An introductory course for graduate students in the medical and biological sciences, covering principles and practical problems in the handling and use of common laboratory animal species. Mr. Washington

297. Developmental Neurobiology. Lecture, two hours; discussion, two hours. Prerequisites: Biology 171 or equivalent and consent of instructor. The course focuses on processes governing the production and differentiation of neurones, synaptogenesis, and specificity and plasticity in neuronal and nerve-muscle connections. Mr. Arnold, Mr. Grinnell

596. Directed Individual Study or Research (½ to 3 courses). Prerequisite: consent of instructor.

597. Preparation for Ph.D. Qualifying Examination or M.S. Comprehensive Examination (½ to 3 courses). Prerequisite: consent of instructor.

598. Thesis Research for M.S. Candidates (½ to 3 courses). Prerequisite: consent of instructor.

599. Dissertation Research for Ph.D. Candidates (½ to 3 courses). Prerequisite: consent of instructor.

Psychiatry and Biobehavioral Sciences

B7-349 NPI, 825-0770

Professors

Ransom J. Arthur, M.D., *in Residence*
T. George Bidder, M.D., *in Residence*
Nicholas G. Blurton Jones, D.Phil. *(Behavioral Sciences)*
W. Jann Brown, M.D.
Nathaniel A. Buchwald, Ph.D., *in Residence (Behavioral Sciences)*
Dennis P. Cantwell, M.D. *(Joseph Campbell Professor of Child Psychiatry)*
Ching-piao Chien, M.D., *in Residence*
Kenneth M. Colby, M.D.
Barbara F. Crandall, M.D., *in Residence*
Jean S. deVellis, Ph.D., *in Residence (Biobehavioral Sciences)*
Wilfred J. Dixon, Ph.D. *(Biobehavioral Sciences)*
Robert B. Edgerton, Ph.D., *in Residence (Biobehavioral Sciences)*
Bernice T. Eiduson, Ph.D., *in Residence (Medical Psychology)*
Samuel Eiduson, Ph.D., *in Residence (Biobehavioral Sciences)*
Barbara Fish, M.D.
Arvan L. Fluharty, Ph.D., *in Residence (Biobehavioral Sciences)*
Steven R. Forness, Ed.D., *in Residence (Biobehavioral Sciences)*
Joaquin M. Fuster, M.D., *in Residence*
Rosslyn Gaines, Ph.D., *in Residence (Medical Psychology)*
Gary C. Galbraith, Ph.D., *in Residence (Medical Psychology)*
Ronald G. Gallimore, Ph.D., *in Residence (Biobehavioral Sciences)*
John Garcia, Ph.D. *(Biobehavioral Sciences)*
Walter R. Goldschmidt, Ph.D. *(Biobehavioral Sciences)*
Milton Greenblatt, M.D., *Executive Vice-Chair*
Donald Guthrie, Ph.D., *in Residence (Biobehavioral Sciences)*
Angelos E. Halaris, M.D., *in Residence*
John Hanley, M.D., *in Residence*
Frank W. Hayes, M.D., *in Residence*
Frank M. Hewett, Ph.D. *(Biobehavioral Sciences)*
Chester D. Hull, Ph.D., *in Residence (Biobehavioral Sciences)*
Lissy F. Jarvik, Ph.D., M.D.
Murray E. Jarvik, M.D., Ph.D.
Harry J. Jerison, Ph.D., *in Residence (Biobehavioral Sciences)*
John G. Kennedy, Ph.D., *in Residence (Biobehavioral Sciences)*
Arthur Kling, M.D., *in Residence*
Lewis L. Langness, Ph.D., *in Residence (Biobehavioral Sciences)*
Henry Lesse, M.D., *in Residence*
Robert P. Liberman, M.D., *in Residence*
James T. Marsh, Ph.D. *(Medical Psychology)*
David S. Maxwell, Ph.D. *(Biobehavioral Sciences)*
Philip R. A. May, M.D.
Michael T. McGuire, M.D.
Ivan N. Mensh, Ph.D. *(Medical Psychology)*
Milton H. Miller, M.D.
Jim Mintz, Ph.D., *in Residence (Medical Psychology)*
Kazuo Nihira, Ph.D., *in Residence (Medical Psychology)*
Ernest P. Noble, M.D., Ph.D. *(Thomas P. and Katherine K. Pike Professor of Alcohol Studies)*
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Edward M. Ornitz, M.D., *in Residence*
Alfonso Paredes, M.D., *in Residence*
Robert O. Pasnau, M.D., *in Residence*
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Douglass R. Price-Williams, Ph.D., *in Residence (Biobehavioral Sciences)*
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Alexander C. Rosen, Ph.D., *in Residence (Medical Psychology)*
Robert T. Rubin, M.D., *in Residence*
Paul Satz, Ph.D., *in Residence (Neuropsychology)*
Arnold B. Scheibel, M.D.
Eustace A. Serafetinides, M.D., Ph.D., *in Residence*
David Shapiro, Ph.D. *(Medical Psychology)*
Edwin S. Shneidman, Ph.D., *in Residence (Thanatology)*
Arthur B. Silverstein, Ph.D., *in Residence (Medical Psychology)*
James Q. Simmons, M.D., *in Residence*
S. Stefan Soltysik, M.D., Ph.D., *in Residence (Neurophysiology)*
Robert S. Sparkes, M.D.
M. Anne Spence, Ph.D., *in Residence (Biobehavioral Sciences)*
Maurice B. Sterman, Ph.D., *in Residence (Biobehavioral Sciences)*

Robert J. Stoller, M.D.
Peter E. Tanguay, M.D., *in Residence*
George Tarjan, M.D.
Claudewell Thomas, M.D., *in Residence*
J. Thomas Ungerleider, M.D., *in Residence*
Jaime R. Villablanca, M.D., *in Residence (Neurophysiology)*
Richard D. Walter, M.D.
Herbert Weiner, M.D., *in Residence*
Bernice M. Wenzel, Ph.D. *(Biobehavioral Sciences)*
Louis Jolyon West, M.D., *Chair*
Charles D. Woody, M.D., *in Residence (Biobehavioral Sciences)*
Joe Yamamoto, M.D., *in Residence*
Arthur Yuwiler, Ph.D., *in Residence (Biobehavioral Sciences)*
Norman Q. Brill, M.D., *Emeritus*
Horace W. Magoun, Ph.D., *Emeritus (Biobehavioral Sciences)*
Fredrick C. Redlich, M.D., *Emeritus*
Frank F. Tallman, M.D., *Emeritus*
Charles W. Tidd, M.D., *Emeritus*
Henry H. Work, M.D., *Emeritus*

Associate Professors

Anthony M. Adinolfi, Ph.D. *(Biobehavioral Sciences)*
Stephen D. Cederbaum, M.D., *in Residence*
Javier I. Escobar, M.D., *in Residence*
Frederick D. Frankel, Ph.D., *in Residence (Medical Psychology)*
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Michael S. Levine, Ph.D., *in Residence (Neuroanatomy)*
Gloria J. Powell, M.D., *in Residence*
Warren R. Procci, M.D., *in Residence*
Marian D. Sigman, Ph.D., *in Residence (Medical Psychology)*
Michael A. Strober, Ph.D., *in Residence (Medical Psychology)*
Alexander J. Tymchuk, Ph.D., *in Residence (Medical Psychology)*
Thomas S. Weisner, Ph.D., *in Residence (Biobehavioral Sciences)*
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Gail E. Wyatt, Ph.D., *in Residence (Medical Psychology)*
Joel Yager, M.D., *in Residence*

Assistant Professors

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Robert F. Asarnow, Ph.D., *in Residence (Medical Psychology)*
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Sherrel G. Butcher, Ph.D. *(Biobehavioral Sciences)*
Robert P. Diamond, M.D., *in Residence*
Stephen E. Dubin, D.O., *in Residence*
Fawzy I. Fawzy, M.D., *in Residence*
Ellen J. Finder, M.D., *in Residence*
Thomas R. Garrick, M.D., *in Residence*
David A. Gorelick, M.D., *in Residence*
Eric Halgren, Ph.D., *in Residence (Medical Psychology)*
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Asenath LaRue, Ph.D., *in Residence (Biobehavioral Sciences)*
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Fred Loya, Ph.D., *in Residence (Medical Psychology)*
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Rama K. Nadella, M.D., *in Residence*
Keith H. Neuchterlein, Ph.D., *in Residence (Medical Psychology)*
Charles E. Olmstead, Ph.D., *in Residence (Physiological Psychology)*
Robert S. Pynoos, M.D., *in Residence*
Rebecca H. Rausch, Ph.D., *in Residence*
Andrew T. Russell, M.D., *in Residence*
Glenn W. Schwacz, M.D., *in Residence*
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Esther Sinclair, Ph.D., *in Residence (Biobehavioral Sciences)*
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James E. Spar, M.D., *in Residence*
Gordon D. Strauss, M.D., *in Residence*
Jimmie L. Turner, Ph.D., *in Residence (Biobehavioral Sciences)*
Kenneth B. Wells, M.D., *in Residence*
Jeffery N. Wilkins, M.D., *in Residence*
Deane L. Wolcott, M.D., *in Residence*

Professors

Jambur V. Ananth, M.D., *Adjunct*
Alexander Comfort, M.D., D.Sc., *Adjunct*
Robert H. Coombs, Ph.D., *Adjunct (Biobehavioral Sciences)*
Norman Cousins, B.A., *Adjunct (Medical Humanities)*
Joseph W. Cullen, Ph.D., *Adjunct (Biobehavioral Sciences)*
Roderic Gorney, M.D., *Adjunct*
Christoph M. Heinicke, Ph.D., *Adjunct (Medical Psychology)*
Jean C. Holroyd, Ph.D., *Adjunct (Medical Psychology)*
Hayato Kihara, Ph.D., *Adjunct (Biobehavioral Sciences)*
Edward H. Liston, M.D., *Adjunct*
Judd Marmor, M.D., *Adjunct*
Armando Morales, D.S.W., *Adjunct (Social Work)*
Olga J. Petre-Quadens, M.D., *Visiting*
Michel Philippart, M.D. *Adjunct*
Richard J. Schain, M.D., *Adjunct (Pediatrics)*
Donald A. Schwartz, M.D., *Adjunct*
Paul. F. Slawson, M.D., *Adjunct*
Manuel Straker, M.D., *Adjunct*
Theodore Van Putten, M.D., *Adjunct*
Dora B. Weiner, Ph.D., *Adjunct (Medical Humanities)*
Ralph E. Worden, M.D., *Adjunct*

Associate Professors

Christiane A. M. Baltaxe, Ph.D., *Adjunct (Biobehavioral Sciences)*
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Annette M. Brodsky, Ph.D., *Adjunct (Medical Psychology)*
Warren R. Brown, Ph.D., *Adjunct (Biobehavioral Sciences)*
V. Charles Charuvastra, M.D., *Adjunct*
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Michael E. Dawson, Ph.D., *Adjunct (Biobehavioral Sciences)*
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Charles P. McCreary, Ph.D., *Adjunct (Medical Psychology)*
Gerald J. McKenna, M.D., *Adjunct*
Paul R. Munford, Ph.D., *Adjunct (Medical Psychology)*
Kiki V. Roe, Ph.D., *Adjunct (Medical Psychology)*
Shih Y. Tsai, M.D., *Adjunct*
Mario Valente, M.D., *Adjunct*
William J. Winslade, Ph.D., J.D., *Adjunct (Medical Psychology)*

Assistant Professors

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Stephen B. Connor, M.D., *Adjunct*
Edward M. DeMet, Ph.D., *Adjunct (Biobehavioral Sciences)*
Luis J. Fitten, M.D., *Adjunct*
Paul Grossman, M.D., *Adjunct*
Richard L. Heinrich, M.D., *Adjunct*
Ramzi Z. Kiriakos, M.D., *Adjunct*
Barringer D. Marshall, M.D., *Adjunct*
Timothy B. McCaffrey, M.D., *Adjunct*
Leonora K. Petty, M.D., *Adjunct*
Rochelle Reno, Ph.D., *Adjunct*
Ethel S. Simmons, M.D., *Adjunct*
Harvey A. Sternbach, M.D., *Adjunct*
Vincent P. Williams, Ph.D., *Adjunct (Biobehavioral Sciences)*

Lecturers

Nancy H. Allen, M.P.H., *Adjunct (Biobehavioral Sciences)*
Linda A. Andron, M.S.W., *Adjunct (Social Work)*
S. Delores Barnes, D.S.W., *Adjunct (Social Work)*
Barbara A. Bass, M.S.W., *Adjunct (Social Work)*
Diane J. Bass, M.S.W., *Adjunct (Social Work)*
Lewis R. Baxter, M.D., *Adjunct*
Carole L. Bender, M.S.W., *Adjunct (Social Work)*
M. Christina Benson, M.D., *Visiting*
Jane E. Burroughs, M.S.W., *Adjunct (Social Work)*
Cynthia E. Busto, M.S.W., *Visiting (Social Work)*
J. Alfred Cannon, M.D., *Visiting*
Mary S. Dewire, J.D., *Adjunct (Mental Health Law)*
William E. Donnelly, M.S.W., *Adjunct (Social Work)*
Angela Farrell, M.S.W., *Adjunct (Social Work)*
Joanne S. Feigen, M.S.W., *Adjunct (Social Work)*
Florence Frisch, M.S.W., *Adjunct (Social Work)*
Marielle C. Fuller, *Adjunct (Biobehavioral Sciences)*
Charlotte B. Gelb, M.S.W., *Adjunct (Social Work)*
Claudia Gerber, R.N., *Adjunct (Biobehavioral Sciences)*
Tracy A. Goodglick, B.A., *Adjunct (Biobehavioral Sciences)*
Mary Lou Gottlieb, M.S.W., *Adjunct (Social Work)*
Howard B. Hall, D.S.W., *Adjunct (Social Work)*
Carrie-Ellen Jacobs, Ph.D., *Adjunct (Biobehavioral Sciences)*
Dennis T. Jaffe, Ph.D., *Visiting (Biobehavioral Sciences)*
Joan E. Johnson, M.S.W., *Adjunct (Social Work)*
Martha B. Jura, Ph.D., *Adjunct (Biobehavioral Sciences)*
Tom L. Kennon, M.S.W., *Adjunct (Social Work)*
Ronald N. Kornblum, M.D., *Visiting*
Myrtle Mandiberg, M.A., *Adjunct (Biobehavioral Sciences)*
Miriam A. Meyer, M.S.W., *Visiting (Social Work)*
Wendy L. Morrell, M.S.W., *Adjunct (Social Work)*
Natalie R. Newman, M.D., *Adjunct (Biobehavioral Sciences)*
Hindy Nobler, M.S.W., *Visiting (Social Work)*
Anderson W. Pollard, M.S.W., *Adjunct (Social Work)*
Pearl Rapp, M.S.W., *Adjunct (Social Work)*
Judith W. Ross, M.A., *Adjunct (Biobehavioral Sciences)*
Catherine Sammons, M.S.W., *Adjunct (Social Work)*
Olga Samuel, M.S.W., *Adjunct (Social Work)*
Breena T. Satterfield, M.S.W., *Visiting (Social Work)*
Marjorie C. Schuman, Ph.D., *Visiting (Biobehavioral Sciences)*
Elizabeth Shima, M.S.W., *Adjunct (Social Work)*
Cynthia A. Telles, M.A., *Adjunct (Biobehavioral Sciences)*
Bertha Unger, M.A., *Adjunct (Biobehavioral Sciences)*
W. Paul Von Blum, J.D., *Adjunct (Medical Humanities)*
Ruth A. Waldron, M.S.S., *Adjunct (Social Work)*
Claire Weiner, M.S.W., *Adjunct (Social Work)*
Lillian L. Weitzner, M.S.W., *Visiting (Social Work)*
Joyce Will, M.S.W., *Visiting (Social Work)*
Marguerite Wood, M.S.W., *Adjunct (Social Work)*

Scope and Objectives

The Department of Psychiatry and Biobehavioral Sciences offers interdisciplinary courses related to the mental health professions of the biobehavioral sciences in addition to its programs for psychiatry interns and residents and for medical students (courses for medical students are listed in the *Announcement of the UCLA School of Medicine* and the *School of Medicine Handbook of Clinical Courses*).

Enrollment in department courses is limited to registered UCLA students, students registered in programs officially affiliated with UCLA, or students enrolled concurrently through University Extension. Students who meet these requirements, but who are not affiliated with a departmental training program, must also meet required course prerequisites determined by specific educational programs. Additional information is available from the department office.

Programs

The **Developmental Disabilities Immersion Program** is cosponsored by the Department of Psychology and the Department of Psychiatry and Biobehavioral Sciences and by the Office of Instructional Development — Field Studies Development. Each year a group of 28 students is selected for the program which runs during the Winter/Spring Quarters. Students participate in courses and research at Lanterman State Hospital and Developmental Center, a facility for mentally retarded citizens in Pomona, and do related fieldwork while living at the site. During each quarter of the program up to 20 units of coursework related to developmental disabilities are offered. Most of the courses are in the Psychiatry/Psychology M180-M182 series, but courses from other departments (such as biology) may supplement these offerings. Many of the courses fulfill psychology undergraduate major requirements. Students interested in the program should contact the Office of Instructional Development — Field Studies Development or the Psychology Undergraduate Office.

The department also offers a 12-month **Clinical Psychology Internship,** which is a Graduate Division certificate program. Students enrolled in clinical psychology programs at APA-approved universities are eligible to apply. Applications are accepted through January 1. The primary goal of the internship is to provide a year of intensive exposure to a wide variety of clinical and human services experiences and to maximize the personal growth of each professional. Students interested in this certificate program should contact the Psychology Internship Training Office.

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 M136Q and Psychology M155.) Prerequisite: consent of instructor. The skill of observing and recording behavior in natural settings will be taught, emphasizing field training and practice in observing behavior. Group and individual projects will be included. Some of the uses of observations and their implications for research in the social sciences will also be discussed.
Mr. Gallimore, Mr. Levine, Mr. Turner (W)

M119. Evolution of Intelligence. (Same as Psychology M119.) Lecture, two hours; discussion, two hours. Prerequisites: Psychology 15 or 115, an introductory statistics course, junior or senior standing, and consent of instructor. Intelligence is treated as neural information-processing capacity, and its evolution in vertebrates is correlated with the evolution of enlarged brains. Quantitative approaches in evolutionary biology and the neurosciences are emphasized. 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 psychosis. Mr. Frankel

CM135. Theoretical Issues in Disorders of Language Development. (Same as Linguistics CM135.) Lecture, two hours; discussion, two hours. Prerequisites: Linguistics 1 or 100 and 130 or 131, or consent of instructor. Introduction to the field of language disorders of children. The course deals primarily with some clinical syndromes which are associated with delayed or deviant language acquisition: aphasia, autism, mental retardation. Theories regarding etiology and the relationship of these disorders to each other are examined. Such questions as the relationship of cognition to linguistic ability are considered. Concurrently scheduled with Psychiatry CM237/Linguistics CM235. Graduate students are expected to apply more sophisticated knowledge and produce a research paper of greater depth. Ms. Needleman

175. Women Physicians: Professional Socialization. Prerequisite: undergraduate standing. The seminar deals with the professional socialization of women in medicine. The focus is on the developmental stages 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. A research project is required.
Mr. Coombs

M180A. Contemporary Problems in Mental Retardation. (Same as Psychology M180A.) Prerequisites: Psychology 10, 41, and 127 or 130. Corequisites: courses M181A-M181B. Limited to Immersion Program students. Presentation of the concepts, issues, and research techniques in the area of mental retardation. Biological, psychological, and community questions concerning the causes and treatment of developmental disabilities, as well as systems for the care and training of retarded individuals, will be explored. Lectures, directed reading, and discussion.
Mr. Fluharty and the Staff

M180B. Contemporary Issues in Mental Retardation. (Same as Psychology M180B.) Prerequisite: course M180A. Limited to Immersion Program students. Psychoeducational issues in mental retardation relating literature to ongoing field experiences through lectures, discussions, media, and six student papers. Mr. Baker

M181A-M181B. Research in Contemporary Problems in Mental Retardation. (Same as Psychology M181A-M181B.) Corequisites: courses M180A-M180B. Research experience. In Progress grading.
Mr. Silverstein and the Staff

M182A. Advanced Statistical Methods in Mental Retardation. (Same as Psychology M182A.) Prerequisite: Psychology 41. Limited to Immersion Program students. Introduction of statistical method and design in experimentation principles of statistical inference and appropriate testing methods. An introduction to the use of computers and various software packages is presented. 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. Galbraith

M182D. Current Issues in Mental Retardation. (Same as Psychology M182D.) Limited to Immersion Program students. Advanced topics in mental retardation. May be repeated for credit by consent of instructor. Mr. Olmstead

M183. Introduction to Neuroscience. (Same as Psychology M183). Limited to Immersion Program students. Gross anatomy of the human brain and spinal cord. Mr. Buchwald, Mr. Olmstead

M190. Ethology: Physiology of Behavior and Learning in Animals. (Same as Psychology M118F.) Lecture, four hours; laboratory, one hour. Basic course for undergraduate students which integrates a systematic overview of common forms of behavioral plasticity and standard training procedures in laboratory animals (in behavioral, neurophysiological, and pharmacological studies) with a broad biological, evolutionary perspective.
Mr. Soltysik

199. Special Studies in Psychiatry (½ to 1 course). Prerequisite: consent of instructor and department Chair, based on a written proposal outlining the course of study. The proposal is to be structured by instructor and student at time of initial enrollment. Additional information and course proposal forms are available in the Office of Education, B7-349 NPI.

Graduate Courses

200. Colloquium on Biobehavioral Sciences (¼ course). Prerequisite: consent of instructor. The colloquium establishes a vehicle for continuing education on recent advances in various scientific fields relevant to behavior in its biobehavioral and biosocial contexts. It provides 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

M201A-M201B-M201C. The Functional Organization of Behavior (½ course each). (Same as Neuroscience M201A-M201B-M201C.) Prerequisite: consent of instructor. Course M201A is prerequisite to M201B, which is prerequisite to M201C. **M201A** is introductory and focuses on the development of behaviors within different species and the functional uses of behaviors. An evolutionary biological perspective is used as the framework. **M201B** focuses on research studies designed to take into account the functional behavior of animals. **M201C** focuses on special questions of interest to students.
Mr. Eiduson, Mr. McGuire (F,W,Sp)

207. Hypnosis Seminar (½ course). Prerequisites: training in psychotherapy, education in psychodynamics and psychopathology, and consent of instructor. Experiential seminar with guided reading and training in inductions, anesthesia, age regression, imagery techniques, distortion of time and space, therapeutic applications (including direct symptom removal, behavioral methods, and hypnoanalysis), and training patients for self-hypnosis. Emphasis is on developing skill for application in clinical practice. S/U grading. Ms. Holroyd

208A-208B-208C. Clinical Neuropsychology: Assessment of Brain Damage (½ course each). Prerequisites: graduate or postgraduate standing and consent of instructor. The aim of the course is to introduce and review 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 the use of neuropsychological test instruments. **208A** focuses on fundamentals of neuropsychology and the assessment of brain damage in adults. **208B** reviews the effects of brain damage in children and child neuropsychological assessment. **208C** is devoted to the neuropsychological assessment of particular patient groups (e.g., the elderly, the epilepsies and dyscontrol syndromes).
Mr. Marsh, Ms. Marsh (F,W,Sp)

209A-209B-209C. Behavior Therapy Practicum (½ course each). Prerequisite: consent of instructor. The behavior therapy practicum provides instruction and supervision in the behavioral treatment of a variety of problems presented by adult outpatients, including anxiety, affective, conversion, obsessive-compulsive, psychosexual, and eating disorders. By means of a lecture-workshop approach, trainees learn behavioral analysis and assessment, personal effectiveness training, systematic and vivio desensitization, contingency contracting and management, and cognitive behavior modification.
Mr. Munford (F,W,Sp)

M210A-210B. Seminar in Psychocultural Studies. (Same as Anthropology M234A-M234B.) Lecture, three hours. Prerequisite: consent of instructor. This two-quarter sequence is devoted to the present state of research in psychocultural studies. It will survey work in child development and socialization, personality, psychobiology, transcultural psychiatry, deviance, learning, perception, cognition, and psychocultural perspectives on change.
Mr. Edgerton, Mr. Price-Williams

M211. Sociocultural Perspectives on Mental Retardation. (Same as Anthropology M234R.) Lecture, three hours. Prerequisite: consent of instructor. The seminar will explore concepts such as "intelligence," "competence," and "adaptive behavior" in varying non-Western societies as background to the study of the phenomenon 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." Also to be discussed are topics such as communicative competence, work, crime, deviance, sexuality, and marriage. May be repeated for credit. Mr. Edgerton

M212. Cultural Modes of Thought. (Same as Anthropology M232P.) Lecture, three hours. Prerequisite: consent of instructor. An examination of the influences of culture on learning, perception, thinking, and intelligence. The course covers the fields of cross-cultural psychology in addition to cognitive anthropology. The focus is on learning and thinking in non-Western cultures but would include problems of education in ethnic areas within the U.S.
Mr. Gallimore, Mr. Price-Williams

M213A-M213B. The Individual in Culture. (Same as Anthropology M235A-M235B.) Lecture, three hours. Course M213A is prerequisite to M213B. In Progress grading.

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

215. The Medical Consequences of Nuclear War (¼ course). Prerequisite: graduate standing. The course reviews the biophysics of nuclear weapons and the acute medical, acute psychological, and long-term socioeconomic and health consequences of the use of nuclear weapons. S/U grading.
Mr. Karno, Mr. Young

216. Neural Basis of Human Recent Memory. Lecture, two hours; discussion, one hour. Prerequisites: graduate standing and consent of instructor. An interdisciplinary course integrating current research findings in neuroanatomy, molecular neurobiology, synaptic neurophysiology, event-related potentials, neuropsychology of amnesia, and cognitive psychology of normal memory into a realistic model.
Mr. Halgren

218. Circadian Psychobiochemistry (½ course). Prerequisite: consent of instructor. Current theories on the biological basis of psychiatric disorders are reexamined from a circadian perspective. Emphasis is on the relationship between diurnal disturbances and affective disorders. Topics include neurotransmitters, sleep, hormones, body temperature, and electrolytes. S/U grading. Mr. DeMet

M219A-M219B. Basic Core Course in Mental Retardation Research (½ course each). (Same as Anthropology M237A-M237B.) Lecture, two hours; discussion, two hours. Prerequisite: consent of instructor. Required of all MRRC trainees. The course provides a systematic overview of mental retardation and the sciences basic to this field of study. It acquaints students with 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

M222. Transcultural Psychiatry. (Same as Anthropology M234P.) Lecture, three hours. Prerequisite: consent of instructor. Consideration of psychiatric topics in cross-cultural perspective, such as studies of drug use, deviance, suicide, homicide, behavioral disorders, "culture specific" syndromes, non-Western psychiatries, and the questions of "sick" societies. May be repeated for credit. Mr. Kennedy

223. MMPI Seminar (¼ course). Prerequisite: consent of instructor. Topics include (1) basic scales, (2) a theory of the Minnesota Multiphasic Personality Inventory (MMPI), and psychopathology in general, based on two-factor conditioning and physiologic substrata, and (3) code types and their transference and treatment indications. Mr. Caldwell

225. Diagnostic Evaluation of Psychopathology (¼ course). Prerequisite: consent of instructor. The course focuses on recent empirical and methodological advances in clinical psychiatric diagnosis. Lecture presentations and discussion will center on the major syndromes of psychopathology in adolescence and adulthood, their distinguishing symptomatology, course and etiologic correlates, and methods for obtaining reliable judgments of a patient's current psychiatric status. Mr. Strober

226A-226B. Childhood Schizophrenia Research Seminar (½ course each). Prerequisite: consent of instructor. Current research in the causes and behavioral manifestations of childhood schizophrenia. Discussion on diagnosis and etiology of childhood schizophrenia will be included.
Mr. Frankel, Mr. Tanguay

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 rehabilitation. Integration of behavioral and biomedical approaches is stressed.
Mr. McCreary, Mr. Munford, Mr. Reeves, Mr. Shapiro

230. Confucius and Asian Americans. Prerequisite: consent of instructor. The seminar will focus on the cultural aspects relevant to the treatment of Asian Americans. The philosophical teachings of Confucius will be discussed. Similarities and differences among Asian Americans and relevant clinical issues will be presented. S/U grading.
Mr. Chien, Mr. Yamamoto

231. Hispanics and Mental Health (½ course). Prerequisite: consent of instructor. Course will highlight 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 theoretical perspectives regarding bio-psychosocial behavior; distinguishing psychodynamic from cultural factors in the treatment of Spanish-speaking patients; treatment of Hispanic families, couples, undocumented persons, and criminal justice system clientele.
Mr. Loya, Mr. Morales, Ms. Telles (W)

232A-232B-232C. Human Sexual Dysfunction (½ course each). Prerequisite: consent of instructor. One-year training and research course in the direct behavioral treatment of human sexual dysfunction. A combination of didactic material and supervised experience. Mr. Golden (F,W,Sp)

M233. Alcoholism and Drug Abuse among Women. (Same as Public Health M293.) Prerequisite: consent of instructor. Discussion of the psychosocial aspects of abuse of alcohol and other drugs among women. Topics include etiology, prevention, treatment, hormonal influences, and the role of the family. Emphasis is on current theoretical perspectives and research findings. Ms. Beckman

234A-234B-234C. Affective Disorders (¼ course each). Prerequisites: graduate standing and consent of instructor. General topics related to the primary affective disorders (depression, manic depressive illness), including diagnosis, pharmacology, epidemiology, psychology, phenomenology, biology, and treatment. Mr. Gitlin (F,W,Sp)

M235. A Laboratory for Naturalistic Observations: Developing Skills and Techniques. (Same as Anthropology M236Q and Education M222A.) Lecture, three hours. Prerequisite: consent of instructor. The skill of observing and recording behavior in natural settings will be taught, emphasizing field training and practice in observing behavior. Some of the uses of observations and their implications for research in the social sciences will also be discussed. Students will be expected to integrate observational work into their current research interests. May be repeated for credit. Mr. Gallimore, Mr. Turner (W)

236A-236B-236C. Psychology Interns Seminar (¼ course each). Prerequisite: consent of instructor. Current topics in clinical psychology. The group will select topics for discussion pertaining to psychopathology, diagnostic evaluation, and modalities of treatment. S/U grading. Ms. Holroyd

CM237. Theoretical Issues in Disorders of Language Development. (Same as Linguistics CM235.) Lecture, two hours; discussion, two hours. Prerequisites: Linguistics 1 or 100 and 130 or 131, or consent of instructor. Introduction to the field of language disorders of children. The course deals primarily with some clinical syndromes which are associated with delayed or deviant language acquisition: aphasia, autism, mental retardation. Theories regarding etiology and the relationship of these disorders to each other will be examined. Such questions as the relationship of cognition to linguistic ability are considered. Concurrently scheduled with Psychiatry CM135/Linguistics CM135. Graduate students are expected to apply more sophisticated knowledge and produce a research paper of greater depth. Ms. Needleman

238. Language Development, Cognition, and Thought in Atypical Children (¼ course). Lecture, one hour; discussion, one-half hour. Prerequisite: consent of instructor. Specific problems in language development will be considered, with particular regard to their implications for differential diagnosis. The relationship between language and cognition and the issue of thought disorder in children will be addressed. Ms. Needleman

M239. Psychopharmacology. (Same as Pharmacology M239.) Prerequisite: consent of instructor. A presentation of the effects of drugs upon behavior, with special attention to drugs used in psychiatry and drug seeking behavior. Physiological and biochemical mechanisms underlying such actions will be analyzed. Reports on relevant current research will be made. Mr. Jarvik

240A-240B-240C. Assessment and Treatment of Afro-American Families (¾ course each). Prerequisites: graduate standing and consent of instructor. The course aids mental health professionals and trainees in the evaluation and treatment of Afro-American families in terms of their cultural milieu, historical background, and economic status. Didactic presentations by instructors and invited guests form the basis for a supervised evaluation and case management with an Afro-American child and family.
Ms. Bass, Ms. Powell, Ms. Wyatt (F,W,Sp)

241A-241B-241C. Observation of Group Psychotherapy (½ course each). Prerequisite: consent of instructor. Principles of adult psychotherapy will be explored through observation of an ongoing group, lectures, and discussion. Major theoretical emphasis will be on humanistic-group dynamic approaches.
Mr. Rosen (F,W,Sp)

242A-242B-242C. Child Psychotherapy Seminar (¼ course each). Prerequisite: consent of instructor. In **242A-242B** videotaped diagnostic and treatment sessions of children and their families will provide a framework for discussing such topics as diagnostic criteria, the beginning of treatment, the overdetermined nature of the symptom, transference phenomenon related to parental conflict, initial recovery of psychological reactions to past events, factors enhancing future working relationships with child and family, and various other technical issues, including the handling of terminations. In **242C** the theory and principles of psychoanalytic work with parents will be offered. Focus is on initiating and maintaining the treatment of the family. Student presentations will be encouraged in order to amplify clinical and theoretical issues. Mr. Heinicke (F,W,Sp)

243A-243B-243C. Mental Retardation Interdisciplinary Core Curriculum (¼ course each). Prerequisite: consent of instructor. A survey series on major topic areas of mental retardation, covering epidemiology, nosology, assessment, health care delivery systems, basic genetics, nutrition, direct care, and special deficits. Presented in an interdisciplinary framework as generic information independent of discipline. Mr. Tymchuk (F,W,Sp)

244. Computers in Mental Retardation Research. Prerequisite: consent of instructor. An introduction to the basic nature of digital computer systems, with emphasis on their impact on society. The course is directed toward providing the student with a broad general understanding of applications and limitations of computers. Specific examples are drawn from clinical, research, and administrative applications within the mental retardation and child psychiatry program.
Mr. Guthrie, Mr. Hull (W)

245A-245B. Psychological Assessment of the Preschool Child. Lecture, 90 minutes. Prerequisite: consent of instructor. Course 245A is prerequisite to 245B. The course focuses on the psychological assessment of the preschool child. Specific emphasis is on the assessment of children with developmental disabilities and children who are generally thought to be "untestable." The course has a practical orientation and involves two hours per week of supervised testing. S/U grading. Ms. Freeman

M246. Psychological Aspects of Mental Retardation. (Same as Psychology 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

247A-247B-247C. Neurophysiological and Neuropsychological Bases of Mental Retardation and Human Development (¼ course each). Prerequisites: graduate standing and consent of instructor. Involves 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 available literature; intense discussion occurs during and after presentation.
Mr. Adinolfi, Mr. Levine

248. Research Rounds in Mental Retardation and Developmental Disabilities (¼ course). Prerequisite: consent of instructor. Monthly session will consist of presentation of a patient and discussion of research approaches relevant to that patient. Staff members from various disciplines and invited speakers will participate. S/U grading. Mr. Levine

249A-249B. Language Disorders of Childhood (¾ course each). Prerequisite: consent of instructor. Course reviews language disabilities in children, their relationship to normal maturational patterns and to other aspects of behavior, the critical period hypothesis, universals of language development, environmental factors affecting language acquisition, neural mechanisms underlying speech and language, diagnostic methods, and approaches to remedial language training. Ms. Baltaxe

250. Introduction to the Principles and Techniques of Mammalian Cell Culture (½ course). Prerequisites: graduate or medical student standing and consent of instructor. Corequisite: course 251. The course provides a background in the physiology and biochemistry of mammalian cells through lecture and selected readings in the classical field.
Mr. Haggerty

251. Laboratory Exercises in the Techniques of Mammalian Cell Culture. Prerequisites: graduate or medical student standing and consent of instructor. Corequisite: course 250. The course provides a working knowledge of the physiology and biochemistry of mammalian cells in culture through laboratory exercises involving the propagation and manipulation of differentiated and undifferentiated continuous mammalian cell lines. Mr. Haggerty

253. Seminar: Child Development (¼ course). Prerequisite: consent of instructor. The seminar is divided into three sections: theories of development, systems of child development, and chronological aspects of child development. Presentation of assigned readings by the student plays a major role in each session. Mr. Cantwell

M254. Counseling Families of Handicapped Children (½ course). (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)

256. Basic Clinical Child Psychopathology (¼ course). Prerequisite: consent of instructor. Weekly seminars covering the basic clinical aspects of child psychopathology. Readings will be provided for a basis of discussion on topics including interviewing of parents and children, diagnosis, and related syndromes. Mr. Cantwell

257A-257B-257C. Diagnostics and Therapeutics of Language Disabilities (¾ course each). Prerequisite: consent of instructor. The course is directed toward the language specialist seeking training in the developmental disabilities of language and includes training in diagnostic techniques and therapy approaches. Linguistic disabilities are placed within the framework of total behavior. The clinical practicum includes individual case supervision, a review of the pertinent literature, and a discussion of research topics. Students are required to complete a clinical research project in psycholinguistics and neurolinguistics. Ms. Baltaxe (F,W,Sp)

259. Legal and Ethical Issues in Developmental Disabilities (¾ course). Prerequisite: consent of instructor. Discussion of current laws in mental retardation/developmental disabilities, philosophies, ethics, ethical codes, issues, how to resolve them, videotape, discussion of cases. Mr. Tymchuk

M261. Seminar on Law, Medicine, and Human Values (¾ course). (Same as Law M533.) Prerequisite: consent of instructor. The seminar deals with legal, philosophical and psychological issues arising in the context of the doctor-patient relationship. Emphasis is on an analysis of the value conflicts underlying and manifested in medical practices and legal policies. Course material is taken from legal, medical, and philosophical literature, legislation, case law, and medical case histories. Mr. Winslade

M262. Law and Psychiatry (¾ course). (Same as Law M325.) Prerequisite: consent of instructor. Introduction to the ethical and legal implications of the orientation, premises, functioning, and potential contributions of psychiatry. Review of the practical and theoretical aspects of collaboration between law and psychiatry. Mr. Winslade

264. Biofeedback: Theory, Research, and Clinical Application. 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, sexual dysfunction, cardiac arrhythmias, neuromuscular disorders, etc.). Training in the use of portable biofeedback devices. Consideration of research and clinical issues. Mr. Shapiro

265. Mind and Brain in Evolution (½ course). Prerequisite: consent of instructor. This course reviews the fossil evidence on the organic evolution of the brain and the implications of that evidence for the evolution of mind and intelligence. Quantitative approaches are emphasized. Although some implications for cognitive psychology and individual differences are considered, the evolutionary analysis is "above the species level." Mr. Jerison

266. Psychophysiological Research. Prerequisite: consent of instructor. Advanced seminar and discussion of ongoing laboratory research. Issues involve concepts, experimental design, measurement, and data analysis. Current topics include biofeedback, conditioning, and behavioral control of automatic functions, regulation of physiological and subjective reactions to stress and pain, and the evaluation of clinical biofeedback methods. Mr. Shapiro

M268. Behavioral Management of Pain Problems (½ course). (Same as Anesthesiology M268.) Prerequisite: consent of instructor. The course will review current knowledge and skills involved in the behavioral assessment and management of acute and chronic pain problems. The behavioral perspective will be integrated with related physiological and medical considerations. Mr. McCreary, Mr. Reeves

271. Ethology of Motivation and Conditioning. Basic facts and concepts of motivation and learning in animals will be presented in the framework of ethological and neurophysiological approach. Classical and instrumental conditioning procedures will be discussed, with particular attention to the motivational variables. Mr. Soltysik

M272. Psychological Anthropology. (Same as Anthropology M234Q.) Lecture, three hours. Prerequisite: consent of instructor. The course will deal with various psychological issues in anthropology, both theoretical and methodological. Areas of interest include such things as culture and theory, culture and personality, and culture psychiatry. The course will deal with questions relating to symbolic and unconsciousness process as they are related to culture. Topics vary from quarter to quarter. May be repeated for credit. Mr. Edgerton

273. Growth Control, Transformation, and Malignancy in Mammalian Cells in Culture (¾ course). Evaluation of currently available cultured mammalian cell types as experimental models to study growth control in normal, nonmalignant cells *in vivo* and to analyze the cytosocial, biochemical, and cytophysiologic differences between normal and transformed and/or malignant cells in culture. Mr. Haggerty

274. Neurophysiology and Behavior (¾ course). Prerequisites: graduate standing and consent of instructor. The course will provide an analysis of strategies and approaches used to study behavior of mammalian organisms. Special emphasis will be placed on recent developments in electrophysiological recording techniques in behaving animals and how such developments relate to classical concepts of brain function. Mr. Hull, Mr. Levine

275A-275B. Sociobiology Seminar (½ course each). Prerequisite: consent of instructor. The course is designed to review in detail sociological theory as it applies to adult bonding behavior: kin-selection theory, reciprocal altruism theory, mate selection theory, and bond strategy theory. Bonds are viewed primarily from a biological rather than a psychological perspective. In Progress grading. Mr. McGuire

277. From Research to Practice: Biobehavorial Contributions (½ course). 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. Serafetinides

278. Clinical Psychopharmacology Research. Prerequisite: consent of instructor. Directed research experience at the graduate level. Research skills will be taught in the practical setting of ongoing psychopharmacology research projects. Discussion of ongoing psychopharmacology research projects and of proposed new projects focusing on practical problems, design, methodology, procedures, and instrumentation. Mr. May

M279A-M279B-M279C. Seminar: Selected Topics in Human Ethology. (Same as Anthropology M229A-M229B-M229C and Education M281A-M281B-M281C.) Ethologists now use successful animal behavior methodology to study human behavior. When is this appropriate, how can it contribute? Each quarter will cover one level of analysis: describing and recording behavior; causation; development, especially longitudinal studies; adaptation; evolutionary origins. Mr. Blurton Jones (F,W,Sp)

M280. Alcohol and Drug Abuse: Social Policy Perspectives (¾ course). (Same as Public Health M292.) Prerequisite: consent of instructor. Alternative models of alcohol and other drug addictions will be examined and implications assessed for public policy regarding their control. Prevention efforts and findings from California and national surveys will be considered, with primary emphasis upon alcohol use and abuse. Ms. Beckman

281. Behavioral Therapy in an Educational Setting (¾ course). Prerequisite: consent of instructor. The course will provide supervised experience in a classroom working with exceptional children. Theoretical background will be furnished through a one-hour weekly lecture. Ms. Richey

282. Schizophrenia: A Developmental Perspective (½ course). Prerequisite: consent of instructor. The course will review research on the transmission of schizophrenia. Emphasis will be placed 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. An emphasis will be placed on studies of children at risk for schizophrenia. Mr. Asarnow

283. Theories of Childhood Psychosis (¼ course). Prerequisite: consent of instructor. The aim of the course is to present the biological and neurophysiological theories of the etiology of childhood psychosis. Mr. Tanguay

285A-285B-285C. Intermediate Family Therapy (¾ course each). Seminar, two hours. Prerequisite: consent of instructor. Theories and techniques of family therapy. History, foundations, and indications and contraindications for family therapy and diagnosis. Observations and demonstrations are included. Students are encouraged to bring videotapes of their family therapy cases for discussion.
Ms. Goldenberg (F,W,Sp)

286. Behavioral Analysis of Autism (½ course). (Formerly numbered 486.) Prerequisite: consent of instructor. Seminar on the role of operant techniques in the assessment, treatment, and understanding of problems of autism and mental retardation.
Mr. Frankel, Ms. Freeman

287. Psychopharmacology Seminar (½ course). Prerequisite: consent of instructor. A discussion of ongoing research in the area of psychopharmacology. Emphasis is on smoking and other drug-related habits. Topics include initiation, maintenance, and cessation of habits. Basic mechanisms are stressed. Psychological procedures used in habit development and control, particularly coping methodology, are discussed. Mr. Jarvik

290. Quantitative Analysis of Ethnographic Data. Prerequisite: graduate standing. The course will provide didactic and experiental training in quantification 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

M291A-M291B. Seminar in Behavioral Biology. (Same as Anthropology M228A-M228B, Biology M252A-M252B, Education M229A-M229B, Physiology M252A-M252B, and Psychology M230A-M230B.) Discussion, six hours. Prerequisite: consent of instructor. Basic seminar for graduates interested in behavioral biology. An interdisciplinary course dealing with behavioral research in anthropology, biology, psychology, and the medical sciences. Proximate causation, development, and evolution in animal behavior. Physiology and the organization of behavior. Vertebrate social organization. Animal communication. The application of natural selection theory to human social behavior. In Progress grading.

298. Current Topics in the Biobehavioral Sciences (½ to 1 course). Prerequisite: consent of instructor. Current issues in the biobehavioral sciences will be offered on a selective basis depending upon instructor interest and topical relevancy of problems. See *Schedule of Classes* for topics and instructors. May be repeated for credit.

402. Childhood Psychosis Journal Club (¼ course). Prerequisite: consent of instructor. Discussion of basic and applied research issues related to childhood psychosis by a series of speakers. Readings will be suggested for each topic. Mr. Frankel

403. Individual Case Supervision (¼ to 1 course). Prerequisite: consent of instructor and department Chair (based on a written proposal to be structured by instructor and student prior to enrollment; additional information and proposal forms are available in the Office of Education, B7-349 NPI). One-to-one supervision of individual therapy cases. Includes analyses of patient data, supervision of ongoing treatment, informal didactic sessions on personality theory, and applications to patient management.

413. Community Meeting: 2-West (¼ course). Prerequisites: assignment to Ward 2-West and consent of instructor. One-hour course is devoted to individual experience in leading a large group of patients and staff. Leadership is by rotation. A half-hour process didactic session follows. Mr. Baxter

414. Emergency Treatment Attending Rounds (¼ course). Prerequisites: assignment to Emergency Treatment Unit and consent of instructor. Cases seen in the emergency room during the preceding night are reviewed by a consultant and the emergency treatment staff. Assessment techniques, methods of intervention, and alternate modes of treatment are explored. Mr. Slawson

416. Treatment Planning Meetings (¼ course). Prerequisite: consent of instructor. The course focuses on treatment and management problems posed by inpatient psychiatry. Clinical psychopathology, treatment plans, and interdisciplinary skills are discussed. The emphasis is on formulating accurate diagnostic assessments and planning effective treatment programs utilizing the therapeutic methods of the milieu (somatic therapies, behavioral techniques, family therapy, group process, individual and dyadic treatment, etc.).

Section 1: 2-West Mr. Baxter
Section 2: 2-South
Section 3: A-South Mr. Diamond, Mr. Strober
Section 4: A-West

424. Ward Milieu Meeting (¼ course). Prerequisite: consent of instructor. Milieu course meetings are designed to explore experientially and didactically the multiple aspects of group process on a psychiatric inpatient ward.

Section 1: A-South Mr. Diamond, Mr. Strober
Section 2: A-West
Section 3: 2-West Mr. Baxter

425. Child Preadmission, Admission, and Disposition Conference (¼ course). Prerequisite: consent of instructor. Child preadmission is the case study of child and family prior to inpatient admission. Course deals with (1) interview techniques, (2) suitability for admission, and (3) goals for hospitalization. Admission and disposition includes presentation of problem cases, usually with combined physical and intellectual defects for interdisciplinary problem solving.

Section 1: A-South Mr. Diamond, Mr. Strober
Section 2: A-West
Section 3: 4-West Ms. Petty
Section 5: 6-West Ms. Brownfield

426. Psychology Interns Psychosomatic Liaison Case Conference. Prerequisite: consent of instructor. Psychology interns case conference of psychosomatic aspects of physical illness. Cases will be discussed with regard to management issues, psychotherapy issues, methods of psychodiagnosis, counter transference, and relevant literature. In addition, participants will receive individual supervision on a weekly basis. Mr. Wellisch

429. Child Outpatient Team (¼ course). 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.

Section 1: First-Year Child Fellows. Mr. Cantwell
Section 2: Second-Year Child Fellows.
Mr. Simmons, Mr. Tanguay, Mr. Tarjan
Section 3: Second-Year Residents. Mr. Yager
Section 4: Second-Year Residents. Mr. Yager
Section 6: UAF Trainees. Mr. Tymchuk

445. Family Therapy Seminar for Clinicians (½ course). Prerequisites: prior clinical responsibility and treatment experience with individuals or families and consent of instructor. Conceptual and practical issues of family development and treatment are presented. The emphasis is on structural family therapy. Alternative models may be reviewed during the year. Videotape is used extensively. Case supervision will be available. Participants must be treating one or more families. Mr. Gottlieb

462A-462B-462C. Advanced Mental Health Consultation. Prerequisite: consent of instructor. The course provides knowledge of children in schools through: (1) field experience; (2) a didactic program; (3) group supervision. Each trainee chooses a local elementary or junior high school as the site of field experience in consultation. Supervision focuses on assessing the needs of the school and initiating the consultation. Seminars consider theories of consultation, systems theory as applied to the schools, the organization of the school systems, the professional roles represented in the school (e.g., teachers, counselors, principals, etc.), and their special problems. In Progress grading. Mr. Cantwell

471. Child Psychiatry Grand Rounds. Prerequisite: consent of instructor. Each month one clinical subdivision of the Mental Retardation and Child Psychiatry Program presents a major clinical problem. Senior faculty discussants preside. The presenting trainees are expected to cover the pertinent literature and to assemble the critical elements of information on the case or problem at hand.

M472A. Nursing Care of the Developmentally Disabled. (Same as Nursing M401A.) Lecture, one hour; discussion, one to two hours; laboratory, ten hours minimum. Prerequisite: consent of instructor. Study of the handicapping conditions of childhood and their effects upon the individual and the family. Content is based upon normative developmental models with consideration for sociocultural diversity. Emphasis is on prevention, systematic assessment, and planning of care for the individual and family. Introduction to the implementation of intervention strategies. Series of three courses integrates didactic material and clinical experience. Ms. Savino (F)

M472B. Nursing Care of the Developmentally Disabled. (Same as Nursing M410B.) Lecture, one hour; discussion, one to two hours; laboratory, ten 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. Savino (W)

M472C. Nursing Care of the Developmentally Disabled. (Same as Nursing M410C.) Lecture, one hour; discussion, one to two hours; laboratory, ten 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. Savino (Sp)

475. Developmental Disabilities Clinic. Prerequisite: consent of instructor. Follow-up clinic for children with development disabilities. Services and teaching involve genetic counseling, educational and behavioral assessment, school consultation, and family child guidance. Mr. Funderburk and the Staff

478. Clinical Genetics Rounds. Prerequisites: medical graduate and consent of instructor. Weekly clinical rounds on patients seen on 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 is presented. Ms. Crandall

479. Genetics Clinic Presentation. Prerequisite: consent of instructor. A weekly clinical teaching session on the patients seen in the preceding genetics clinic. An in-depth discussion on the genetics of each disorder follows. Ms. Crandall and the Staff

480. Analysis of Human Chromosome Studies (¼ course). Prerequisite: consent of instructor. Chromosome karyotypes prepared in the cytogenetics laboratory during the preceding week are presented and discussed with reference to clinical findings. Teaching includes the interpretation of abnormal karyotypes and the technical aspects of routine and special chromosome stains. Mr. Sparkes

481. Chromatography Review. Prerequisites: premedical course or biochemistry and consent of instructor. A weekly session in which amino acid chromatography carried out during the preceding week is presented. Teaching concerns the interpretation of abnormal chromatograms together with the technical aspects of the tests used. Mr. Cederbaum

482A-482B-482C. Psychology Interns Group Process (¼ course each). Prerequisite: consent of instructor. The purpose is to teach the students about group processes and dynamics. The course will involve an active learning experience whereby students study their own group interactions in order to examine group process variables such as styles of leadership, verbal and nonverbal methods of communication, the development of trust, self-disclosure, and the effects on group process of stereotypes about ethnic and masculine-feminine characteristics of people. S/U grading. Ms. Holroyd

485. Medical Genetics Seminars. Prerequisites: introductory course and 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 UCLA or elsewhere. Discussion and questions from the audience are encouraged.

596P. Individual Studies in Psychiatry (½ to 3 courses). 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 proposal forms are available in the Office of Education, B7-349 NPI. Directed individual research and study in psychiatry at the graduate level. Mr. Tymchuk

Radiological Sciences

AR-259 Center for Health Sciences, 825-7811

Professors

Zoran L. Barbaric, M.D.
Leslie R. Bennett, M.D.
H. K. Huang, D.Sc.
Norman S. MacDonald, Ph.D.
Carol M. Newton, M.D., Ph.D.
Amos Norman, Ph.D.
Robert G. Parker, M.D. *(Radiation Oncology)*
Michael E. Phelps, Ph.D. *(Jennifer Jones Simon Professor of Biophysics)*
James B. Smathers, Ph.D. *(Radiation Oncology)*
Milo M. Webber, M.D.
Gabriel H. Wilson, M.D., *Chair*
Rodney H. Withers, Ph.D. *(Radiation Oncology)*
Moses A. Greenfield, Ph.D., *Emeritus*
Richard F. Riley, Ph.D., *Emeritus*

Associate Professors

Jorge R. Barrio, Ph.D.
James D. Collins, M.D.
Edward J. Hoffman, Ph.D.
Sung-Cheng Huang, D.Sc., *in Residence*

Assistant Professor

W. N. Paul Lee, M.D., *in Residence (Pediatrics)*

Associate Professors

J. Duncan Craven, M.D., *Adjunct*
L. Stephen Graham, Ph.D., *Adjunct*
Francis E. Holly, Ph.D., *Adjunct (Radiation Oncology)*
Martin W. Herman, Ph.D., *Adjunct*
Lawrence Williams, Ph.D., *Adjunct*

Assistant Professor

James S. Whiting, Ph.D., *Adjunct*

Lecturers

Dennis Frieda, Ph.D., *Visiting*
David O. Findley, Ph.D., *Visiting*
Charles Moler, *Adjunct*
Marilyn C. Wexler, M.S., *Visiting*

Scope and Objectives

The Medical Physics graduate program in the Department of Radiological Sciences offers training in the general fields of radiation physics, radiation biology, and medical imaging, with special applications to diagnostic radiology, nuclear medicine, and radiation oncology. Specialized facilities for training and research are available in the departmental clinical laboratories, the Laboratory of Biomedical and Environmental Sciences, the Image Processing Laboratory, and a number of associated hospitals. Highly specialized equipment includes the biomedical cyclotron, the radiation oncology cyclotron, the positron emission tomography (PET) scanners, and the stereotactic gamma irradiator. Students are trained to work both as professional medical physicists and as independent investigators.

Graduates in medical physics can expect to engage in any combination of clinical service, consultation, research, and teaching. Medical 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, medical 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 sciences. 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, including calculus equivalent to Mathematics 31A, 31B, 32A, 32B, 33A, 33B, (3) one year of college chemistry, (4) one year of college biology, and (5) at least two courses in computer science.

Scores from the Graduate Record Examination Aptitude Test, taken in the last three years, should be sent to the department. Three letters of recommendation are required. If you already have a master's degree, one of the letters should be from your thesis adviser.

A brochure describing the program in medical physics may be obtained from Radiological Sciences, Medical Physics Division, AR-259 CHS, UCLA, Los Angeles, CA 90024.

Master of Science in Medical Physics

Course Requirements

A minimum of nine courses (36 units) is required, of which eight must be graduate courses.

Eleven graduate and two undergraduate courses, including Radiological Sciences 200A, 200B, 202A-202B-202C, 203, 204, 205, 207, 208A-208B, 260A-260B, Biomathematics 210 or equivalent, Public Health 100A and 100B, are normally required for the M.S. de-

gree as preparation to become a professional medical physicist. In addition, you must take courses in basic human anatomy and physiology.

For some students with a medical physics background or a career objective other than a practicing medical physicist, a more sharply focused curriculum may be advised.

Radiological Sciences 596 and 598 may be applied toward the degree. Eight units of 500-series courses may be applied toward the total course requirement, four units toward the minimum graduate course requirement.

Thesis Plan

You are required to write a thesis based on a research project. After you have completed the course requirements, you must choose a faculty member to guide this research and become chair of the thesis committee.

Ph.D. in Medical Physics

Admission

Admission to the doctoral program requires passing the departmental screening examination given at the end of the Fall and Spring Quarters each year. This examination, held over a four-day period for about four hours each day, covers the content of all medical physics courses and includes current research in medical physics. You have two chances to pass this examination. Completion of a master's program is not required. No courses are required for the degree.

Qualifying Examinations

The screening examination for admission to the Ph.D. program should be taken by the end of the sixth quarter in residence. Once the screening examination is passed and you have chosen a research area for the dissertation, you should, within a reasonable time frame agreed upon with the dissertation adviser, form a doctoral committee and schedule the first University Oral Qualifying Examination. This examination covers your mastery of the medical physics curriculum, particularly the areas of the proposed dissertation topics.

If you do not complete the dissertation within four years of taking the written screening examination, you may be required to take it again.

Final Oral Examination

The final oral examination, or dissertation defense, is required.

Upper Division Course

199. Directed Individual Study or Research for Undergraduate Students (½ to 1 course). Prerequisite: consent of graduate adviser (based on a written proposal outlining the course of study or research). Directed individual study in medical physics for undergraduate students to be structured by faculty member and student at time of initial enrollment.

Graduate Courses

200A. Physics and Chemistry of Nuclear Medicine. Prerequisite: consent of instructor. Nuclear structure, statistics of radioactive decay, nuclear radiations and their interaction with matter, nuclear decay processes, nuclear reactions, dosimetry, and compartment models. The physical and chemical properties of radioactive preparations used in nuclear medicine. Mr. Norman

200B. Instrumentation in Nuclear Medicine. Prerequisite: course 200A. Introduction to nuclear medicine instrumentation, including exterior probe systems, well scintillation detectors, liquid scintillation counters, scanners, and cameras; dosimetry of internally administered radioisotopes. Mr. Graham

202A-202C. Applications of Medical Physics to Clinical Problems. Selected studies in the clinical use of radiosotopes:

202A. Nuclear Medicine. Prerequisite: course 200B or consent of instructor.

202B. Diagnostic Radiology. Prerequisites: courses 200A, 205, 208A-208B, or consent of instructor.

202C. Radiation Therapy. Prerequisites: courses 203, 204, 207, 208A-208B, or consent of instructor.

203. Physics of Radiation Therapy. Radiation quantities and units. Radiation dosimetry, clinical applications in treatment planning. Methods of measuring radiation quantities. The calibration of radiation therapy equipment. Mr. Smathers

204. Introductory Radiation Biology. Effect of ionizing radiation on chemical and biological systems. Mr. Withers

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 will illustrate the basic theory. Mr. Huang

206. Advanced Instrumentation: NMR, CT, and DR. Prerequisites: courses 200A, 200B, 596, digital techniques in radiological sciences. An introduction to the recent advances in digital diagnostic imaging systems, with topics centered on instrumentation in nuclear magnetic resonance (NMR) imaging, computed tomography (CT), and digital radiography (DR). Mr. Huang

207. Radiation Protection and Health Physics. 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 installation. Mr. Herman

208A-208B. Medical Physics Laboratory. Prerequisites: courses 203 and 205. Techniques for measuring ionizing and nonionizing radiation, applications to problems in radiological sciences. Mr. Herman

209. Digital Techniques in Radiological Sciences. Lecture, three hours; laboratory, one hour. Prerequisites: one course in Fortran or another computer language and consent of instructor. The course covers the basic principles of the digital technology used in radiological sciences. It introduces the concepts and provides the experience necessary to undertake radiological research in a diverse computing environment. The relationship between computers and diagnostic equipment is discussed with regard to data acquisition, equipment interfacing, and data analysis. Mr. Huang

210. The Physics of Medical Imaging. Prerequisites: courses 200A, 200B, 203, 205. Review of Fourier analysis measurement of the LSF and MTE. Radiographic mottle and the Wiener spectrum. Physics, mathematics, and engineering of imaging devices in conventional radiography, computerized tomography, ultrasound, and nuclear medicine. Detection of faint shadows, the ROC curve. Mr. Huang

M230. Computed Tomography: Theory and Applications. (Same as Biomathematics M230.) Prerequisite: consent of instructor. Computed tomography is a three-dimensional imaging technique being widely used in radiology and is becoming an active research area in biomedicine. The course covers basic principles of computed tomography (CT), various reconstruction algorithms, special characteristics of CT, physics in CT, and various biomedical applications. Mr. S. Huang (W)

260A-260B. Seminar in Medical Physics (½ course each). Joint critical study by students and instructors of the fields of knowledge pertaining to medical physics. Periodic contributions are made by visiting scientists. Research in progress is discussed. Mr. Norman

266A-266B-266C. Seminar in Nuclear Medicine (½ course each). Topics of current interest in nuclear medicine. Intended for physicians, radiation physicists, and graduate students.

268. Seminar in Radiopharmaceuticals (½ course). Current concepts in radioactive pharmaceutical agents in clinical use, including promising investigational agents. Utilization of short-lived, cyclotron produced isotopes in radiopharmaceuticals. The rational design of new radiodiagnostic agents. Mr. Barrio

481. Angiographic Techniques (¼ course). Laboratory. Prerequisite: consent of instructor. Beginning radiology residents will be taught basic techniques of angiographic procedures, utilizing animals. Mr. Snow

495. Special Studies in Medical Physics. Discussion, two hours; laboratory, four hours. Teaching assistance in graduate laboratory courses under the supervision of a faculty member. S/U grading.

596. Research in Medical Physics (1 to 3 courses). Directed individual study or research. Only one 596 course may be applied toward the M.S. degree requirements. May be repeated for credit.

597. Preparation for Ph.D. Qualifying Examination. May not be applied toward the M.S. degree requirements. May not be repeated. S/U grading.

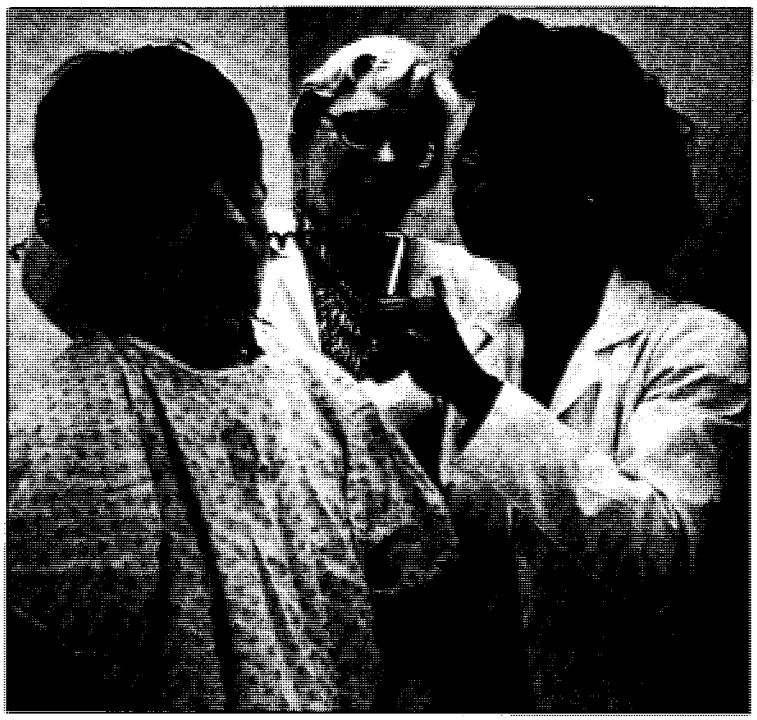
598. Research for and Preparation of M.S. Thesis (1 to 3 courses). Two 598 courses (or 598 and 596 combined) may be applied toward the M.S. degree requirements. May be repeated. S/U grading.

599. Research for Ph.D. Dissertation (1 to 3 courses). Prerequisite: successful completion of screening examinations. Research for and preparation of the Ph.D. dissertation. May be repeated. S/U grading.

16

School of Nursing

Mary E. Reres, Dean



The UCLA School of Nursing is both nationally and internationally regarded for its education of nurses at both baccalaureate and graduate levels. The dedication and expertise of its faculty is in large part responsible for that high regard.

The learning of the science of nursing is enhanced by the modern technology present in the school as well as the academic background of the faculty. The strong research emphasis at UCLA continually promotes both faculty and student efforts to develop sound basic and applied research resulting in improved health care delivery.

Basic to the school's philosophy is the fact that all individuals possess a unique culture that influences their response to illness and their involvement in the delivery of health care. In implementing this philosophy, the curriculum concentrates on the behavior of people as they move through the health-illness continuum. Thus, the programs provide for an understanding of social and cultural systems and of psychology and physiology under normal and pathological conditions. Nursing research is stressed throughout as the means for developing new knowledge.

School of Nursing

2-200 Louis Factor Building, Center for Health Sciences, 825-7181

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 School of Nursing, Student Affairs Office, University of California, Los Angeles, CA 90024 (825-7181).

History and Accreditation

The School of Nursing was authorized by the Regents of the University in 1949 as one of the professional schools of the Center for Health Sciences at UCLA. This action paved the way for the development of an undergraduate basic program in nursing and made possible the establishment of a graduate program leading to the Master of Nursing degree. The baccalaureate program has been continuously approved by the California Board of Registered Nursing since 1949. The School of Nursing became an agency member of the Department of Baccalaureate and Higher Degree Programs of the National League for Nursing in 1952. The Accrediting Service of the National League for Nursing has granted full accreditation to both programs since 1954.

Degrees Offered
Bachelor of Science in Nursing (B.S.N.)
Master of Nursing (M.N.)

Bachelor of Science Degree

The baccalaureate program leading to the Bachelor of Science degree provides for a close interweaving of general and professional education. The physical, social, and emotional health aspects of nursing are emphasized throughout the curriculum. Clinical nursing experience under the guidance of faculty members is provided in hospitals, outpatient clinics, homes, and community health centers.

Credit by examination is available to qualified students upon review of previous education.

The School of Nursing curriculum affords the opportunity to sit for the California Registered Nurse licensing examination at the conclusion of the junior year. You must maintain a minimum GPA of 3.0 each quarter and must petition the Dean to enroll beyond the four quarter courses usually permitted. Since many states do not reciprocally honor California nursing licenses obtained prior to completion of a baccalaureate degree, students who plan to follow this sequence should contact the Assistant Dean of Student Affairs before the beginning of the freshman year for more complete details.

Admission

The School of Nursing strives to attain a culturally and ethnically diverse student population. Admission, beginning in the junior year, is based on scholarship, diverse life experiences, and disadvantagement. 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 disadvantagement 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 School of Nursing, Student Affairs Office, 2-200 Louis Factor Building, UCLA, Los Angeles, CA 90024.

You can find a discussion of the prenursing curriculum and prehealth advising in "Preparing for a Professional School" in Chapter 5.

Degree Requirements

The degree of Bachelor of Science will be granted upon fulfillment of the following requirements.

(1) You must complete 45 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, 104C, 109, 120A through 120F, 184, 190A, 190B, 193, 195, four electives, Physiology 105N, 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 clinical nursing courses: 101, 109, 120A through 120F, 190A, 190B, Physiology 105N.

(6) You must have been enrolled in the School of Nursing during the final three quarters of 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 Dean.

Honors

Dean's Honors

Dean's Honors will be awarded annually to undergraduate students completing the academic year with distinction according to criteria established by the faculty.

Honors with the Degree

College honors are awarded at graduation to students with a superior overall grade-point average. The honor designations and the requirements for each are *Summa cum laude,* an overall average of 3.8; *Magna cum laude,* 3.6; *Cum laude,* 3.4. To be eligible for college honors, you must have completed at least 20 graded courses (80 units) at the University of California.

Graduate Study

The School of Nursing offers graduate study leading to the Master of Nursing (M.N.) degree. Graduates of this program contribute to improved 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.

Master of Nursing Degree

Admission

(1) You must have graduated from a recognized college or university having an NLN-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 a foreign institution), you may be required to enroll in certain undergraduate nursing courses which generally will not apply toward requirements for advanced degrees.

(2) You must have status as a licensed registered nurse in the State of California.

(3) An upper division statistics course or a lower division statistics course with content equivalent to Public Health 100A must be completed before entering the school.

(4) An upper division nursing research course, taken at an NLN-accredited institution and equivalent to Nursing 193, must be completed before entering the school.

(5) Professional and/or academic competence in nursing attested through three letters of recommendation is required.

(6) A satisfactory scholarship record is required.

Since written and verbal communication skills are basic to the practice of nursing, it is essential that students read, write, and speak English well. Foreign applicants from countries in which English is not the first language and medium of instruction, whether licensed Registered Nurses in the United States or not, are required to pass the Test of English as a Foreign Language Examination (TOEFL) with a score of 550 or higher. All foreign applicants are required to pass the Committee on Graduate of Foreign Nursing Schools Examination (CGFNS).

In addition to the Graduate Division application, you must also file the Application for Admission to Graduate Study in the School of Nursing, available through the Student Affairs Office, UCLA School of Nursing, Louis Factor Building, Los Angeles, CA 90024. Application deadline is December 30 for both Fall and Spring Quarters. 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.

Community Mental Health: Community mental health, liaison nursing, mental health ethnic specialist, psychiatric nursing.

Maternal Child Health: Maternity, pediatrics.

Medical-Surgical Nursing: Cardiopulmonary, general medical-surgical, nursing administration, oncology.

Primary Ambulatory Care/Nurse Practitioner: Family (adult, pediatrics, women's health), gerontology, occupational health.

You may choose to add preparation in education or administration to your clinical requirement.

Degree Requirements

(1) A minimum of 10 courses (40 units) in the 100, 200, 400, and 500 series is required; eight of these 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 in full time (eight units per quarter) is required for academic residence.

(4) 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 (204).

(2) Nursing theory (203, 210, 211, 212, M217, 221, 222, 223, 224, 225).

(3) Cultural diversity (M158, 196, 250, 251 or Public Health M283G).

(4) Clinical practice (401, 402A-402B, 414, 415, 416, 417, 421A, 421B, 421C to 429A, 429B, 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.

Community Mental Health Specialty: The primary intent of this specialization is the preparation of clinicians who can function in leadership roles in mental health settings. You may elect additional preparation as consultants or liaison nurses (mental health consultants in general health care settings). This specialty requires a total of 10 to 17½ courses:

Community Mental Health: Nursing 204, one theory course, one cultural diversity course, 405, 424A, 424B, 440A-440B, 441A-441B.

Liaison Nursing: Nursing 204, one theory course, one cultural diversity course, 403, 405, 424A, 424B, 440A-440B, 442.

Mental Health Ethnic Specialist: Nursing 204, one theory course, 260, 403, 405, 424A, 424B, 440A-440B, 441A-441B, five cognate courses, a seminar in cultural concepts.

Psychiatric Nursing: Nursing 204, one theory course, one cultural diversity course, 405, 424A, 424B, 424C, one elective course.

Maternal Child Health

Maternity Clinical Nursing Specialty: The primary goal of this specialty is to expand knowledge and clinical expertise in giving care to the childbearing family in all phases of the reproductive cycle. It may be taken in conjunction with another clinical specialty of your choice. It requires a total of 10 courses, including Nursing 203, 204, one cultural diversity course, 212, 223, 422A, 422B, and either 422C or two functional elective courses.

Pediatric Clinical Nursing Specialty: The primary goal of this specialty is the expansion of knowledge and clinical expertise needed in pediatric nursing. The following clinical options are available within the pediatric program: acutely ill child, ambulatory care, chronically ill child, developmental disabilities, and oncology.

The nursing process and a theoretical framework are utilized as a basis for clinical practice. The program also focuses on clinical practice, research, education, management, and consultation. This specialty requires a total of 10 courses, including Nursing 203, 204, one cultural diversity course, 212, 223, 421A, 421B, and either 421C or two functional elective courses.

Medical-Surgical Nursing Specialty: The primary goal of this specialty is to develop highly skilled clinical nurse specialists in selected areas of medical-surgical nursing in one or more of the following subspecialties or options:

Cardiopulmonary: This subspecialty is designed to prepare clinical nurse specialists to meet an increasing demand for improved health services for patients with cardiopulmonary diseases. Several years of experience in acute coronary/pulmonary care settings (medical and/or surgical) and/or in cardiac/pulmonary rehabilitation is highly recommended before entering this subspecialty. Graduates are expected to function as cardiopulmonary nurse clinicians, teachers, consultants, or research associates. This subspecialty 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 subspecialty is to prepare clinicial specialists in general medical-surgical nursing. Students are encouraged to develop their own clinical focus in areas of acute chronic illness (e.g., critical care, trauma nursing, diabetes, neurological nursing). At least two years of prior experience in medical-surgical nursing is highly recommended. This subspecialty requires a total of 10 courses, including Nursing 204, one theory course, one cultural diversity course, 423A, 423B, 423C, one elective course, and one course from 203, 401, or 403.

Nursing Administration: The major objective of this option is to prepare middle- and top-level nursing administrators. Students will learn to analyze the health needs of large groups of patients, organize and implement nursing services to meet those needs in collaboration with other disciplines, evaluate the results of nursing care delivery, and adjust nursing practice as required. The program requires six quarters of full-time study and a three-month summer administrative residency. Stipends are provided by the institutions in which the residency is done.

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. It is suggested that nursing administration students select medical-surgical nursing as their clinical specialization. This program requires a total of 15 courses, including Nursing 204, one theory course, one cultural diversity course, 423A, 423B, 478A-478B, and five health services management courses offered through the School of Public Health.

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/Nurse Practitioner Specialty: Courses focus on the knowledge and skills needed to develop competent nurse practitioners who will function in adult, family, gerontological, pediatric, and/or women's primary ambulatory health care settings. Within the framework of the population areas, the focus is upon the individual within the family/community context. This specialty requires a total of 12 courses, including Nursing 204, one theory course, one cultural diversity course, 264, 402A-402B, 429A-429B, 429C. In addition, the gerontology nurse practitioner is required to take Nursing 221, 425A, and 425B.

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, and rehabilitation.

Requirements are met through a combination of courses and experiences specific to the delivery of occupational health care services. This option requires a total of 14 courses, including Nursing 204, 225, one cultural diversity course, 264, 402A-402B, 429A-429B, 429C, and occupational health courses chosen in consultation with the faculty adviser.

Thesis Plan

If you choose the thesis plan, you normally select a thesis committee by the beginning of the third quarter or following completion of courses 204 and 205A or 205B. You are expected to complete the thesis within the normal five- to six-quarter time period. Completed theses should be filed approximately two weeks before the awarding of the degree.

Comprehensive Examination Plan

The comprehensive examination is given in written form and is scheduled each quarter. You are eligible to take the examination during the quarter in which you are advanced to candidacy and may repeat the examination, in its entirety or in part, twice. You must complete all requirements for the degree within one calendar year after advancement to candidacy.

Upper Division Courses

101. Introduction to the Art and Science of Nursing (2 courses). Lecture, four hours; discussion, two hours; laboratory, twelve hours; autotutorial laboratory and seminars, variable. An introduction to nursing theory and practice. Content includes the following modules: nursing process, pharmacology, interpersonal and technical skills. Methodology includes laboratory, lectures, discussion, seminars, autotutorial laboratory, and clinical application. Ms. Padernal

104A. The Behavior of Man in Health and Illness. An examination of the health-illness continuum from the framework of social and biological sciences. Content includes role theory, developmental theory, transcultural communication theory, and other theories relevant to nursing practice. Ms. Aguilera

104B. The Behavior of Man in Health and Illness. Prerequisite: course 104A. An examination of the health-illness continuum from the framework of illness as a stressor and the possible responses to such stress. Content includes anxiety, pain, cognitive disturbances, loss, and other responses relevant to nursing practice. Ms. Aguilera

104C. The Behavior of Man in Health and Illness. Prerequisites: courses 104A, 104B. Continuation of the examination of the health-illness continuum from the framework of illness as a stressor and the possible responses to such stress. Content includes anxiety, pain, cognitive disturbances, loss, and other responses relevant to nursing practice. Ms. Aguilera

109. Communication in Health Care. Lecture, two hours; laboratory, six hours. Study of basic communication and group process theory and its application to practice. Laboratory experience emphasizes development of each individual's ability to communicate effectively in a dyad and in a small group. Ms. Topf

120A. Clinical Nursing. Five weeks. Lecture, four hours; laboratory, twenty-four hours. Prerequisites: courses 101, 109, Physiology 105N. Clinical application of nursing theory in community situations: acute care, convalescent, and ambulatory. Theoretical content includes pathophysiology, pharmacology, and treatment modalities. Application of the theoretical concepts related to the nursing care of the child and his family. Ms. Nash, Ms. Verzemnieks

120B. Clinical Nursing. Five weeks. Lecture, four hours; laboratory, twenty-four hours. Prerequisites: courses 101, 109, Physiology 105N. Clinical application of nursing theory in community situations: acute care, convalescent, and ambulatory. Theoretical content includes pathophysiology, pharmacology, and treatment modalities. Application of the theoretical concepts of reproduction to the nursing care of the family. Ms. Koniak, Ms. Ludington

120C. Clinical Nursing. Five weeks. Lecture, four hours; laboratory, twenty-four hours. Prerequisites: courses 101, 109, Physiology 105N. Clinical application of nursing theory in community situations: acute care, convalescent, and ambulatory. Theoretical content includes pathophysiology, pharmacology, and treatment modalities. Application of the theoretical content related to the nursing care of the patient undergoing medical interventions. Ms. Brazal

120D. Clinical Nursing. Five weeks. Lecture, four hours; laboratory, twenty-four hours. Prerequisites: courses 101, 109, Physiology 105N. 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 intervention. Ms. Bahu

120E. Clinical Nursing. Five weeks. Lecture, four hours; laboratory, twenty-four hours. Prerequisites: courses 101, 109, Physiology 105N. 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. Poster

120F. Clinical Nursing. Five weeks. Lecture, four hours; laboratory, twenty-four hours. Prerequisites: courses 101, 109, Physiology 105N. 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. Davis, Ms. Sobol

M158. Health in Culture and Society. (Same as Anthropology M168.) Prerequisite: upper division standing. An examination of the theories and methods of medical anthropology in relation to cross-cultural health systems, role networks, attitude and belief systems of the participants. Emphasis is on interaction networks in health care systems. Ms. Brink

184. Evolution and Dynamics of the Nursing Profession. A study of the evolution of nursing focusing on historical, ethical, moral, legal, and institutional ramifications of nursing practice. In addition, consideration is given to the rights, obligations, and societal and institutional expectations of the professional nurse. Ms. Ver Steeg

188. Seminar in Physiology (½ course). Prerequisite: Physiology 105N or equivalent. Student presentation of selected topics in physiology based on recent monographs, review articles, and original research papers. Topics are designed to amplify and extend information presented in Physiology 105N lectures. May be repeated for credit.
Ms. Seraydarian

189. Human Sexuality. Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. Lectures, discussions, and case presentations considering human sexuality, its joys and pleasures, pitfalls and problems. An interdisciplinary approach encompassing anatomic, physiologic, psychologic, and social aspects of heterosexual and homosexual relationships, including development of gender identity, intercourse, pregnancy, abortion, contraception, and venereal disease. Ms. Reeder

190A. Selected Area of Clinical Concentration (1½ courses). Lecture, two hours; laboratory, twenty hours. Prerequisites: course 101, 104 series, 120 series. Beginning concentration in a clinical area of student's choice. Ms. Sobol and the Staff

190B. Selected Area of Clinical Concentration (1½ courses). Lecture, two hours; laboratory, twenty hours. Prerequisites: course 101, 104 series, 120 series, 190A. Beginning concentration in a clinical area of student's choice. Ms. Sobol and the Staff

193. Introduction to Research. An introduction to planning a research project based upon a simple question. Includes rules for definition of terms, alternative methods of writing purposes, selecting a sample, choosing a data collection instrument, planning for data analysis, protection of human rights, reading research reports, and writing a research proposal.
Ms. Brink

195. Principles of Change and Change Agent Roles. Lecture, two hours; discussion, two hours. Theories and methods of change and their application to nursing. Principles of leadership, teaching-learning, health delivery systems, organization of nursing care, and patient advocacy.

196. Health Care Problems of Minority Group Members. Prerequisite: Sociology 1 or 101. Description and discussion of the special health care problems which members of minority groups face. These problems may be related to socioeconomic status as well as ethnic background and subcultural differences.

199. Special Studies in Nursing (½ to 4 courses). Prerequisites: senior standing and/or consent of instructor. Individual study of a problem in the field of nursing. May be repeated for credit, but only four units may be applied toward the degree requirements. P/NP or letter grading.

Graduate Courses

Research in Nursing, Nursing Theory, and Cultural Diversity

203. Theoretical Framework for Nursing Practice. Comparative study of selected conceptual models of nursing and the recipient of nursing, with particular emphasis on the regulatory model, the adaptation model, the supplementary model, and the complementary model. Ms. Derdiarian

204. Research in Nursing: An Advanced Course. Prerequisite: course 193 or equivalent upper division basic research methodology course. The course focuses on complex research designs and analysis of multiple variables. Emphasis is on techniques for control of variables, data analysis, and interpretation of results. The interrelationship of theoretical frameworks, design, sample selection, data collection instruments, and data analysis techniques is analyzed in depth. Content is discussed in terms of clinical nursing research problems.
Ms. Vredevoe and the Staff

205A. Qualitative Research Methods in Nursing. Prerequisite: course 204. Emphasis is on nursing research designs utilizing the field method approach, ethnomethodology, and/or inductive methods.
Ms. Brink

205B. Quantitative Research Methods in Nursing. Prerequisite: course 204. Emphasis is on nursing research designs requiring statistical analysis of data.
Ms. Vredevoe

210. Respiratory Physiology as It Relates to Nursing. Lecture, three hours; discussion, one hour. Prerequisite: upper division course in human physiology. An advanced treatment of the topic presented in lectures and seminars, with emphasis on current research. Application of knowledge to nursing problems will be stressed. Ms. Seraydarian

211. Cardiovascular Physiology as It Relates to Nursing. Lecture, three hours; discussion, one hour. Prerequisite: upper division course in human physiology. An advanced treatment of the topic presented in lectures and seminars, with emphasis on current research. Application of knowledge to nursing problems will be stressed. Ms. Seraydarian

212. Discontinuities in Family Health during the Reproductive Years. Lecture, two hours; discussion, one hour. An overview of selected problems with health connotations that are potentially disruptive to the family during childbearing years. Selected problems are examined in depth. Pertinent variables affecting the family's definition of the situation, resources, strategies for coping, and utilization of professional services are explored and their relevance for nursing practice is examined.
Ms. Reeder and the Staff

M217. Medical Anthropology. (Same as Anthropology M263.) Lecture, three hours. Prerequisite: course M158 or consent of instructor. Any of the topics covered in course M158 will be selected each quarter for intensive literature review and independent projects. May be repeated for credit. Ms. Brink

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 will be studied. Changes in biological, cognitive, and psychosocial processes will be explored, and implications for prevention and rehabilitative care will be considered.
Ms. Putnam

222. The Concept of Grief and Loss. Lecture, three hours; laboratory, two to four hours. Prerequisite or corequisite: clinical nursing course. The course will deal with the concepts and theories of grief and loss, with a particular emphasis on the loss of a significant other. There will also be 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.

223. Management of Developmental Problems, Early Years. Study of selected human developmental theories, hypotheses, and concepts. Problems relevant to nursing are examined through the critique of pertinent literature. Ms. Betz and the Staff

224. Problems in Patient Motivation. The major purpose will be an exploration of the phenomena which may occur when a person assumes the role of a sick patient.

225. Problems in Environmental Management. The prevention and treatment of nursing problems related to conditions of the psychophysical and social environment. Ms. Jordan-Marsh

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 influenced by societal values. Selected health care issues will be debated by students utilizing an in-depth literature review on the issue.
Ms. Ver Steeg

250. Seminar: Nursing in Other Cultures. Prerequisite: consent of instructor. Discussion of anthropological principles which affect nursing care in a particular cultural environment. Individual research projects based upon the medical problems found in such an environment and the projected nursing interventions relative to those findings. Ms. Brink

251. Nursing Care to Ethnic People of Color in the United States. Prerequisites: course 196 and graduate standing, or consent of instructor. Examines and evaluates selected theories from nursing and other sciences and their application to the delivery of intracultural and transcultural nursing care. Emphasis is on value orientations, sociocultural perceptions and cognitions of health and illness, and ethnomedical health practices as predictive factors in analyzing health care delivery to ethnic people of color.
Ms. Tien

260. Seminar in the Integration of Cultural Concepts and Mental Health Nursing (½ course). Seminar, two and one-half hours (eight weeks). Prerequisites: course 424B, a minimum of two cultural diversity cognate courses, and consent of instructor. Corequisite: course 403. Discussion of the concepts of culture, language, life-style, and health practices which influence the practice of primary care among Asian/Pacific, Black, Hispanic/Latino, and Native American people. Ms. Tien

264. Seminar in Primary Ambulatory Care. Corequisites: courses 402A and/or 402B, or consent of instructor. Discussion of the concepts of team practice, interprofessional and intraprofessional relationships, legal issues, and the socioeconomic aspects of primary care. Ms. Ver Steeg

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 interventive practice. Ms. Derdiarian

402A-402B. Primary Diagnosis for Nurse Practitioners. Lecture, four hours; laboratory, four hours; demonstration and practice, two hours. Prerequisites: successful completion of anatomy and physiology pretest, consent of instructor. Collection, analysis, and reporting of data used by the nurse practitioner in identification of patient problems. Principles and practice in history taking, physical examination, laboratory, and other diagnostic methodology. Pathology and pathophysiology are integrated in a systems approach.

Ms. dela Cruz, Ms. Stuart, and the Staff

403. Physical Assessment for the Clinical Specialist (1 to 1½ courses). Lecture, four hours; optional seminars, two hours. Prerequisite: consent of instructor. Not open to primary ambulatory care majors. An introductory study of the basic techniques of history taking and physical examination which are used by clinical specialists as part of the total nursing assessment process. Includes theory, demonstration, and practice of physical assessment methodology. Optional seminars provide content pertinent to selected specialty areas.

Ms. dela Cruz, Ms. Stuart, and the Staff

404. Comprehensive Group Theory. Lecture, two hours; laboratory, two hours. The course will offer an in-depth study of group dynamics and group therapy, applicable to any health service area. It will focus on the study and application of group theory and practice relevant to nursing. The student will 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/or 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. The specific aim is a critical examination of the concepts and strategies which affect assessment of psychological behavior. Ms. Kerr, Ms. Tien

M410A. Nursing Care of the Developmentally Disabled. (Same as Psychiatry M472A.) Lecture, one hour; discussion, one to two hours; laboratory, ten hours minimum. Prerequisite: consent of instructor. Study of the handicapping conditions of childhood and their effects upon the individual and the family. Content is based upon normative developmental models with consideration for sociocultural diversity. Emphasis is on prevention, systematic assessment, and planning of care for the individual and family. Introduction to the implementation of intervention strategies. Series of three courses integrates didactic material and clinical experience. Ms. Savino (F)

M410B. Nursing Care of the Developmentally Disabled. (Same as Psychiatry M472B.) Lecture, one hour; discussion, one to two hours; laboratory, ten hours minimum. Prerequisites: course M410A and/or consent of instructor. Study of the philosophical and conceptual models affecting care delivery for the developmentally disabled. Emphasis on intervention strategies necessary for primary, secondary, and tertiary prevention. Ms. Savino (W)

M410C. Nursing Care of the Developmentally Disabled. (Same as Psychiatry M472C.) Lecture, one hour; discussion, one to two hours; laboratory, ten hours minimum. Prerequisites: course M410B 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. Savino (Sp)

414. Current Perspectives in Respiratory and Cardiovascular Nursing (½ course). Lecture, one hour; discussion, one hour. Prerequisite: consent of instructor. Exploration of selected problems, trends, and issues in respiratory and cardiovascular health care, with emphasis on their significance for the clinical nurse specialist. Ms. Forshee

415. Assessment in Respiratory and Cardiovascular Nursing (½ to 1½ courses). Lecture, one to four hours; laboratory, four to eight hours. Prerequisites: course 210 or 211, and consent of instructor. Introduction to the basic methods of assessing respiratory and cardiovascular function in health and illness, with emphasis on their application in clinical nursing practice. Ms. Dracup, Ms. Forshee

416. Oncology and Treatment of Cancer. Lecture, two hours; discussion, one hour; laboratory, eight to ten hours. Prerequisite: consent of instructor. Basic knowledge from biological, behavioral, and medical sciences for understanding the development, diagnosis, treatment, and prognosis of cancer. Nursing care management related to diagnostic and treatment modalities is stressed.

Ms. Callaghan, Ms. Hoban, Ms. Sarna

417. Systematic Approach to Oncologic Nursing. Lecture, two hours; discussion, two hours; laboratory, eight to ten hours. Prerequisites: course 416 and consent of instructor. Nursing management of persons with various types of malignancies. The focus is on the assessment of special physical and psychosocial problems of patients with diagnoses of cancer in a specific site. The focus is also to provide the student with theoretical and technical skills necessary for the interventions of these problems.

Ms. Callaghan, Ms. Hoban, Ms. Sarna

421A. Clinical Nursing Care of Children. Discussion, two hours; laboratory, ten hours minimum. Prerequisites: course 203 (may be taken concurrently) and one course in nursing theory. The course focuses on the application of a theoretical model and the nursing process to a specific, identifiable patient population in a pediatric setting, with special emphasis on assessment and diagnosis. Content covers each aspect of the nursing process.

Ms. Betz and the Staff

421B. Advanced Clinical Nursing Care of Children (2 courses). Discussion, two hours; laboratory, twenty hours minimum. Prerequisite: course 421A. The course focuses on the role of the clinical specialist in pediatric nursing, with emphasis on the practitioner core of the role. Students identify a selected patient population for whom they plan and implement the nursing process from assessment through evaluation. Content includes theoretical and practical issues related to the clinical specialist role.

Ms. Betz and the Staff

421C. Clinical Specialization in Nursing Care of Children (2 courses). Discussion, two hours; laboratory, twenty hours minimum. Prerequisite: course 421B. Required for the pediatric nursing specialization. The practitioner role is continued in this course to foster consolidation of knowledge and skills. Emphasis is on the consultation and staff development dimensions of the clinical nurse specialist role.

Ms. Betz and the Staff

422A. Clinical Maternity Nursing. Discussion, two hours; laboratory, ten hours minimum. Prerequisites: one theory course and consent of instructor. Emphasis is on developing skill in the utilization of the assessment, intervention, and evaluation phases of the nursing process. The assessment phase as it relates to the childbearing family is stressed, as is family-centered orientation. Theoretical models for the study of the family and the development of nursing practice are examined and utilized in care giving. Pertinent variables affecting the delivery of care and utilization of health services for all segments of society are examined. Ms. Reeder and the Staff

422B. Advanced Clinical Maternity Nursing (2 courses). Discussion, two hours; laboratory, twenty hours minimum. Prerequisite: course 422A. Knowledge and clinical expertise are refined and extended, with content emphasis on high-risk conditions and complications in the reproductive process. Utilization of the nursing process is continued, with emphasis on the prescriptive, interventive, and evaluative phases of the process. Teaching, counseling skills, and collegial relationships with co-workers are stressed. The health beliefs, orientations, and health behavior of clients from various cultural backgrounds are further examined and evaluated. The delineation and evaluation of researchable clinical questions are emphasized. Ms. Reeder and the Staff

422C. Clinical Specialization in Maternity Nursing (2 courses). Discussion, two hours; laboratory, twenty hours minimum. Prerequisite: course 422B. Clinical expertise continues to be refined and extended in one or more areas of the high-risk conditions and/or normal phenomena encountered during the reproductive process as they relate to the assessment, intervention, and evaluative phases of the nursing process. Coordination of care, patient and family education counseling, and consultative skills are particularly stressed. The delineation and development of researchable clinical questions are further refined.

Ms. Reeder and the Staff

423A. Clinical Medical-Surgical Nursing (½ to 1 course). Lecture, one hour; discussion, two hours; laboratory, ten hours maximum. Prerequisites: course 204 (may be taken concurrently) and one theory course; for non-medical-surgical specialization students: consent of instructor (may enroll for two units). An advanced course in the theory and practice of the nursing care of medical-surgical patients. The major emphasis is on the assessment and diagnosis within a conceptual framework for nursing practice. The assessment focuses on physiological and behavioral changes in health state. Students select a specific patient population for concentration in the course: (1) oncology, (2) cardiovascular, (3) respiratory, (4) general medical-surgical.

Ms. Forshee and the Staff

423B. Advanced Clinical Medical-Surgical Nursing (½ to 2 courses). Lecture, one hour; discussion, two hours; laboratory, thirty hours maximum. Prerequisite: course 423A; for non-medical-surgical specialization students: consent of instructor (may enroll for two units). Continued refinement of the nursing process and extension of professional knowledge and skills with a selected patient population. Emphasis is 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) oncology, (2) cardiovascular, (3) respiratory, (4) general medical-surgical. Ms. Dracup and the Staff

423C. Clinical Specialization in Medical-Surgical Nursing (½ to 2 courses). Lecture, one hour; discussion, two hours; laboratory, thirty hours maximum. Prerequisite: course 423B; for non-medical-surgical specialization students: consent of instructor (may enroll for two units). Required for the medical-surgical specialization. Examination and implementation of the clinical nurse specialist role, with a specific patient population and/or setting. Emphasis is on the functional aspects of the role: practitioner, educator, consultant, researcher. Students select a specific patient population for concentration in the course: (1) oncology, (2) cardiovascular, (3) respiratory, (4) general medical-surgical.

Ms. Canobbio, Ms. Eisz, and the Staff

424A. Clinical Psychiatric Nursing. Discussion, three hours; laboratory, eight to ten hours. Prerequisites: course 405, consent of instructor. Focus will be on the process of psychotherapy, with specific emphasis on the knowledge and skills of assessment and diagnosis. Content will include theories and techniques of practice. Ms. Kerr and the Staff

424B. Advanced Clinical Psychiatric Nursing (2 courses). Discussion, three hours; laboratory, twenty hours. Prerequisites: course 424A, consent of instructor. Refinement and extension of the process of psychotherapy, with emphasis on prevalent psychiatric health issues. Ms. Van Servellen and the Staff

424C. Clinical Specialization in Psychiatric Nursing (2 courses). Seminar, two hours; laboratory, twenty-four hours. Prerequisites: course 424B, consent of instructor. Required for the psychiatric nursing specialization. Supervised internship. Students select the setting and population.
Ms. Van Servellen and the Staff

425A. Clinical Gerontological Nursing (1 or 2 courses). Discussion, three hours; laboratory, fifteen to thirty hours. Prerequisite: one course in nursing theory. Principles and practice of assessment of psychosocial variables in health problems of elderly. Emphasis on integrated understanding of multiple variable influences in total health. Ms. Davis

425B. Advanced Clinical Gerontological Nursing (1 or 2 courses). Discussion, three hours; laboratory, fifteen to thirty hours. Prerequisite: course 425A. Application of knowledge and skills of psychosocial nursing intervention in rehabilitation of the chronically ill aged. Ms. Davis

425C. Clinical Specialization in Gerontological Nursing (2 courses). Discussion, three hours; laboratory, thirty hours maximum. Prerequisite: course 425B. Extension and demonstration of competencies in planning and implementation of nursing programs in health problems of the elderly. Ms. Davis

429A-429B. Preceptorship in Primary Ambulatory Care Nursing (2 courses each). Lecture, three hours; discussion, three hours; laboratory, sixteen hours minimum. Prerequisites: courses 402A-402B, consent of instructor. Theory and clinical practice in nursing management and evaluation of health problems in a selected ambulatory population. Health maintenance is emphasized. Attention is given to the developmental and cognitive needs of clients in relation to family, social, and cultural structures.
Ms. Jordan-Marsh, Ms. Ver Steeg, and the Staff

429C. Advanced Preceptorship in Primary Ambulatory Care Nursing (2 courses). Discussion, three hours; laboratory, twenty-four hours minimum. Prerequisites: courses 429A-429B, consent of instructor. Advanced specialization in primary ambulatory care. Emphasis is on the refinement and extension of assessment, management, and evaluation skills, family health care, and community health concepts. Clinical options include family practice or specialization in adult, pediatric, or women's health care.
Ms. Murata and the Staff

440A-440B. Clinical Specialization in Community Mental Health Consultation. Lecture, three hours; clinical, ten hours. Prerequisites: course 424B, consent of instructor. Corequisites: courses 441A-441B. The study and application of mental health consultation theory and practices relevant to community mental health nursing. The focus is on group consultation skills. The development of the nurse-consultant role in the interdisciplinary health team approach to mental health services. In Progress grading. Ms. Tien

441A-441B. Clinical Specialization in Community Organization. Discussion, three hours; clinical, ten hours. Prerequisites: course 424B, consent of instructor. Corequisites: courses 440A-440B. Course focuses on the process of community health assessment and program evaluation and planning for health services. Emphasis is on health advocacy, prevention of mental illness, and planned change concepts. In Progress grading. Ms. Flaskerud

442. Liaison Nursing. Lecture, three hours; laboratory, ten hours. Prerequisites: courses 403, 440A. Behavior of groups of individuals is studied from an intersystem framework. The student focuses on the interactions of the health care providers and clients in general hospitals, clinics, and community health agencies. Attention is paid to the variables influencing the health care providers' assessments and interventions concerning the clients' behavioral problem(s). This framework is utilized to evaluate the stability and direction of the organization as these are causally related to the system's effectiveness in the delivery of quality health care. The interrelatedness of such variables as human services, sociopolitical and cultural life-style factors of the system are examined. Ms. Flaskerud

Functional Preparation

375. Teaching Apprentice Practicum (¼ to 1 course). 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. Canfield

473. Generic Consultation (1 to 2 courses). Discussion, three hours; laboratory, ten to twenty 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 is on the refinement of knowledge and skills necessary to establish a nursing role as an interdependent clinical nursing consultant. The concepts presented are based on those theories from the following areas: group dynamics, learning, communication, change, and nursing process.

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 Administrstion. Discussion, four hours; laboratory, eight hours. Prerequisite: consent of instructor. In-depth discussion of key issues affecting nursing administration (e.g., classification of patients by nursing care need, impact of nursing registries on hospital nursing programs, certification of nurses for advanced clinical practice, quality assurance, legislative issues, emerging organizational forms for delivering nursing care, extended nursing roles). The course focuses on the integration of nursing and management theories for application in nursing service settings. Seminars are augmented by field visits to residency sites to complete data collection for projects. Ms. Marsden, Ms. Scalzi

Special Studies

596. Directed Individual Studies for Graduate Students (1 to 2 courses). 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 (1 to 2 courses). Individual study for comprehensive examination. 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 (1 to 2 courses). 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.

School of Public Health

Roger Detels, Dean

Public health is a broad, multidisciplinary field directed toward the understanding and control of factors affecting the health of populations. It relies on research methods to identify important health relationships and is concerned with health, prevention of disease, and medical care in social communities. The concerns of public health include voluntary and governmental agencies, research and teaching institutions, and health care facilities.

There are many areas of emphasis in the field, and five may be singled out as follows: (1) nature, extent, and distribution of disease; (2) quantitative methods of description and analysis; (3) environmental hazards, their identification and control; (4) organization and administration of community health services; (5) basic biological and psychosocial processes that affect the health and well-being of populations.

The mission of the School of Public Health is to develop and teach the application of the sciences (mathematical, biological, medical, behavioral, and physical) to the solution of community health problems. Its goal is to train public health professionals who will have the knowledge, skills, and flexibility to resolve current and future challenges to the heath of the community.

Students may prepare for careers in basic specialities such as epidemiology, biostatisics, nutritional science, and environmental health sciences or for community work such as the operation of hospitals, health maintenance in industry, health education of the public, organization of medical care, behavioral sciences in public health, and community health administration.

School of Public Health

16-071 Public Health, 825-5516

Professors

Abdelmonem A. Afifi, Ph.D. *(Biostatistics)*
Roslyn B. Alfin-Slater, Ph.D. *(Nutrition)*
Lawrence R. Ash, Ph.D., *Chair (Infectious and Tropical Diseases)*
Allan Ralph Barr, Sc.D. *(Infectious and Tropical Diseases)*
Judith Blake, Ph.D. *(Fred H. Bixby Professor of Population Policy)*
Lester Breslow, M.D., M.P.H. *(Health Services)*
Robert H. Brook, M.D., Sc.D. *(Health Services)*
Potter C. Chang, Ph.D. *(Biostatistics)*
Virginia A. Clark, Ph.D. *(Biostatistics)*
Irvin Cushner, M.D., M.P.H. *(Population and Family Health)*
Roger Detels, M.D., M.S. *(Epidemiology), Dean*
Wilfrid J. Dixon, Ph.D. *(Biostatistics)*
Olive Jean Dunn, Ph.D. *(Biostatistics)*
John Edmond, Ph.D. *(Nutritional Sciences)*
Robert M. Elashoff, Ph.D. *(Biostatistics)*
Jonathan E. Fielding, M.D. *(Health Services)*
Donald Guthrie, Ph.D., *in Residence (Biostatistics)*
Derrick B. Jelliffe, M.D., D.T.M.&H., D.C.H., F.R.C.P. *(Population and Family Health)*
Robert I. Jennrich, Ph.D. *(Biostatistics)*
Robert L. Kane, M.D., *in Residence (Health Services)*
Snehendu B. Kar, M.Sc., Dr.P.H. *(Health Education)*
Alfred H. Katz, D.S.W., M.A. *(Population and Family Health)*
Joel D. Kopple, M.D., *in Residence (Nutritional Sciences)*
Jess Kraus, Ph.D., *(Epidemiology and Occupational Health)*
Charles E. Lewis, M.D., Sc.D. *(Health Services)*
Virginia C. Li, M.P.H., Ph.D. *(Health Education)*
Robert A. Mah, Ph.D. *(Environmental and Occupational Health Sciences)*
Frank J. Massey, Jr., Ph.D. *(Biostatistics)*
James F. Mead, Ph.D. *(Nutritional Sciences)*
Beverlee Myers, M.P.H. *(Health Services)*
Alfred K. Neumann, M.D., M.A., M.P.H., F.A.B.P.M. *(Population and Family Health)*
Charlotte G. Neumann, M.D., M.P.H. *(Population and Family Health)*
Dennis D. Pointer, Ph.D. *(Health Services)*
Edward L. Rada, Ph.D. *(Behavioral Sciences and Health Education)*
Milton I. Roemer, M.D., M.P.H. *(Health Services)*
John F. Schacher, Ph.D., *in Residence (Infectious and Tropical Diseases)*
Max H. Schoen, D.D.S., Dr.P.H. *(Health Services)*
Stuart O. Schweitzer, Ph.D. *(Health Services)*
William Shonick, Ph.D. *(Health Services)*
Marian E. Swendseid, Ph.D. *(Nutrition)*
Paul R. Torrens, M.D., M.P.H. *(Health Services)*
James L. Whittenberger, M.D., *in Residence (Environmental and Occupational Health Sciences)*
Daniel M. Wilner, Ph.D. *(Behavioral Sciences)*
Telford H. Work, M.D., M.P.H., D.T.M.&H. *(Infectious and Tropical Diseases)*
Ruth Boak, Ph.D., M.D., *Emeritus*
John M. Chapman, M.D., M.P.H., *Emeritus*
Gladys A. Emerson, Ph.D., *Emeritus*
Carl E. Hopkins, Ph.D., M.P.H., *Emeritus*
Raymond J. Jessen, Ph.D., *Emeritus*
Edward B. Johns, Ed.D., *Emeritus*
Ralph W. McKee, Ph.D., *Emeritus*
Frank F. Tallman, M.D., *Emeritus*

Associate Professors

Emil Berkanovic, Ph.D. *(Behavioral Sciences)*
Linda B. Bourque, Ph.D. *(Epidemiology)*
Albert Chang, M.D., M.P.H. *(Population and Family Health)*
Shan Cretin, Ph.D., M.P.H. *(Health Services)*
William G. Cumberland, Ph.D. *(Biostatistics)*
Climis A. Davos, Ph.D. *(Environmental and Occupational Health Sciences)*
Ralph R. Frerichs, D.V.M., Dr.P.H. *(Epidemiology)*
John Froines, M.S., Ph.D., *Acting (Environmental and Occupational Health Sciences)*
Michael S. Goldstein, Ph.D. *(Behavioral Sciences)*
Sheldon Greenfield, M.D. *(Health Services)*
William C. Hinds, Sc.D. *(Environmental and Occupational Health Sciences)*
Isabelle F. Hunt, Dr.P.H. *(Nutrition)*
Mohammad G. Mustafa, Ph.D. *(Environmental and Occupational Health Sciences)*
Susan C. Scrimshaw, Ph.D. *(Population and Family Health)*
Gary H. Spivey, M.D., M.P.H. *(Epidemiology)*
Jane Valentine, Ph.D. *(Environmental and Occupational Health Sciences)*
Barbara R. Visscher, M.D., Dr.P.H. *(Epidemiology)*

Assistant Professors

Dean B. Baker, M.D., M.P.H. *(Epidemiology)*
E. Richard Brown, Ph.D. *(Behavioral Sciences and Health Education)*
James M. Cameron, Ph.D. *(Health Services)*
Joseph S. Coyne, Ph.D. *(Health Services)*
Curtis D. Eckhert, Ph.D. *(Nutrition)*
Sander Greenland, Dr.P.H. *(Epidemiology)*
Robert W. Haile, Dr.P.H. *(Epidemiology)*
Philip I. Harber, M.D., M.P.H. *(Epidemiology)*
Michael R. Jones, Ph.D. *(Nutrition)*
Marlene Lugg, Ph.D. *(Health Services)*
Dianne Moore, Ph.D., M.S.N. *(Population and Family Health)*
Donald E. Morisky, Sc.D., M.S.P.H. *(Behavioral Sciences and Health Education)*
Gary A. Richwald, M.D., M.P.H. *(Population and Family Health)*
Martin B. Ross, Dr.P.H. *(Health Services)*
Judith M. Siegel, M.S.Hyg., Ph.D. *(Behavioral Sciences)*
John Sullivan-Bolyai, M.D., M.P.H. *(Epidemiology)*
Michael Vojtecky, Ph.D., M.P.H. *(Health Education)*

Lecturers

Jean L. Mickey, Ph.D. *(Biostatistics)*
Florence C. McGucken, M.S., *Emeritus*

Professors

Ellen Alkon, M.D., *Adjunct*
Edith M. Carlisle, Ph.D., *Adjunct*
Arthur Chung, M.D., *Adjunct*
Brian E. Henderson, M.D., *Adjunct*
Leona M. Libby, Ph.D., *Adjunct (Environmental and Occupational Health Sciences)*
John M. Peters, M.D., M.P.H., Sc.D., *Adjunct*
Ruth J. Roemer, J.D., *Adjunct*
Jack Zusman, M.D., M.P.H., *Adjunct*

Associate Professors

Linda Beckman, Ph.D., M.S., *Adjunct*
Davida Coady, M.D., M.P.H., *Adjunct*
Sigrid Deeds, Dr.P.H., M.P.H., *Adjunct*
Edward J. Faeder, Ph.D., *Adjunct (Environmental and Occupational Health Sciences)*
Raymond D. Goodman, M.D., M.P.H., *Adjunct*
Richard L. Hough, Ph.D., *Adjunct*
Juel Janis, Ph.D., *Adjunct*
Jacqueline B. Kosecoff, Ph.D., *Adjunct (Health Services)*
Thomas Mack, M.D., M.P.H., *Adjunct (Epidemiology)*
Louis E. Mahoney, Jr., M.D., Dr.P.H., *Adjunct*
Forest Tennant, M.D., Dr.P.H., M.P.H., *Adjunct*

Assistant Professors

William Dritschilo, Ph.D., *Adjunct (Environmental and Occupational Health Sciences)*
Daniel Ershoff, Dr.P.H., *Adjunct*
James Greenwood, Ph.D., M.P.H., *Adjunct*
Wilbert Jordan, M.D., M.P.H., *Adjunct*
John H. Kurata, Ph.D., M.P.H., *Adjunct*
Laura Lake, Ph.D., *Adjunct (Environmental and Occupational Health Sciences)*
Alfred C. Marcus, Ph.D., *Adjunct*
Glenn Melnick, *Acting*
Edward J. O'Neill, M.D., M.P.H., *Adjunct (Environmental and Occupational Health Sciences)*
Susan M. Preston-Martin, Ph.D., M.P.H., *Adjunct*
Jose Quiroga, M.D., *Adjunct*
Lawrence S. Rubenstein, Ph.D., *Adjunct*
James W. Sayre, Dr.PH., *Adjunct (Biostatistics)*
Bernard M. Siegel, M.D., *Adjunct*
Bart B. Sokolow, D.Env., *Adjunct (Environmental and Occupational Health Sciences)*
Howard M. Staniloff, M.D., M.P.H., *Adjunct*
Jeffrey B. Wales, Ph.D., *Adjunct*
Fred W. Wasserman, Dr.P.H., *Adjunct*

Lecturers

Omar Alfi, M.D., *Visiting*
Nancy H. Allen, M.P.H., *Adjunct*
Carol Aneshensel, Ph.D., *Adjunct*
Arnold R. Beisser, M.D., *Adjunct*
Linda M. Blanchard, M.P.H., *Adjunct*
Stewart Blumenfeld, Dr.P.H., *Visiting*
Michael L. Bobrow, B.Arch., *Visiting*
Wen Ping Chang, M.D., M.P.H., D.M.Sc., *Visiting*
Carl F. Coffelt, M.D., M.P.H., *Visiting*
Anne H. Coulson, *Adjunct*
Frederick Dorey, Ph.D., *Adjunct*
Patricia Engle, Ph.D., *Visiting*
Charles M. Ewell, Jr., Ph.D., *Visiting*
Arlene Fink, Ph.D., *Adjunct*
Paul M. Fleiss, M.D., M.P.H., *Visiting*
Jay W. Friedman, D.D.S., M.P.H., *Adjunct*
Pensri Guptavanij, M.D., Ph.D., *Adjunct*
Joseph Hafey, M.P.H., B.A., *Visiting*
Eung-Soo Han, M.D., M.P.H., *Visiting*
Arthur C. Hollister, Jr., M.D., M.P.H., *Visiting*
Patrice Jelliffe, R.N., M.P.H., *Adjunct*
Olive G. Johnson, B.A., *Visiting*
Stephen W. Kahane, D.Env., *Visiting (Environmental and Occupational Health Sciences)*
Joel W. Kovner, Dr.P.H., *Visiting*
Martin L. Lee, Ph.D., *Visiting*
Harry M. Lieberman, M.D., M.P.H., *Visiting*
Robert G. Lindberg, Ph.D., *Adjunct (Environmental and Occupational Health Sciences)*

Ronald L. Linder, Ed.D., *Adjunct*
Lawrence S. Linn, Ph.D., *Adjunct*
Irvin Lourie, M.D., *Visiting*
Paul M. Merifield, Ph.D., *Visiting (Environmental and Occupational Health Sciences)*
Norma J. Murphy, M.S., *Adjunct (Assistant Field Program Supervisor)*
Joseph P. Newhouse, Ph.D., *Visiting*
Mario Panaqua, B.A., *Adjunct*
Stanton J. Price, Dr.P.H., *Visiting*
George W. Prichard, J.D., M.D., M.P.H., *Visiting*
Ruth F. Richards, M.P.H., M.A., B.A., *Adjunct (Field Program Supervisor)*
Hossain Ronaghy, M.D., *Visiting*
Robert R. Rygg, B.S., *Visiting (Health Services)*
Frederick T. Sai, M.B.B.S., D.T.M.&H., M.R.C.P., M.P.H., *Visiting*
Rafatollah Salimpour, M.D., *Visiting*
Simon A. Sayre, M.D., M.S.P.H., *Adjunct*
Pamela Viele, M.P.H., *Adjunct*
Stephen L. Volla, M.P.H., *Visiting*
John E. Ware, Ph.D., *Adjunct*
Lawrence G. Wayne, Ph.D., *Visiting*
Paul F. Wehrle, M.D., *Visiting*

The School of Public Health no longer offers a bachelor's degree. Students enrolled in an undergraduate program prior to Fall Quarter 1983 will continue under 1982-83 regulations for the degree.

The school offers graduate programs leading to both academic and professional degrees in public health and biostatistics and is now responsible for the administration of the graduate program in Environmental Science and Engineering, whose description immediately follows the public health programs.

Degrees Offered

Public Health	M.P.H., M.S. Dr.P.H., Ph.D.
Biostatistics	M.S., Ph.D.
Preventive Medicine and Public Health	M.S.*

*Not accepting new students at this time.

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, UCLA, Los Angeles, CA 90024. Both the School of Public Health Application for Admission to Graduate Status and the Graduate Division application must be completed. Three letters of recommendation are required, two from former professors and one from an employer (if no employer, three former professors) before an application is considered complete. It is your responsibility to ensure that the application file is complete.

Although the published deadline for graduate applications is December 30, 1983, for Fall Quarter 1984 admission, the school will also review applications received until March 31, 1984. Early application is recommended, however, to expedite review of both applications and funding requests.

Applicants must meet the University minimum of an acceptable bachelor's degree with a B average in upper division coursework and/or prior graduate study. 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 upon 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 GRE, MCAT, or DAT aptitude test. Applicants at the master's level require a minimum combined (verbal and quantitative) score of 1100. Applicants at the doctoral level need a minimum combined (verbal and quantitative) score of 1200. The analytical section is not required. If you are applying to the Biostatistics Program, contact that division. No screening examination is required for admission; however, specified courses are required by the Biostatistics, Environmental and Occupational Health Sciences, and Nutritional Sciences Divisions (see below). If your undergraduate coursework has been deficient in breadth of fundamental training, you will have to take specified undergraduate courses after admission.

Master's Applicants

In addition to the above general requirements, you must also have satisfied one of the following requirements for admission to the master's curriculum:

(1) Graduation with a doctoral degree from an approved professional or other health-related school.

(2) Graduation with a bachelor's degree from an approved college or university.

Your prior program of study should include adequate preparation in mathematics, physical sciences, biological sciences, and social sciences, and typically include two courses each in mathematics, biological sciences, social sciences; one course in physical sciences; and others that constitute an adequate preparation for the proposed area of specialization.

If your prior work in the biological, physical, mathematical, and social sciences does not constitute adequate preparation for your proposed area of specialization, you must include courses in those sciences in your graduate program; these may not be applied toward the minimum requirements for the degree.

Specific Concentration Requirements

(1) Students concentrating in environmental and occupational health sciences should have a bachelor's (or master's) degree in chemistry, physics, biology, engineering, or other appropriate field. Coursework should include three quarters of general chemistry (including quantitative analysis) and two quarters of organic chemistry and/or biochemistry, mathematics through calculus, three quarters of biological sciences, and three quarters of physics.

(2) Students whose field of concentration is to be nutritional sciences should have a bachelor's degree in biological or chemical sciences or an appropriate field, and 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 one quarter of bacteriology or microbiology), and two quarters of physics.

(3) Applicants interested in the health services management program in the Division of Health Services must be interviewed by a member of the faculty of the program. Prior to enrollment, you must demonstrate a basic competency in accounting either by taking an introductory accounting course or by passing a waiver examination administered by the program.

(4) Applicants interested in the population and family health program must have some prior experience in the health field (paid or volunteer).

(5) 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 eleven full courses, at least six of which must be graduate courses and at least two of which must be 400-series courses. Only one 596 course (four units) may be applied toward the six graduate courses; 597 and 598 courses may not be applied toward the degree. No more than 18 full courses may be required for the degree.

Mandatory core courses include Public Health 100A or 101A, 112, 130, and 150 or 155. Each core course may be waived if you have taken a similar course elsewhere and can pass the waiver examination.

In addition to the core courses, at least three (half or full) courses outside the 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), and five courses (20 units) chosen from Public Health 282, 287, 295, 481, and 484 or 181 are required. Individual and experimental courses may not be applied toward the required course units. Additional courses may be elected, in consultation with the faculty adviser, from within the department or in other schools/colleges at UCLA. Two years or six quarters are needed to complete the course requirements.

Biostatistics

Required courses include Public Health 100A, 100B, 100C, and 100D or 101A, 101B, 100C, and 100D; 200A; 401E or 401F; three courses from 403, 404, 405, 406; 402A, 402B (402B satisfies the requirement for field training). Public Health 211A and 211B are recommended. Elective courses should be chosen in public health, biomathematics, or mathematics.

Environmental and Occupational Health Sciences

Required courses include Public Health 150, 153 (required for students who have not taken a course in microbiology), 154, 156, 253A, 255, 256, 261A, 400. Courses 255 and 256 may be repeated for credit. Elective courses should be chosen in the 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, students take courses with emphasis in water quality; environmental management; air pollution; environmental epidemiology; environmental sciences and engineering; industrial hygiene; or environmental toxicology.

Students specializing in the environmental epidemiology track should substitute Public Health 114 and 211A (prerequisites for advanced epidemiology courses) for course 112 (see M.P.H. course requirements). Public Health 110 or 111 must be taken concurrently with course 114 unless the waiver examination is passed.

In addition to the required comprehensive examinations, you must take cumulative examinations on current environmental health topics. An examination will be offered once per quarter. Of a total of six attempts, you must pass three.

Epidemiology

Methodology/Chronic Diseases: Required courses include Public Health 100B, 210, 211A, 211B, 400 (for predoctoral students), 596 (for postdoctoral students), one-half or one course in behavioral sciences, and two additional courses from 211C, 212E, 212G, 212I, 212J, 213, 215A, 215B, 217, 221, 223, 225, 226, 227, 410A, 410B. (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.

Infectious and Tropical Diseases: Required courses include Public Health 100B, 210, 211A, 211B, 400 (for predoctoral students), 596 (for postdoctoral students), 212H, 216A, 216B, 218A, 218B, 220A, 220B, 222 (must be taken each quarter). Doctoral students holding a doctorate in an appropriate biomedical science may petition for waiver of course 400. You must submit a report on a project related to infectious and tropical diseases.

Health Services

Health Services Management (emphasis on health facility management, and finance and accounting): Public Health 131, 133, 139, 400, 430, 431, 432, 433, 434, 436, 437, 443D, 596 are usually required; Public Health 134, 231, 443E are recommended. Elective courses are selected in consultation with the faculty adviser.

Following the first three quarters of study, you are placed in health services management residencies throughout the Los Angeles area for a period of nine and one-half months.

Health Services Organization: An M.P.H. is available as a one-year program for students with prior doctoral degrees. Recommended courses are determined on an individual basis. No summer internship is required.

Health Information Systems: Organization of data for the planning, design, and implementation of health systems. Requirements are individually determined but generally include work with computer systems. A summer internship is required.

Nutritional Sciences

Emphasis is on community nutrition. Required courses include Public Health 163 (if waiver examination is passed, course requirement may be fulfilled through elective courses approved by the adviser), 165 or 261A, 260E, 260F, 260G, 260H, 262 or 263 (may be repeated for credit), 400, 460, 461, 463. Public Health 162, 264E, 264F, 462 are recommended. Elective courses should be chosen from Public Health 100B, 100C, 166A, 166B, 167, 173, 181, 270, Biology CM156, 177, Education 113.

Of the courses listed above, at least five graduate courses (200, 400, 500) and at least one seminar course (262, 263) are required.

A minimum of 56 units is required. It is expected that after the first quarter you will take a seminar each quarter (except for the quarter in which courses 400 and 463 are taken).

Population and Family Health

Emphasis is on population, family health and family planning, reproductive and women's health, family health (including maternal and child health, genetic counseling), international health (including nutrition). You are required to complete at least 12 units (for health professionals) or 16 units (for generalists) of divisional courses offered in selected tracks, plus Public Health 125, 171A, 171B, 400, 596. Elective courses are selected in consultation with the 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.

Students admitted to the genetic counseling specialized curriculum must take 72 units, including certain courses outside the department, and three quarters of fieldwork in the second year.

Comprehensive Examinations

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. Students in the Environmental and Occupational Health Sciences Division undertake cumulative examinations on current environmental health topics in addition to the above examinations (an examination will be offered once every quarter). Out of a total of six attempts, you must pass three cumulative examinations.

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 foreign or domestic students interested in international health. Faculty in all divisions of the school are actively involved in health-related programs in foreign settings, and many departments on campus have international, health-related interests and courses relevant to health occupations in cross-cultural settings.

If you are interested, specify the division most relevant to your skills area on your application, clearly indicating your international interests. You will be given an appropriate adviser and directed to the international health committee, which is interdivisional and promotes internationally oriented training and research. Its members consult with interested students and attempt to optimize the learning experience.

Cooperative Degree Programs

Following are descriptions of combined programs of study leading to the M.P.H. 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 a master's degree in public health. By planning the major field emphasis in public health while working toward the M.A. degree 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, African Studies Center, UCLA, Los Angeles, CA 90024, or to the Office of Student Affairs, School of Public Health, UCLA, Los Angeles, CA 90024.

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, Latin American Center, UCLA, and/or the Public Health/Latin American Studies Articulated Degree Program Adviser, School of Public Health.

M.B.A./M.P.H.

The School of Public Health, Division of Health Services, and the Graduate School of Management offer a three-year concurrent degree program designed for students who desire a management career in health care and related fields and who wish in-depth professional preparation for such a career. The program reflects the combined interest of employers, faculty, and students who have recognized the increasing challenges facing managers in the health care industry and the need for individuals who are skilled in dealing with these challenges. Students should request all application materials from the M.B.A. Admissions Office, Graduate School of Management.

Preventive Medicine Residency Program

An accredited residency in general preventive medicine is available to physicians through the School of Public Health. The residency is designed to prepare qualified physicians for leadership roles in public health practice and preventive medicine teaching and research. Completion of the program can lead to board eligibility in general preventive medicine — a specialty recognized by the American Board of Preventive Medicine.

The residency currently consists of at least two years of academic training and supervised field training in preventive medicine. The first year is comprised of formal studies for the Master of Public Health (generally in either epidemiology or health services). Other areas may be considered on an individual basis. Application must be made simultaneously for both the residency and admission to the School of Public Health for the M.P.H.

The field training year is individually organized for each resident's particular interests or needs. A variety of opportunities is available at UCLA and in the Los Angeles area, including close working relationships with the Los Angeles County Department of Health Services, the UCLA Center for Health Enhancement, and the Comprehensive Cancer Center. Residents may also undertake studies toward qualification for a more advanced degree in public health — the Dr.P.H. or Ph.D. — or do research in collaboration with members of the faculty. Physician applicants who have completed M.P.H. studies at an accredited school of public health may be admitted directly into the field training year. For further information, contact the Office of Student Affairs, School of Public Health.

Master of Science in Public Health

The Master of Science program provides research orientation within the general field of public health. It includes the preparation of a thesis or major written report.

Course Requirements

You must complete at least one year of graduate residence at the University of California and a minimum of ten full courses, at least five of which must be graduate courses in the 200 or 500 series. Only one 596 course (four units) and one 598 course (four units) may be applied toward the total course requirement; only four units of either course may be applied toward the minimum graduate course requirement. Course 597 may not be applied toward the degree requirements. No more than 18 full courses may be required for the degree.

Mandatory core courses include Public Health 100A, 100B, and 112. Each core course may be waived if you have taken a similar course elsewhere and can pass the waiver examination.

Only courses in which you receive a grade of C – or better may be applied toward the requirements for a master's degree. You must maintain an average of no less than 3.0 (B) in all courses required or elected during graduate residence at the University of California.

Areas of Specialization

Areas of specialization and typical course plans, in addition to mandatory courses, are listed below.

Behavioral Sciences and Health Education

Public Health 181, 182, 281, and five divisional core courses are usually required. Elective courses, chosen in consultation with an adviser, must include the Public Health 283 series and research methods courses. Normal program length is six quarters.

Environmental and Occupational Health Sciences

Required courses usually include Public Health 150, 153 (required for students who have not had a course in microbiology), 154, 156, 253A, 255 and 256 (may be repeated for credit), 261A, 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 chosen in the 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 graduate level (200 and 500). 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 in water quality; environmental management; air pollution; environmental epidemiology; environmental sciences and engineering; industrial hygiene; or environmental toxicology.

Students specializing in the epidemiology track should substitute Public Health 114 and 211A (prerequisites for advanced epidemiology courses) for course 112 (see M.S. course requirements). Public Health 110 or 111 must be taken concurrently with course 114 unless the waiver examination is passed.

In addition to the completion of the master's thesis, you are required to take cumulative examinations on current environmental health topics.

Epidemiology

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 (Public Health 212E, 212G, 212H, 212I, 212J, 213, 214, 215A, 215B, 225, 226, or others). Public Health 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 chosen in public health and biomedical sciences.

Infectious and Tropical Diseases: Required courses usually include Public Health 210, 211A, 211B, 212H, 216A, 216B, 218A, 218B, 220A, 220B, 222 (must be taken each quarter). Public Health 130 (for students planning to enter the Dr.P.H. program or to practice epidemiology in a health department) is recommended. Elective courses should be chosen from Public Health 214, 219, and relevant courses in public health and biomedical sciences.

Health Services

Emphasis is on health planning, health policy analysis, health services research for clinicians, health information systems.

Planning: Public Health 134, 136B, 138, 243, 248, 403, 444B, 445A-445B (summer internship), 596, plus one political science course and three management courses are usually required; Public Health 136A, 139, 231, 232, 235, 239, 240, 430, 437, 438, 440A, 447D, 447E are recommended.

Policy: Public Health 134, 138, 233, 238, 445A-445B (summer internship), 596, plus one evaluation course and two management courses are usually required; Public Health 231, 232, 235, 239, 240, 247, 403, 437, 438, 440A, 447D, 447E are recommended.

Research: Public Health 136A, 136B, 136C, 231, 232, 233, 234A-234B, 235, 238 are usually required; Public Health 131, 134, 138, 236, 240, 446, 447D, 447E are recommended.

Elective courses, selected in consultation with your adviser, should be chosen from recommended courses and others. A summer field placement (minimum 10 weeks) is required following the first three quarters of study. The equivalent of 18 full courses is required for completion of the M.S. degree.

Nutritional Sciences

Emphasis is on nutritional biochemistry. Required courses usually include Biological Chemistry 101A or 201A, 101B or 201B, Public Health 260E, 260F, 260G, 260H, 261A, 261B, 262, 596 (may be repeated for credit). Public Health 162, 165, 264E, 264F are recommended. Elective courses should be chosen from Physiology 100, Public Health 100C, 166A, 166B, 167, 181, 461, 462, Biology CM156, 177, Biological Chemistry M261.

You must complete a thesis. A minimum of 52 units is required. 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 the 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, and 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 (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 100C, 101A, 101B, 200A-200B-200C; any two courses from M201E, 201F, 201G, 201H, 201J, M201K, 201M, 204E, 402A, 402B; Mathematics 150A-150B-150C or 152A-152B.

Other courses in biostatistics or mathematical statistics, or in related areas such as biology, physiology, public health, management, or mathematics, are selected with the adviser's consent.

A written report and written comprehensive examination covering the above course material are required.

Statistical Health Data Management

Unless previously taken, the following courses must be included in the degree program: Engineering 10C, Public Health 100C, 101A, 101B, 200A-200B-200C, 203A, 203B, 403, 404 or 405, Mathematics 150A-150B-150C or 152A-152B. One public health course in a division other than Biostatistics is to be selected with the 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 the 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 the major field only. It is taken during the Spring Quarter of the academic year of your Public Health 200A-200B-200C sequence. If you fail the examination, you are allowed to repeat it only once.

Master of Science in Preventive Medicine and Public Health

The program is not admitting new students at this time.

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 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 core mandatory M.P.H. 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 doctoral admissions committee and the department Chair. Screening examinations may be required by each division.

Course Requirements

The course requirements in the major field depend upon the division and the field you choose. You must take a minimum of six full graduate courses (200 or 400) in at least two divisions outside the major division.

The major division requires an additional area of concentration, which may be either inside or outside the school. An equivalent field experience completed while a doctoral student and approved by 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

Public Health 100B, at least two advanced statistics courses, and at least four advanced courses from a list designed and offered by the division are recommended. Six full graduate courses (200 or 400 series) in at least two divisions other than the major division are required for breadth. The major division requires additional upper division and graduate courses from one of the following: anthropology, economics, education, psychology, or sociology. Elective courses should be chosen in consultation with the adviser.

Biostatistics

The Public Health 201 series (any two from this series in addition to the two covered in the qualifying examination), 203A, 203B, 207 series (any two), 401E, 401F, 403, and either 404, 405, or 406 are recommended. You are encouraged to participate in the biostatistics consulting laboratory for one quarter each year. Six full graduate courses (200 or 400 series) in at least two divisions other than the 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 the 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 the adviser. Six full graduate courses (200 or 400 series) in at least two divisions other than the 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

Recommended courses include 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.

Six full graduate courses (200 or 400 series) in at least two divisions other than the 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

From 48 to 72 quarter units beyond the master's degree are required. About one-third are 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.

Six full graduate courses (200 or 400 series) in at least two divisions other than the major division are required for breadth. The major division requires an additional area of concentration which may be either inside or outside the school (e.g., economics, political science, sociology, management).

Nutritional Sciences

Recommended courses include Biological Chemistry 101A or 201A, 101B or 201B, Public Health 260E, 260F, 260G, 260H, 261A, 262 and 263 (may be repeated for credit), 400, 461, 462, 463, 495, 596. Conversational Spanish is also recommended.

Six full graduate courses (200 or 400 series) in at least two divisions other than the 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, including the divisional doctoral seminar.

Six full graduate courses (200 or 400 series) in at least two divisions other than the major division are required for breadth. The major division requires an additional area of concentration which may be either inside or outside the school.

Qualifying Examinations

Before advancement to candidacy, you must pass written examinations in the major field, prepared and administered by the guidance committee or by the faculty of the division. Normally no more than one reexamination after failure is allowed. The doctoral committee is nominated after you have made a tentative decision on a dissertation topic. The doctoral committee 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 in 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 GRE; (2) completion of the M.S. in Public Health or an appropriately related field (students with an M.P.H. will 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 doctoral admissions committee and the department Chair. Screening examinations may be required by each division.

In the Division of Behavioral Sciences and Health Education, you must satisfy the divisional core requirements for the M.P.H. or M.S. in Public Health (depending upon 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 the major field depend upon the division and field you choose.

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. Students who enter the Ph.D. program from other master's programs are required to pass a written comprehensive examination within one year of admission.

Course Requirements

There are no specific course requirements. However, the program of study must be approved by the Division of Biostatistics and must include, at the graduate level, three areas of knowledge: biostatistics, mathematical statistics, and a third field such as biology, epidemiology, infectious diseases, medicine, microbiology, pharmacology, physiology, psychology, zoology, or public health. You are encouraged to participate in the biostatistics consulting laboratory for one quarter each year. Recommendation for the degree is based on your attainments rather than on the completion of specified courses.

Qualifying Examinations

Biostatistics requires a written screening examination of all students entering the doctoral program. This examination must be successfully completed before the end of the first year in the program, if not taken before entering the program.

Written examinations in biostatistics, mathematical statistics, and the 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. Any examination which is failed may be repeated once.

Final Oral Examination

A final oral examination is required of all candidates.

Doctor of Environmental Science and Engineering

The program leading to the D.Env. degree is administered and housed in the School of Public Health. Information on the program follows public health course listings below.

Lower Division Courses

18. Principles of Healthful Living. Analysis of health care issues as related to the health care consumer and the health care delivery system. Includes identification of health needs and clarification of personal responsibilities for health. Ms. Richards

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. Includes identification of health needs, determination of appropriate resources, delivery of preventive and self-care education, and delineation of peer health counselor's role.

Upper Division Courses

100A. Introduction to Biostatistics. Lecture, three hours; laboratory/quiz, two hours. Prerequisites: upper division standing and one course in biological or physical science. Students who have completed courses in statistics may enroll only by consent of instructor. Students with credit for course 101A will not receive credit for this course. 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.

100B. Introduction to Biostatistics. Lecture, three hours; laboratory/quiz, two hours. Prerequisites: course 100A or equivalent and consent of instructor. Students with credit for course 101B will not receive credit for this course. Introduction to analysis of variance, linear regression, and correlation analysis.

100C. Introduction to Biostatistics. Lecture, three hours; laboratory/quiz, two hours. Prerequisites: course 100B or equivalent and consent of instructor. Design of experiments, analysis of variance, multiple and polynomial regression analysis with biomedical applications.

100D. Introduction to Biostatistics. Lecture, three hours; laboratory, two hours. Prerequisites: course 100B or equivalent and consent of instructor. Introduction to concepts of probability used in biomedical sciences. Enumeration statistics and nonparametric methods. Comparison of nonparametric with analogous parametric tests. Discussion of power and sample size.

101A. Basic Biostatistics. Lecture, three hours; quiz, one hour. Prerequisite: Mathematics 31B or equivalent. Students with credit for course 100A will not receive credit for this course. Basic concepts of statistical analysis applied to biological sciences. Topics include random variables, sampling distributions, parameter estimator, statistical inference.

101B. Basic Biostatistics. Lecture, three hours; quiz, one hour. Prerequisite: course 101A. Students with credit for course 100B will not receive credit for this course. Topics include elementary analysis of variance, simple linear regression and correlation, nonparametric methods, elements of sequential analysis.

103. Statistics for Public Health. Lecture, three hours; laboratory, two hours. Prerequisites: upper division standing and one course in biological or physical science. Open to students in M.P.H. and nursing programs. Introduction to sources of demographic and health information, methods of calculating and interpreting vital and health statistics, and elementary methods for statistical inference.

110. Introduction to Medical Science. Prerequisite: one course in chemistry or other natural sciences. Recommended: one-year sequence in biology, physiology, or other biological science. An introduction to normal human physiology and disease processes.

111. Human Disease and Public Health. Lecture, three hours; discussion, three hours. Prerequisites: upper division standing and one course in biological or physical science. Study of the mechanisms underlying human diseases, disorders, and defects, including genetic, mental, social, environmental, infectious, nutritional, and degenerative, and their public health implications. Mr. Schacher

112. Principles of Epidemiology. Lecture, two hours; laboratory, four hours. Prerequisite: course 110 or 111. Students with credit for course 114 will not receive credit for this course. Introduction to epidemiology, including factors governing health and disease in populations.

113. Infectious Diseases and Public Health. Lecture, three hours. Prerequisites: upper division standing and one course in biological or physical science. Infectious diseases of public health importance, emphasizing modes of transmission and control of etiologic agents. Mr. Schacher

114. Epidemiology I. Lecture, two hours; laboratory, four hours. Prerequisites: courses 100A (may be taken concurrently), 110 or 111, and consent of instructor. Students with credit for course 112 will not receive credit for this course. Introduction to epidemiology, including factors governing health and disease in populations.

M115. Disease Problems of Socioeconomic and Political Impact in Latin America. (Same as Latin American Studies M155.) Lecture, six hours; discussion, six hours. Prerequisite: one upper division course in Latin American studies. Social, economic, and political impact of important disease problems in Latin American countries. Mr. Work

116. Epidemiology of Nosocomial Infections. Prerequisites: course 112 or Microbiology 110 and consent of instructor. An introduction to the epidemiology of hospital-acquired bacterial, fungal, and viral infections.

125. Applied Social Science Methodology. Prerequisites: course 100A or equivalent and consent of instructor. Applied procedures for conducting research in family health. A research design comprises one of the course requirements. Ms. Bourque

130. Health Services Organization. Prerequisite: four units of social science. Structure and function of American health care system; issues and forces shaping its future.

131. Structure and Function of Health Care Facilities. Lecture, two hours; discussion, two hours. Prerequisites or corequisites: course 130 and consent of instructor. Introduction to structure, organization, and function of health care facilities. Mr. Ross

133. Interpersonal Dynamics in Health Services Management (½ course). Prerequisites: one undergraduate course in sociology or psychology and consent of instructor. An introduction to the application of behavioral science theory to understanding the interpersonal dynamics of health care facilities and their management. Mr. Pointer, Mr. Ross

134. Introduction to Comprehensive Health Planning. Lecture, four hours; fieldwork, four hours. Prerequisite: one upper division course in microeconomics, statistics, calculus or political science. Concepts underlying health planning, state of the art, and some relevant literature.

M135. Organization of Medical Practice (½ course). (Same as Medicine M158.) Prerequisites: course 130 and graduate standing in public health, medicine, or nursing. Education and certification of medical practitioners. Organization of medical practice: solo, group, HMO. Doctor-patient relationships, medical ethics, economics, professional liability, health care evaluations. Mr. Goodman

136A. Introduction to Health Services Research. Prerequisites or corequisites: courses 100A and 110 or equivalent, and consent of instructor. Review of the field of health services research. Uses of quantitative methods and the applications of conceptual-theoretical constructs (as well as methodologies) from social and behavioral sciences and epidemiology to studies of the workings of health services. Mr. Lewis

136B. Practices of Evaluation in Health Services: Theory and Methodology. Prerequisites: course 136A or equivalent and consent of instructor. Introduction to health services evaluation. Examine and perform specific evaluation procedures. Conduct health services investigations and evaluations; communicate results and methodologies.
Ms. Fink, Ms. Kosecoff

136C. Social Experimentation as a Research Tool for Health Care Policy. Prerequisites: courses 136A, 136B, or equivalent, and consent of instructor. Economic and psychometric issues underlying social experimentation in health care. Topics include relation of demand to insurance; role of regulation; relation of health insurance to health status; reliability of health status; approach to measurement validation and scale construction.
Mr. Greenfield, Mr. Newhouse, Mr. Ware

137. Managing Human Resources in Health Facilities and Programs. Prerequisites: one course in social science and consent of instructor. Didactic and experimental study of management of human resources in health-related organizations and programs. Mr. Ross

138. Politics of Health Care. Prerequisites: one course in social science and consent of instructor. Concepts and procedures for political analysis; national, state, and local politics in health care; examination of selected case studies. Mr. Cameron

139. Quantitative Methods for Decision Making in Health Services. Prerequisites: courses 100A, 110, 130, and consent of instructor. Decision theory and use of statistics in decision making. Decision theory includes frameworks for decision making and control, decision under uncertainty, utility theory, Bayes' theorem, and value of information. Statistical topics include communicating with statistics, measures of association, regression, analysis of variance, and forecasting. Ms. Cretin

140A-140B. Health Record Science. Lecture, two hours; laboratory, two hours. Prerequisites: Biology 5 or equivalent and 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 are studied and evaluated according to their use in varied situations.

141. Financial and Managerial Accounting for Health Services Organizations. Prerequisites: course 130 or equivalent and consent of instructor. An introduction to financial and managerial accounting and its application to the health services industry.
Mr. Coyne

143. Integrating Medical and Fiscal Records in Health Institutions. Prerequisites: course 140A, Management 403, or equivalent, and consent of instructor. The course will explore the patient charge system from admission through collection. The interfacing of patient medical records and patient fiscal records will be 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 problem. Mr. Chansky

145. Society's Response to Aging. Prerequisites: courses 130, 180, 183, or equivalent, and consent of instructor. Relationship of changing age structure in America to family, economy, politics, health care, retirement, age stratification, death and dying.
Mr. Wales

150. Environmental Health. Lecture, three hours; discussion, one hour. Prerequisites: Chemistry 11A, Biology 5, Mathematics 3A, Physics 3A or 6A. Broad coverage of environmental health, including airborne and waterborne pollutants; pollutants from urban industrial and agricultural wastes; pollution from pesticide chemicals, mining, and energy production and consumption; chemical food additives; 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, and 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: Chemistry 25, Biology 7, or equivalent, and 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 environmental effluents. Mr. Mah

154. Environmental Management. Lecture, four hours; discussion, one hour. Prerequisites: Economics 100, Political Science 142 or 143, or equivalent, and consent of instructor. Introduction to foundations and principles of environmental management, decision making, and evaluation of environmental policies and programs. Mr. Davos

155. Introduction to Environmental Health (½ course). Prerequisites: one college course in chemistry or biology or equivalent courses and 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. Mah and the Staff

156. Introduction to Occupational Safety and Health. Prerequisites: Chemistry 21 and Biology 5, or equivalent, and consent of instructor. The course addresses scientific, legal, policy, and historical issues in occupational health and introduces students to various related disciplines (e.g., occupational medicine, nursing, industrial hygiene, toxicology, epidemiology, and health education). Two field trips will be taken.
Mr. Froines

157E. Properties and Measurement of Airborne Particles. Lecture, three hours; laboratory, two hours. Prerequisites: one year of chemistry, physics, and mathematics (through calculus), and consent of instructor. Basic theory and application of aerosol science to environmental health, including properties, behavior, sampling, and measurement of aerosols and quantitative problems. Laboratory is for industrial hygiene majors only. Mr. Hinds

160. Principles of Food and Nutrition (½ course). Prerequisites: one course in biology, chemistry, or physiology and consent of instructor. Not open for credit to students specializing in nutrition. Principles of nutrition and nutritional requirements for normal growth and development. Ms. Alfin-Slater

161. Nutrition and Health (½ course). Prerequisites: course 110 or 160 or equivalent and consent of instructor. Not open for credit to students specializing in nutrition. Basic and clinical nutrition theory and practice for students in health science curricula.
Ms. 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. Hunt

163. Biologic Processes. Lecture, three hours. Prerequisites: one year of organic chemistry, Biology 7. Metabolism of carbohydrates, proteins, and other nitrogen compounds and lipids; role of hormones and enzymes in metabolism; physiological processes.
Ms. Alfin-Slater

165. Clinical Nutrition Laboratory (½ course). Discussion, one hour; laboratory, four hours. Prerequisites: one course in quantitative analysis or equivalent, one year of organic chemistry, Biology 7, and consent of instructor. Analytical procedures for determining the various constituents of blood and urine.
Mr. Eckhert

166A. Therapeutic Nutrition (½ course). Prerequisites: courses 162, 163, or equivalent, and 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 (½ course). Prerequisites: course 166A and consent of instructor. Recent findings in the field of diet and disease and modifications made in normal diet for pathological conditions.
Ms. Carlisle

167. Biologic Processes: Physiology and Nutrition. Lecture, three hours. Prerequisites: course 163 and consent of instructor. Metabolism of lipids, carbohydrates, and proteins; role of hormones and enzymes in metabolism; physiological processes occurring in various organs. Ms. Alfin-Slater

170. Family Health and Biosocial Development. Lecture, two hours; discussion, two hours. Prerequisites: Psychology 130 or Physiology 100 or equivalent and 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

170A. Genetics and Public Health. (Formerly numbered 198.) Lecture, three hours; discussion, one hour. Prerequisites: one course in biology and 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. Alfi

171A. Family Health and Population: Principles and Issues. Prerequisites: course 110 or 111 or equivalent and consent of instructor. The course covers (1) biosocial aspects of family formation, reproductive physiology and behavior, "at risk" aspects of pregnancy and childbirth, and primary women's health care services and (2) 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 and consent of instructor. The course covers (1) considerations of population growth, trends in domestic and international mortality, international migration, women's health issues, family planning and (2) child health issues in the U.S. and MCH/family problems, programs, and policy in developing Third World countries.

172. Introduction to Reproductive Health. Lecture, two hours; discussion, two hours. Prerequisites: course 110 or equivalent and consent of instructor. Review of reproductive physiology, normal and abnormal pregnancy, family planning, male-specific and female-specific health problems, including health care and psychosocial considerations.
Ms. Moore

174E. Health, Disease, and Health Services in Latin America. Prerequisite: one upper division course in Latin American studies or course 110. Introduction to health, disease, and health services in Latin America, with emphasis on epidemiology, health administration, medical anthropology, and nutrition.
Ms. Scrimshaw

174H. Public Health in the People's Republic of China (½ course). Lecture, four hours. Prerequisites: course 130 or equivalent or two upper division or graduate courses in social or behavioral science or medical science and consent of instructor.

176. Human Sexuality and Sexual Health. Lecture, three hours; discussion, one hour. Prerequisites: two courses in behavioral and/or life science and consent of instructor. Interdisciplinary review of sexual physiology and sexual behaviors is followed by consideration of pregnancy and its prevention, sexual dysfunction, and sex-transmitted disease. Psychosocial, cultural, political, and health care aspects are included. Ms. Moore

176E. Family and Sexual Violence. Lecture, three hours; field trip. Prerequisites: courses 111, 130, and consent of instructor. The course examines 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, are presented. Ms. Moore, Mr. Richwald

177A. Principles of Genetic Counseling (½ course). (Formerly numbered 177.) Prerequisites: course 170 or 171A, and Biology 8. Theoretical basis, current research, and practical considerations and techniques of counseling, especially as practiced in genetics settings. Mr. Katz

177B. Principles of Genetic Counseling (½ course). 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. Mr. Katz

177C. Principles of Genetic Counseling (½ course). Prerequisites: courses 171A, 177A, and consent of instructor. Evaluation of counseling process and outcome; clinical research; the counselor as a team worker; ethical and administrative issues. Mr. Katz

178. Legal Aspects of Family Health (½ course). Prerequisites: course 170 and consent of instructor. Analysis and clarification of legal issues involving family health services, including family planning, sterilization, abortion, dental care for children, battered child laws, mental hospitalization, personnel and standards for care and implementation of sound health programs. Ms. Roemer

179A. Health Problems and Programs in Africa (½ course). Lecture, one hour; discussion, one hour. Prerequisites: one course from Public Health 110, History 175A-175Z, 176A, 176B, 177, 178A, 179A, 275, 278A, Anthropology M168, 171, 271, Political Science 166A, C250E, Geography 122, 188, 189, 288, 289, or equivalent, and consent of instructor. Consideration of traditional beliefs about illness and treatment, factors affecting health status in Africa, major health problems, and some programs proposed as remedies.

179B. African Health Sector Analysis Seminar (½ course). Prerequisite or corequisite: course 179A. Approach is that of a multidisciplinary team analyzing the health sector of a representative African country to determine needs and priorities for external aid.

180. Introduction to Public Health. Prerequisite: four units of life science. Principles of public health. Analysis of demographic, professional, organizational, fiscal, social, and research features. Covers health, mental health, environmental health, and consumer protection fields. Mr. Wilner

181. Introduction to Social Research Methods in Health. Lecture, four hours; assignments, eight hours. Prerequisites: course 100A or equivalent and consent of instructor. Basic methods and techniques in designing and conducting health research using a variety of methods. Includes discussions of students' own research plans.

182. Behavioral Sciences and Health. Lecture, three hours. Prerequisite: one course in social science. 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, Mr. Kar

183. Community Health Education. Lecture, two hours; discussion, two hours. Prerequisites: one course in social science and consent of instructor. Problems of social, economic, and cultural origin as they apply to sound community organization in the public health field. Examination of health education activities of professional, voluntary, and official health agencies and analysis of their interrelationships. Mr. Berkanovic, Mr. Brown

184. Health and Consumer Economics. Lecture, three hours. Prerequisites: Economics 1 and 2, or 100, upper division or graduate standing. Impact of health problems and costs on individual and family incomes and expenditures, including productivity and dependency. Mr. Rada

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. Mr. Rada

186. The World's Population and Food. Lecture, three hours. Prerequisites: Economics 1 and 2, or 100, upper division or graduate standing. World food sources; major food groups, human food requirements, and consumption; food in developing economies; international movement of foods; interrelations of foods, population, and economic progress. Mr. Rada

187. Health Education for Teacher Credentials (½ course). 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, and community health resources.

188. Community Mental Health. Prerequisites: one upper division course in psychology, sociology, or anthropology and consent of instructor. Concepts of mental health, mental illness, prevention of mental disorders, mental health in public health programs. Public health aspects of control of mental disorders. Epidemiology, program planning, and legal aspects of mental disorders.

189. Community Cancer Education. Lecture, two hours; discussion, one hour; fieldwork, one hour; reading assignments, one hour. Prerequisites: Biology 30 or equivalent and consent of instructor. Exploration of the process of cancer education through community resources, culminating in student-generated community field study proposal and presentation.

199. Special Studies (½ to 1 course). Prerequisites: senior standing, consent of instructor and department Chair (based on a written proposal outlining the course of study). Individual undergraduate guided studies under direct faculty supervision. Study to be structured by instructor and student at time of initial enrollment. Only four units may be taken each quarter.

Graduate Courses

200A-200B-200C. Biostatistics. Lecture, three hours; discussion, one hour. Prerequisites: course 100C, Mathematics 32B, 152B, or equivalent (certain prerequisites may be taken concurrently or waived by consent of instructor). Quantitative methods in public health, medicine, and biological sciences; statistical theory and application to problems in design and analysis of medical experiments and surveys.

M201E. Special Topics: Statistical Methods for Categorical Data. (Same as Biomathematics M231.) Lecture, three hours; discussion, one hour. Prerequisites: course 100B or 101B, Mathematics 150C or 152B, or equivalent, and consent of instructor. Statistical techniques for the analysis of categorical data; discussion and illustration of their applications and limitations. Mr. Korn (W)

201F. Special Topics: Distribution Free Methods. Lecture, three hours; discussion, one hour. Prerequisites: course 100D or 101B, Mathematics 150C or 152B, or consent of instructor. Theory and application of distribution free methods in biostatistics.

201G. Special Topics: Statistical Simulation Techniques. Lecture, three hours; discussion, one hour. Prerequisites: course 100C, Mathematics 150C or 152B, a course in computer programming, and consent of instructor. Techniques for simulating important statistical distributions, with applications in biostatistics.

201H. Special Topics: Finite Population Sampling. Lecture, three hours; discussion, one hour. Prerequisite: course 100D or Mathematics 150C or 152B. Theory and methods for sampling finite populations and estimating population characteristics.

201J. Special Topics: Supplemental Topics. Lecture, three hours; discussion, one hour. Prerequisites: course 100C and consent of instructor. Topics in biostatistics not covered in other courses.

M201K. Survival Analysis. (Same as Biomathematics M281.) Lecture, three hours; discussion, one hour. Prerequisites: 100C and Mathematics 150C or 152B, or equivalent, and consent of instructor. Statistical methods for the analysis of survival data. (W)

201M. Introduction to Statistical Methods for Biological Assays. Prerequisites: course 100C and Mathematics 150C or 152B. Topics include standard statistical procedures for the estimation of relative potency, density of microorganisms, and density of radioactivity, models used for these procedures, and statistical considerations for designing such assays.

M202E. Problems of Statistical Consultation. (Same as Biomathematics M282.) Lecture, two hours; discussion, one hour; laboratory, two hours. Prerequisite: graduate course in applied statistics. Textbook and original problems requiring special expertise in design and analysis. Computer packages are used to diagnose failure of assumptions, suitability of models, and alternate analysis. Mr. Dixon

203A. Data Base Management Systems. Lecture, three hours; laboratory, two hours. Prerequisites: course 403 or equivalent and consent of instructor. Data base and data base models applied to medical and public health studies; design of data bases for efficient data retrieval and statistical analysis using package data base management and statistical package programs.

203B. Systems Analysis for Health Data. Lecture, three hours; laboratory, two hours. Prerequisites: course 203A and 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 (½ course). Prerequisites: course 200B, two courses from the M201E-201J series, and consent of instructor. Students present and discuss current developments of methodology and problems in applications of biostatistics.

204F. Advanced Seminar in Biostatistics (½ course). Prerequisites: course 200C and consent of instructor. Students and faculty present and discuss current research in biostatistics. May be repeated for credit. S/U grading.

M205A-M205B-M205C. Linear Statistical Models. (Same as Mathematics M279A-M279B-M279C.) Lecture, three hours. Prerequisites: course 100C, and 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. Prerequisite: course M205A or equivalent. Multivariate analysis as used in biological and medical situations. Topics from component analysis, factor analysis, discriminant analysis, analysis of dispersion, canonical analysis.

207E. Advanced Topics: Stochastic Processes. Lecture, three hours. Prerequisites: upper division mathematics, including statistics and probability. Stochastic processes applicable to medical and biological research.

207F. Advanced Topics: Mathematical Epidemiology. Lecture, three hours. Prerequisites: course 207E or equivalent and 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.

207H. Statistical Methods for Research Biological Assays. Prerequisite: course 201M. Topics include statistical methods developed for research assays for which the standard procedures do not apply.

M207J. Computational Statistics. (Same as Biomathematics M280 and Mathematics M280.) Lecture, three hours. Prerequisites: Mathematics 115 and 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.

207L. Advanced Topics: Recent Developments. Lecture, three hours; discussion, one hour. Prerequisite: course 200C. Advanced topics and developments in biostatistics not covered in the Public Health 201 or 207 series, or in other courses. Possible topics include time-series analysis, classification procedures, correspondence analysis, etc.

210. Principles of Infectious Disease Epidemiology. Lecture, three hours. Prerequisites: courses 100A or equivalent, 112, one-year sequence of biology and chemistry, and consent of instructor. Ascertainment of infection, transmission, and epidemiological parameters rather than clinical and pathological aspects. Specific diseases discussed in depth to illustrate epidemiologic principles. Mr. Barr

211A. Epidemiology II. Lecture, two hours; laboratory, four hours. Prerequisites: courses 100B (may be taken concurrently), 114, and consent of instructor. Discussion of study designs, research methodology, problems of measurement, and analytic techniques used in epidemiologic research.

211B. Advanced Epidemiology. Lecture, two hours; laboratory, four hours. Prerequisites: course 211A, graduate standing, and consent of instructor. A continuation of course 211A, with concentration on selection of appropriate research design, problems of measurement, and analytic techniques commonly used in epidemiologic studies.

211C. Advanced Epidemiologic Analysis. (Formerly numbered 298.) Lecture, two hours; laboratory, four hours. Prerequisites: courses 100C or 100D and 211B, or equivalent, and consent of instructor. Advanced principles and methods of epidemiologic analysis. Topics include relating prevalence and incidence, analysis of clustering and seasonality; measures of effect, sources of bias, regression to the mean, estimation and hypothesis testing in epidemiology; models for risk and rates; cohort analysis. Mr. Greenland

212E. Epidemiology of Cardiovascular Disease (½ course). Lecture, one hour; discussion, one hour. Prerequisites: course 211A and consent of instructor. Theoretical, practical, and controversial aspects of cardiovascular epidemiology in developed and underdeveloped countries.

212G. Epidemiology of Neurologic Disease (½ course). Prerequisites: course 211B or equivalent and consent of instructor. Epidemiologic characteristics of selected chronic neurologic diseases, with particular emphasis on etiology and possible control. Ms. Visscher

212H. Epidemiology of Arthropod-Borne Disease. Prerequisites: course 211B and graduate standing. Epidemiologic aspects of disease carried by arthropods, emphasizing life cycle and ecology of vectors as related to epidemiology of viral, rickettsial, bacterial, protozoal, and helminthic diseases. Mr. Barr

212I. Epidemiology of Injuries (½ course). Lecture, one hour; discussion, one hour. Prerequisites: courses 100A, 110 or 111, 112 or 114, 155, or equivalent, and consent of instructor. Epidemiologic aspects of nonintentional injury, homicide, and suicide; concepts and models in injury etiology; risk factors in injury production; magnitude and impact of injuries on society. Evaluation of preventive strategies in injury prevention. Mr. Kraus

212J. Occupational Epidemiology. Lecture, two hours; discussion, two hours. Prerequisites: course 211A or equivalent and consent of instructor. Methodological considerations, approaches, and limitations in epidemiological studies of occupational groups and environments. Mr. Kraus

213. Environmental Epidemiology. Prerequisites: courses 100B, 112, Chemistry 21, Physics 3C or equivalent, graduate standing, and consent of instructor. Methodologic problems and approaches of epidemiology for assessing the health impact of major types of environmental exposure. Mr. Spivey

214. Infectious and Tropical Disease Epidemiology. Lecture, three hours; discussion, three hours. Prerequisites: courses 100A, 112, 113, or equivalent, and consent of instructor. Epidemiology of major infectious and tropical diseases in developing countries, including those with direct or contact mode of spread and those vector borne. Mr. Schacher, Mr. Work

215A. Epidemiology of Cancer. Prerequisites: courses 100A, 112, and consent of instructor. Etiological concepts and mechanisms. Pathogenesis, diagnosis, and classification of neoplastic diseases. Epidemiologic principles and methods as applied to cancer. Classical studies in cancer epidemiology. Models of causal association. Mr. Haile

215B. Epidemiology of Cancer (½ course). Lecture, one hour; discussion, one hour. Prerequisites: course 215A and consent of instructor. Current issues in cancer epidemiology, including etiologic research, screening programs, prevention. Mr. Haile

216A. Ecology of Exotic Diseases. Lecture, two hours; discussion, six hours. Prerequisites: course 112, Microbiology C103A and C103B, or equivalent, and consent of instructor. Geographic pathology and behavioral causes of exotic diseases. Climatological, ecological, and biological determinants of the distribution, exposure to, and occurrence of exotic diseases. Mr. Work

216B. Viral Diseases of Man. Lecture, two hours; laboratory, six hours. Prerequisites: course 216A or equivalent and consent of instructor. Viral and rickettsial diseases of man. Natural history, epidemiology, diagnosis, control, and prevention of these diseases, especially in tropical situations. Mr. Work

217. Prevalence Studies in Epidemiology. Lecture, two hours; discussion, one hour; laboratory, two hours; outside assignments, ten to twelve hours. Prerequisites: courses 100B, and 211A or 181, or equivalent, and consent of instructor. Design, testing, field use, analysis, and interpretation of data collection instruments to obtain prevalence estimates in epidemiologic studies of populations and samples. Includes design and administration of questionnaires, interviewing procedures, and the application of noninvasive objective measurements. Ms. Bourque, Ms. Coulson

218A. Protozoal Diseases of Man. Prerequisites: Microbiology 101 or Biology 105 or equivalent and consent of instructor. Comprehensive overview of systematics, morphology, biology, host-parasite relationships, public health problems, and control of protozoa parasitic in man and animals. May be taken concurrently with course 218B. Mr. Ash

218B. Protozoal Diseases of Man (½ course). Prerequisite or corequisite: course 218A. Laboratory methods of diagnosis and microscopic recognition of protozoa parasitic in man and animals. Includes intestinal protozoa and organisms occurring in the blood and tissues of their hosts and pathology associated with these infections. Mr. Ash

219. Arthropods of Medical Importance. Lecture, two hours; laboratory, six hours. Prerequisites: Biology 105 or 107 and 181, Microbiology 101, or equivalent. Biology and identification of mites and insects of public health importance involved in transmission and causation of human diseases. Mr. Barr

220A. Helminthic Diseases of Man. Prerequisites: Microbiology 101 or Biology 105 or equivalent and consent of instructor. Comprehensive overview of systematics, morphology, biology, host-parasite relationships, public health problems, and control of the nematodes, trematodes, and cestodes parasitic in man and animals. May be taken concurrently with course 220B. Mr. Ash

220B. Helminthic Diseases of Man (½ course). Prerequisite or corequisite: course 220A. Laboratory diagnosis and practical microscopic recognition of the nematodes, trematodes, and cestodes parasitic in man and animals. Pathology produced by these infections is also studied. Mr. Ash

221. Seminar in Epidemiology: Methodology (½ course). Prerequisites: course 211A or equivalent and consent of instructor. Review of current epidemiologic research contained in recent medical literature. May be repeated for credit. S/U grading.

222. Seminar in Epidemiology: Infectious and Tropical Disease (½ course). Prerequisites: course 211A or equivalent and consent of instructor. Review of research on specific diseases of public health importance. May be repeated for credit. S/U grading.

223. Topics in Theoretical Epidemiology (½ course). Prerequisites: courses 100A and 100B and 100D (or Mathematics 152A), 211A, 211B, and consent of instructor. Selected topics from current research areas in epidemiologic theory and quantitative methods. Topics selected from biologic models, epidemiologic models, problems in inference, model specification problems, design issues, analysis issues, and confounding. May be repeated for credit by consent of instructor. S/U grading. Mr. Greenland

224. Principles of Epidemiology II. Lecture, four hours; discussion, two hours. Prerequisites: courses 100A, 112, upper division biology course, or equivalent, and consent of instructor. Material presented in course 112 will be examined in greater detail. Topics include measures of disease occurrence and criteria of causality; reliability and validity concerns; proper design, analysis, interpretation of experiments, and cohort and case control studies. Mr. Haile

225. Research Methods in Cancer Epidemiology (½ course). Prerequisites: courses 100A, 112, 211A. Biologic, quantitative, philosophical, and administrative considerations in epidemiologic cancer research. Hypothesis specification and choice of study design. Uses of descriptive epidemiology, cohort studies, case control studies. Clustering, screening, and cancer control. Means of identifying subjects and controls. Design of instruments. Sources of bias and confounding. Mr. Mack

226. Genetic Epidemiology (½ course). Prerequisites: courses 100A, 112, upper division biology course, or equivalent, and consent of instructor. Proper design, analysis, interpretation, and application of analytical methods used by genetic epidemiologists, including studies of familial prevalence, twins, migrants, genetic marker-disease associations, and more complex analyses of genetic models. Mr. Haile

227. Public Health Research Using Available Data (½ course). Lecture, one hour; discussion, one hour. Prerequisites: courses 100A, 110 or 111, 112, and 410A or 403 or 217 or 405, or equivalent, and consent of instructor. Presentations and discussions of the availability, concepts, content, and usefulness of already collected data in public health research. Major emphasis will be on public data such as National Center for Health Statistics surveys, vital statics, census, etc. Ms. Coulson

229. Advanced Seminar in Epidemiology (½ course). Prerequisites: course 211B and consent of instructor. Students and faculty present and discuss current research in epidemiology. May be repeated for credit. S/U grading.

231. Regulation of Health Care in the United States. Lecture, three hours; discussion, one hour. Prerequisites: course 130, one course in health care management, health planning, political science, economics, or health law, or equivalent, and consent of instructor. Description and analysis of health care regulation by federal and state governments. Covers regulatory theory and arguments for more competition. Specific topics include facility certification, quality assurance, certificate of need, rate setting, and regulation of physicians and technology. Mr. Fielding

232. Governmental Health Services and Trends. Prerequisites: course 130, two additional upper division social or behavioral sciences courses, and consent of instructor. Systematic analysis of the interface between organized programs of personal health services and governmental agencies at all jurisdictional levels. Study of changing relationships between traditional public health and newer medical care and quality control functions. Mr. Shonick

233. Health Policy Analysis. Lecture, two hours; discussion, two hours. Prerequisites: course 130 or equivalent, three courses in social sciences, and 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. Mr. Cameron

234A-234B. Clinical Epidemiology (½ course each). Prerequisites or corequisites: courses 100A, 112, 136A, and 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 courses in political science or sociology or equivalent, and consent of instructor. Legal issues affecting policy formulation for environmental, preventive, and curative health service programs are examined. Ms. Roemer

236. Quality Assessment and Assurance. Lecture, 90 minutes; discussion, 90 minutes; conference, one hour. Prerequisites: courses 100A, 112, 130, one additional course in health services or epidemiology, or equivalent, and consent of instructor. Fundamental issues in quality assessment, quality assurance, and the measurement of health status. Mr. Brook

237A-237B. Special Topics in Health Services Research Methodology. Lecture, one hour; discussion, three hours. Prerequisites: courses 100A, 100B, 100C, 130, or equivalent, and consent of instructor. In-depth consideration of problems in the application of statistical and other quantitative methods in health services research. Students and faculty critique adequacy of study designs, appropriateness of analyses, and degree to which conclusions are supported by data. S/U grading. Ms. Cretin, Mr. Shonick

238. Microeconomic Theory of the Health Sector. Prerequisites: courses 100A or equivalent, 232, Economics 1, 2, and consent of instructor. Microeconomic aspects of the health care system, including health manpower substitution, choice of efficient modes of treatment, market efficiency, and competition. Mr. Schweitzer

239. Aging and Long-Term Care. Prerequisites: courses 130, 138, 182, or equivalent, and consent of instructor. Long-term care of the chronically ill elderly is 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. Kane

240. Health Care Issues in International Perspective. Prerequisites: two courses in health administration, two upper division courses in social sciences, or equivalent, and consent of instructor. Analysis of crucial issues in health care; manpower policy, economic support, health facilities, patterns of health service delivery, regulation, planning, and other aspects of health care systems are probed in the settings of European welfare states, developing nations, and socialist countries. Mr. Roemer

243. Issues in Health Planning. Discussion, three hours; other, three hours. Prerequisites: courses 181 or equivalent research course and 444B. In-depth presentation and analysis of current issues of importance to advanced students in health planning.

247. Research Topics in Health Economics. Prerequisites: courses 130, 238, 446 or equivalent, and 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, and consent of instructor. General planning theory and health planning theory, methods, and experience with planning for personal health care resources for small geographic areas. Determining needs and estimating required utilization levels and health care resources. Survey of elements of different disciplines used in areawide 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 and 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

251. Chemical Behavior of Aquatic Systems. Lecture, three hours. Prerequisites: course 150, Chemistry 11A, Mathematics 3A, and consent of instructor. Chemistry of ocean waters, rivers, ground waters, and water treatment systems. Topics include thermodynamics of natural waters, acids and bases, carbon dioxide cycle, solubility reactions, oxidation and reduction, plus applied problems. Ms. Valentine

252. Environmental Microbiology. Lecture, three hours. Prerequisites: courses 150 and 153, or equivalent, and consent of instructor. Basic concepts of eutrophication, indicator organisms, aquatic microbes; assessment of biological treatment practices in water reuse and/or purification. Mr. Mah

253A. Environmental Toxicology. Lecture, three hours; discussion, one hour. Prerequisites: Chemistry 152, Biological Chemistry 101A-101B, and consent of instructor. Essentials of toxicology, dose response, physical, chemical, or biological agents that adversely affect man and environmental quality. Mr. Froines, Mr. Mustafa

253B. Environmental Toxicology: Trace Contaminants. Lecture, three hours; discussion, one hour. Prerequisite: course 253A. Essentials of toxicology in relation to trace contaminants.

254. Environmental Decision Systems Analysis. Lecture, four hours; discussion, one hour. Prerequisites: courses 154, 250, Mathematics 3C, or equivalent, and consent of instructor. Techniques and models of systems analysis and concepts of general system theory as applied to comprehensive study, planning, evaluation, and management of environmental decision systems. Experimentation with relevant computer programs. Mr. Davos

255. Seminar in Environmental Health Sciences (½ course). Prerequisites: courses 150, 156, and consent of instructor. A presentation in seminar format of theoretical and practical aspects of environmental and occupational sciences currently being conducted in local, state, federal, and academic settings. May be repeated for credit. S/U grading.

256. Seminar in Health Effects of Environmental Contaminants (½ course). Prerequisites: Biological Chemistry 101A-101B or equivalent and consent of instructor. Emphasis on health effects of air, water, environmental pollutants on man and review of research literature. May be repeated for credit.

258. Instrumental Methods in Environmental Sciences. Lecture, two hours; laboratory, six hours. Prerequisites: courses 150, 153, 156, Chemistry 25, and consent of instructor. Laboratory techniques and instrumentation used in the preparation and analysis of biological, environmental, and occupational samples. Ms. Valentine

260E. Advanced Nutrition: Vitamins. Lecture, three hours; discussion, one hour. Prerequisites: Biological Chemistry 101A-101B-101C or equivalent and consent of instructor. Comprehensive treatment of vitamin nutrition and metabolic-nutrient interactions. Ms. Swendseid

260F. Advanced Nutrition: Proteins. Lecture, three hours; discussion, one hour. Prerequisites: Biological Chemistry 101A-101B-101C or equivalent and consent of instructor. Comprehensive treatment of protein nutrition and metabolic-nutrient interactions. Ms. Swendseid

260G. Advanced Nutrition: Lipids. Lecture, three hours; discussion, one hour. Prerequisites: Biological Chemistry 101A-101B-101C or equivalent and consent of instructor. Comprehensive treatment of lipid nutrition and metabolic-nutrient interactions. Ms. Alfin-Slater

260H. Advanced Nutrition: Minerals (½ course). Prerequisites: Biological Chemistry 101A-101B-101C or equivalent and consent of instructor. Comprehensive treatment of mineral nutrition and metabolic-nutrient interactions. Ms. Carlisle

261A. Laboratory Instrumentation and Methods. Lecture, two hours; laboratory, six hours. Prerequisites: course 165 and Chemistry 25 or Biological Chemistry 101A (may be taken concurrently) and consent of instructor. Biochemical techniques and instrumentation used in environmental and nutritional sciences, including absorption, atomic absorption and fluorescence spectroscopy, gas chromatography, HPLC, electrophoresis, radioisotopes, and centrifugation. Mr. Jones, Mr. Panaqua

261B. Advanced Laboratory Techniques in Nutritional Science. Lecture, one hour; laboratory, six hours. Prerequisites: course 261A and consent of instructor. Current biochemical methods emphasizing instrumentation. Mr. Eckhert

262. Seminar in Nutrition (½ course). Prerequisites: courses 162, 167, and 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 (½ course). Prerequisites: courses 162, 167, and one nutrition course in the 200 or 400 series. Review of literature in selected areas of public health nutrition. May be repeated for credit.

264E. Clinical Nutrition Problems (½ course). 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 gastrointestinal disorders, renal disease, and liver disease.
Ms. Alfin-Slater, Mr. Kopple, Ms. Swendseid

264F. Clinical Nutrition Problems (½ course). 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. Swendseid

270. Maternal and Child Nutrition. Prerequisites: courses 110, 161, 170, or equivalent, and consent of instructor. Nutrition of mothers, infants, and children in countries at various levels of socioeconomic development; measures for prevention and treatment of protein-calorie malnutrition; relationship between nutrition and mental development; impact of ecological, socioeconomic, and cultural factors on nutrition, nutrition education, and service.
Mr. Jelliffe, Ms. Neumann

M271. Medical Anthropology. (Formerly numbered 271.) (Same as Anthropology M266.) Prerequisites: courses 110 and 112, one upper division course in psychology, sociology, or anthropology, or equivalent, and consent of instructor. Cross-cultural aspects of human behavior as they relate to perception, treatment, incidence, and prevalence of disease and illness. Ms. Scrimshaw

272. Seminar on Current Issues in Maternal and Child Health (½ course). Prerequisites: courses 110 or 111 or equivalent, 171A, 171B, and consent of instructor. New knowledge and approaches in selected health and social problems of families, women of childbearing age, and children, including early development, day care, and genetic counseling.
Mr. Katz, Ms. Neumann

M273. Qualitative Research Methodology. (Formerly numbered 273.) (Same as Anthropology M284.) Discussion, three hours; laboratory, one hour. Prerequisites: courses 100A and 125 or 181, an undergraduate or graduate course in social psychology, anthropology, or sociology, and consent of instructor. Intensive seminar-field course in qualitative research methodology. Emphasis is on using qualitative methods and techniques in research and evaluation related to health care. Ms. Scrimshaw

M274A-M274B. Population Policy and Fertility. (Same as Sociology M287A-M287B.) Lecture, three hours; discussion, one hour. Prerequisites: courses 100A, 112, 171A, 171B, or equivalent, graduate standing, and consent of instructor. Course M274A is prerequisite to M274B. Analysis of research concerning major issues in population policy, with special emphasis on human fertility. Ms. Blake

M274C. Seminar in Population Policy and Fertility. (Same as Sociology M287C.) Seminar, three hours; discussion, one hour. Prerequisites: courses M274A-M274B or equivalent, graduate standing, and 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

275. Human Lactation: Biological and Public Health Significance (½ course). Prerequisites: courses 112, 270, or equivalent, and consent of instructor. Biological and economic aspects of human lactation in industrialized and developing countries.
Mr. Jelliffe

M276. Culture and Human Reproduction. (Formerly numbered 476.) (Same as Anthropology M262P.) Lecture, two hours; discussion, two hours. Prerequisites: courses 110, 112, 172, 474, or equivalent, and consent of instructor. Exploration of human behavior related to reproduction. Cross-cultural exploration of biological and behavioral factors with particular reference to human adaptation. Ms. Scrimshaw

278. Clinical Genetics (½ course). Lecture, 90 minutes; discussion, one-half hour. Prerequisites: courses 100A, 112, 170A, 256, and consent of instructor. An in-depth view of genetic disorders, their clinical manifestations, and characteristic approaches to management of the patient and family.
Mr. Alfi

279. Advanced Seminar in Population and Family Health (½ course). Prerequisites: doctoral standing and consent of instructor. Students and faculty present and discuss current research in population and family health. May be repeated for credit. S/U grading.

280. Change Determinants in Health-Related Behavior. Prerequisites: course 182, three courses from Psychology 135, 170A, Sociology 152, 154, or equivalent, and consent of instructor. Unified behavioral science approach to natural determinants of change, as foundation for planned change in health-related behavior at community, group, and individual levels.

281. Advanced Social Research Methods in Health. Lecture, two hours; laboratory, two hours. Prerequisites: courses 100B, 181, or equivalent, and consent of instructor. Problems of health survey design and data collection; measurement issues in data analysis and interpretation; use of computer for analysis of large-scale survey data using various statistical techniques. Ms. Siegel

282. Communications in Health Promotion and Education. Lecture, two hours; discussion, two hours. Prerequisites: courses 182, 183, or equivalent, and consent of instructor. The course focuses on design, implementation, and evaluation of interpersonal communication strategies for health promotion programs. Equal emphasis is on communication theories, models, and empirical research literature and on specific applications in health programs and case studies. Mr. Kar

283E. Social Epidemiology I. (Formerly numbered M283E.) Lecture, two hours; discussion, one hour. Prerequisites: courses 112, 183, three courses in psychology, sociology, or anthropology, or equivalent, and consent of instructor. Relationship between sociological, cultural, and psychosocial factors in etiology, occurrence, and distribution of morbidity and mortality. Emphasis on life-styles and other socioenvironmental factors associated with general susceptibility to disease and subsequent mortality.
Ms. Siegel

M283F. Sociocultural Aspects of Health and Illness: Health Professions. (Same as Sociology M249A.) Lecture, three hours. Prerequisites: course 182, three courses in psychology, sociology, or anthropology, or equivalent, and consent of instructor. Sociological examination of the concepts "health" and "illness" and role of various health professionals, especially physicians. Attention is given to the meaning of professionalization and professional-client relationships within a range of organizational settings.
Mr. Goldstein

M283G. Sociocultural Aspects of Health and Illness: Health Behavior. (Same as Sociology M249B.) Seminar, two hours. Prerequisites: course 182, three courses in psychology, sociology, or anthropology, or equivalent, and consent of instructor. Sociocultural factors affecting differential patterns of health behavior, illness behavior, and sick role behavior. Mr. Berkanovic

283H. Social Epidemiology II. Lecture, two hours; discussion, one hour. Prerequisites: courses 112, 183, three courses in psychology, sociology, or anthropology, or equivalent, and consent of instructor. Relationship between sociological, cultural, and psychosocial factors in etiology, occurrence, and distribution of chronic diseases. Topics include hypertension, coronary heart disease, and cancer. Emphasis on life styles and other socioenvironmental factors associated with chronic diseases. Ms. Siegel

284. Ecology of Mental Health. Lecture, three hours. Prerequisites: courses 100A, 112 and 182 or equivalent, and consent of instructor. Analysis of occurrence and distribution of mental disorders in the community and the relationships to social structure. Problems of classification, definition, measurement in sociopsychiatric epidemiology, sociocultural and social-psychological factors in mental disorders.
Mr. Goldstein

285. Community Problems in Mental Disorders. Lecture, three hours. Prerequisites: course 182, three upper division or graduate courses in psychology or sociology or equivalent, and 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 (½ to 1 course). Lecture, two hours. Prerequisites: courses 283E, M283F, M283G, or equivalent, and consent of instructor. 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. Kar and the Staff

287. Community Organization in the Health Field. Lecture, two hours; discussion, one hour; fieldwork, eight hours. Prerequisites: courses 182, 183, at least two courses in sociology or anthropology, or equivalent, and consent of instructor. Theory and practice of community organization applied to health problems, including analysis of relevant factors in physical and social environment and development of community-based intervention strategies to improve health and health services. Mr. Brown

288. Current Problems in Health Education. Lecture, one hour; discussion, three hours. Prerequisites: courses 183, 280, and consent of instructor. Current problems and findings in health education content areas, such as nutrition, mental health, family health, consumer health, safety, communicable and chronic diseases.

289. Issues in Program Evaluation. Discussion, three hours. Prerequisites: course 281, one course in social science, or equivalent, and consent of instructor. Advanced seminar which will explore the problems of planning and implementing evaluation research in the context of local demonstration projects.
Mr. Berkanovic

290. Seminar in Community Health Education (½ course). Prerequisites: courses 288 and 481. In-depth analysis of health education concepts as they relate to the professional practitioner.

291. Advanced Topics in Health Survey Research Methods. Lecture, two hours; discussion, two hours. Prerequisites: course 281 or equivalent and consent of instructor. Special topics in health survey research methods. Design of special purpose surveys; recent interviewing techniques; diaries and memory aids; measurement error, including response bias, social desirability, response validity; telephone interviewing; obtaining data on sensitive issues; ethics and confidentiality of survey research data.

M292. Alcohol and Drug Abuse: Social Policy Perspectives (¾ course). (Same as Psychiatry M280.) Prerequisite: consent of instructor. Alternative models of alcohol and other drug addictions will be examined and implications assessed for public policy regarding their control. Prevention efforts and findings from California and national surveys will be considered, with primary emphasis upon alcohol use and abuse. Ms. Beckman

M293. Alcoholism and Drug Abuse among Women. (Same as Psychiatry M233.) Prerequisite: consent of instructor. Discussion of the psychosocial aspects of abuse of alcohol and other drugs among women. Topics include etiology, prevention, treatment, hormonal influences, and the role of the family. Emphasis is on current theoretical perspectives and research findings. Ms. Beckman

294. Occupational Health Education. Lecture, two hours; discussion, two hours. Prerequisites: courses 182, 183, two courses in social science or public health, and consent of instructor. Health education theory and practice as applied to occupational health and safety. Emphasis is on design and evaluation of education programs dealing with health and safety issues for workplace settings. Mr. Vojtecky

295. Research in Community and Patient Health Education. Lecture, two hours; discussion, two hours. Prerequisites: courses 182, 183, and 480, or consent of instructor. Intensive examination into the conceptualization, design, implementation, and evaluation of specific educational programs. Behavioral science theories are integrated with health education research, practice, and evaluation. Mr. Morisky

375. Teaching Apprentice Practicum (¼ to 1 course). 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 not be substituted for any departmental enrollment requirements. May be repeated for credit. S/U grading.

400. Field Studies in Public Health (½ or 1 course). Prerequisite: consent of instructor. Field observation and studies in selected community organizations for health promotion or medical care. Students must file field placement and program training documentation on form available from Student Affairs Office. May not be applied toward the M.S. minimum course requirement; four units may be applied toward the 44-unit minimum total required for the M.P.H. degree.

401E. Statistical Methods in Medical Studies (½ course). Prerequisites: course 100C or 100D or Mathematics 152B or equivalent and graduate standing in public health or related field. Design and analysis of biomedical studies. S/U grading (nondivision majors only).

401F. Statistical Methods of Longitudinal Data (½ course). Prerequisites: courses 100C or 100D or Mathematics 152B or equivalent, 112, and consent of instructor. Design and analysis of longitudinal or panel studies. S/U grading (nondivision majors only).

402A. Principles of Biostatistical Consulting (½ course). Lecture, one hour; discussion, one hour. Prerequisites: courses 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: courses 100A, 112, 130, Mathematics 1A, Engineering 10, or equivalent, and 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, and 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, and 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; discussion, one hour. Prerequisites: course 100B, at least two other upper division public health courses, and consent of instructor. The use of multiple regression, principal components, factor analysis, discriminant function analysis, logistic regression, and canonical correlation in biomedical data analysis. S/U grading (nondivision majors only).

410A. Management of Epidemiologic Data (½ course). Prerequisites: courses 100A, 112 (one course may be taken concurrently by 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.

Ms. Coulson

410B. Management of Epidemiologic Data (½ course). Prerequisites: course 410A or equivalent and consent of instructor. Development of special purpose programming and compiler languages for epidemiologic problems. Data management in large-scale studies in infectious and chronic diseases is emphasized. Ms. Coulson

411. Research Resources in Epidemiology (½ course). Lecture, one hour; discussion, one hour. Prerequisites: courses 100B, 211B, and consent of instructor. Instruction and practical experience in the use of varied bibliographic aids and sources of information, building of reference files, and presentation of research findings for publication.

Ms. Coulson, Mr. Spivey

412. Administration of Preventive and Medical Clinics (½ course). Lecture, one hour; discussion, one hour; field trips. Prerequisites: courses 112, 130, or equivalent, and 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, prenatal care, family planning, cardiovascular disease, 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, 110, 112, 130, or equivalent, graduate standing, and 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. Breslow, Mr. Fielding

430. Management of Medical Care Organizations and Programs. Prerequisites: course 131 and consent of instructor. Application of organizational, economic, and behavioral science concepts to understanding structure and functions of health care facilities and programs. Mr. Pointer

431. Managerial Processes in Health Service Organizations. Lecture, one hour; laboratory, three hours. Prerequisites: course 430 and 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. Mr. Pointer, Mr. Ross

432. Integrative Seminar in Health Services Management. Prerequisite: course 431. Residents and preceptors are responsible for presenting cases of actual administrative problems for solution by teams of students and faculty.

Ms. Cretin, Mr. Pointer, Mr. Ross

433. Contemporary Issues in Health Services Management. Lecture, two hours; discussion, two hours. Prerequisite: course 431. Advanced study of contemporary intramural and extramural issues which affect management of health care facilities.

Ms. Cretin, Mr. Pointer, Mr. Ross

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. Ms. Cretin

435. Manpower Management in Health Services Organizations (½ course). Prerequisites: course 131 or equivalent and consent of instructor. Introduction to personnel administration and labor relations as they apply to health care facilities. Mr. Pointer

436. Financial Management of Health Service Organizations. Prerequisites: courses 131, 141, 430, or equivalent, and consent of instructor. Application of financial management and accounting principles to health care facilities, including unique financial characteristics of health care facilities, third-party reimbursement, cost finding and rate setting, operational and capital budgeting, auditing, and risk management. Mr. Coyne

437. The Legal Environment of Health Services Management (½ course). Prerequisites: course 131 or equivalent and 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. Mr. Liset

438. Issues and Problems of Local Health Administration (½ course). Prerequisites: courses 110, 130, one additional health services course, and 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 inter-agency relationships.

439. Dental Care Administration (½ course). Prerequisites or corequisites: courses 100A, 112, or equivalent, and consent of instructor. In-depth examination of several specific dental care policy issues: manpower, relationship of treatment to disease, national health program strategies, and evaluation mechanisms. Mr. Schoen

440A. Health Information Systems: Organization and Management. Lecture, two hours; laboratory, three hours. Prerequisites: courses 140A-140B or equivalent and consent of instructor. Principles of and systems relating to organization and management of a health facility's health information system.

440B. Health Information Systems: Organization and Management. Lecture, two hours; laboratory, three hours. Prerequisites: course 440A or equivalent and consent of instructor. Health and administrative research using clinical records. Principles of planning for routine and special studies. Individual investigation in methods of obtaining and processing data to meet needs of programs in institution and agency. Introduction to principles of medical auditing; analysis of medical and health services.

441A-441B. Health Record Systems (½ course each). Prerequisites: courses 100A, 112, 130, or equivalent, and consent of instructor. Course 441A is prerequisite to 441B. Advanced study of principles and criteria involved in planning, installing, and administering systems to record, process, and retrieve data for records and reports in health and medical institutions and agencies.

442. Principles and Practices of Medical Care Audit (½ course). Prerequisites: courses 100A, 112, 130, or equivalent, and consent of instructor. Analysis of systems used in evaluating health care professional providers' performances in hospital and ambulatory settings. Health information systems and data available used for medical audits. Mr. Goodman

443D. Advanced Hospital Financial Management Simulation. Lecture, one hour; discussion, one hour; laboratory, two hours. Prerequisites: courses 130, 141, 436, and consent of instructor. Practical aspects of hospital management decisions in a changing environment examined through computer simulation, with particular attention to economic projections, demand patterns, investment programs, and health care regulations. Mr. Coyne

443E. Advanced Hospital Financial Management Seminar. Prerequisites: courses 130, 131, 141, 436, or equivalent, and consent of instructor. Hospital financial management, including reimbursement management, capital financing, and capital investment analysis, is discussed and analyzed with respect to students' individual residency sites. Mr. Coyne

444A. Information Processing for Health Planners. Prerequisites: courses 100A or 101A, 134, and consent of instructor. Information theory presented as framework for understanding data analysis. Computer used to implement data analysis results with previously presented information systems concepts.

444B. Applied Methodology in Health Planning. Lecture, three hours; fieldwork, four hours. Prerequisites: courses 130 or equivalent, 444A, and consent of instructor. Demonstrates methodology of health planning by involving students in formulation of actual health plan for existing agency in Los Angeles area. Mr. Melnick

445A-445B. Practicum in Health Planning and Policy. Field placement. Prerequisites: courses 100A, 100B, 130 (may be taken concurrently), 233, 248, or equivalent, and consent of instructor. Required 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. Mr. Cameron

446. Financing Health Care. Prerequisites: course 130, Economics 1, 2, or equivalent, and consent of instructor. Patterns of health care financing by consumers, providers, third-party intermediaries; trends in health service use; expenditures, national health insurance, and international comparisons of health financing. Mr. Schweitzer

447D. Management of Health Maintenance Organizations. Lecture, three hours. Prerequisites: courses 130, 134, or equivalent, and consent of instructor. Alternative approaches to fee-for-service for paying, providing, or arranging for delivery of health care services, and relating these approaches to the national health policy. Mr. Wasserman

447E. Health Insurance Principles and Programs. Prerequisites: courses 130, 232, one additional health services course, or equivalent, and consent of instructor. Examination of social, acturial, 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

447F. Health of Americans: Trends and Issues. Prerequisites: courses 100A, 110, 112, 130, or equivalent, graduate standing, and consent of instructor. Analysis of major trends in mortality, morbidity, and other aspects of health status, what determines these trends, services designed to influence these trends, and nature and extent of public responsibility for such services. Mr. Breslow

446. Evaluation of Health Services and Programs. Lecture, two hours; discussion, one hour; laboratory, one hour. Prerequisites: courses 100A, 130, 139, or equivalent, and consent of instructor. Analysis of methods and findings of current research and evaluation of personal health services and programs in a variety of social contexts. Principles of decision analysis. Emphasis on measurement of outcomes of health service systems. Mr. Hopkins

M449. Health Policy Issues for Dental Professionals (½ course). (Same as Dentistry M422.) Prerequisites: courses 103, 112, 130, or equivalent, and consent of instructor. Current public health policy issues in dental health, including cost, financing, role of government, and quality assurance. Mr. Schoen

M449D. Case Studies in Dental Practice (½ course). (Same as Dentistry M433A.) The course provides students with a practice methodology for evaluation of dental care settings. It encompasses didactic and field experience, providing a foundation for evaluation of programs. Mr. Marcus

M449E. Introduction to Health Care (½ course). (Same as Dentistry M441C.) Description and analysis of the American dental care system from historical, ethical, and legal perspectives. Assessment of how dentistry fits within the general provision of health care services in America, with comparisons to dental care provisions in other countries. Mr. Freed

450. Environmental Measurements. Lecture, two hours; laboratory, four hours. Prerequisites: courses 153 or 261A, 250. Instrumental methods for laboratory and field applications to assess quantity of environmental pollutants in air, food, and water, and to assess degree of exposure to such factors as noise and radiation. Mr. Mah, Ms. Valentine

451. Water Quality and Health. Lecture, three hours; discussion, one hour. Prerequisites: courses 150, 250, 450, or equivalent, and consent of instructor. An introduction to water quality, with coverage of hydrology, water chemistry, and various chemical contaminants that may affect human health. Various treatment methods and health implications are discussed. Ms. Valentine

454. Environmental Policy Decision Making. Lecture, four hours; discussion, one hour. Prerequisite: course 254. Foundations, principles, and modeling of environmental policy decision making. Critical analysis of normative and behavioral models of action choices for protection and enhancement of environmental health, and development of an alternative model. Mr. Davos

457. Environmental Hygiene Practices (½ course). Prerequisites: courses 112, 150, 154, and 450. Field principles and practices of environmental sanitation as applicable to the sanitarian. Topics include theory, code enforcement, and inspection procedures for applicable environmental topic areas.

460. Principles of Public Health Nutrition. Lecture, three hours; class projects, four hours. Prerequisites: courses 100A, 130 (may be taken concurrently), 162, or equivalent, and consent of instructor. Survey of methods, problems, and practices used by health agencies in dealing with community nutrition of population groups. Ms. Hunt, Ms. Murphy

461. Computer Use in Dietary Assessment. Lecture, two hours; laboratory, six hours. Prerequisites: courses 100A, 112 (may be taken concurrently), 162, 163, 460, and consent of instructor. Collection and computer analysis of nutrient intake data for the purpose of nutritional assessment of population groups. Ms. Hunt, Ms. Murphy

462. Nutritional Assessment: Laboratory Assays (½ course). Lecture, one hour; laboratory, three hours. Prerequisites: courses 162, 165, 167, or equivalent, and one course in the 260 series. Biochemical methods for evaluating nutritional status of individuals or population groups. Techniques for measuring vitamins, minerals, lipids, and proteins. Ms. Swendseid

463. Practicum in Public Health Nutrition. Discussion, two hours; field research, twelve hours. Prerequisites: courses 400, 460, 461, and consent of instructor. Analysis of public health nutrition problems. Delivery and evaluation of community nutrition education. Ms. Hunt, Mr. Jones

470A. International Health Agencies and Programs. Prerequisites: three upper division or graduate courses in social, health, or behavioral science, and consent of instructor. Historical development and functions of international health organizations. Key problems and trends in international health. Bilateral programs, medical-religious missions, private foundations, and others disseminating information, money, and services. Mr. Neumann

470B. Advanced Issues in International Health. Lecture, two hours; discussion, two hours. Prerequisites: courses 240, 270, 470A or 472A or 475 or equivalent, and consent of instructor. In-depth focus on major health care issues confronting recipient less-developed countries and donors of technical and financial assistance. Mr. Neumann

471A. Reproductive Health Services and Programs. Lecture, two hours; discussion, two hours. Prerequisite: course 172 or equivalent. Examination of U.S. delivery system of pregnancy care, family planning, male-specific and female-specific health care, including methods, facilities, personnel, and funding. Ms. Moore, Mr. Richwald

471B. Current Issues in Reproductive Health. Lecture, two hours; discussion, two hours. Prerequisite: course 471A. Critical review of current public health and sociopolitical problems in reproductive health. Emphasis is on development of feasible solutions and strategies for achieving them. Ms. Moore, Mr. Richwald

472A. Maternal and Child Health in Developing Areas. Prerequisites: courses 270, 470A, or equivalent, and consent of instructor. Major health problems of mothers and children in developing areas stressing causation, management, and prevention. Particular reference to adapting programs to limited resources in cross-cultural milieux. Ms. Neumann

472B. Recent Developments in Maternal and Child Health in Disadvantaged Countries (½ course). Prerequisites: courses 171A, 171B, 270, 472A, or equivalent, and consent of instructor. Analytic in-depth consideration of recent advances in the field of international maternal and child health, with special reference to developing countries. Mr. Jelliffe

472D. Overseas Refugee Health Programs (½ course). Lecture, one hour; discussion, one hour. Prerequisites: courses 110 or 111, 112, 270 or 472A, or equivalent, and consent of instructor. Comprehensive overview of the health problems of overseas refugee situations and of programs designed to deal with these special circumstances. Mr. Jelliffe

473A. Handicapped Children: The Public Health Concern (½ course). Prerequisites: courses 110 or 111, 130, 170, or equivalent, and consent of instructor. Etiology, prevalence, social consequences and remedial programs for the major handicapping conditions in children. Emphasis is on biological and social factors, current research, and program developments. Mr. Katz

473D. Child Health in the United States of America. Lecture, three hours; discussion, one hour; one field visit, three hours. Prerequisites: courses 110 or 111, 112, 130, 170, or equivalent, and consent of instructor. Examination of the health problems affecting infants, children, and adolescents in the United States and exploration of alternatives of priorities, approaches, services, and policies aimed at ameliorating these problems. Mr. Chang, Ms. Neumann

473E. Adolescent Health: Major Issues and Problems (½ course). Lecture, two hours; field visits, twenty-one hours. Prerequisites: courses 110 or 111, 171A, 171B, and 172, or equivalent, and consent of instructor. Overview of adolescent growth and development, significant physical and psychological problems, issues in health services delivery, and laws affecting youth and the juvenile offender. Mr. Jelliffe and the Staff

473F. Research Seminar in Community Child Health Services (½ course). Discussion, one hour; laboratory, one hour; field visits, two hours. Prerequisites: courses 100A, 125, 130, 171A, 171B, or equivalent, and consent of instructor. Examination and development of evaluation strategies for existing community child health services at the local level and development of evaluation strategies for selected topics in programmatic areas. Emphasis is on collaborative research and consultation skills, with participation of local health department personnel. Mr. Chang

473G. Health Services in Child Day Care. Lecture, two hours; discussion, two hours; one field visit, three hours. Prerequisites: courses 110 or 111, 112, 130, 170, or equivalent, and consent of instructor. Assessment of needs, planning, and development of health and nutrition services for young children in day care and related child development programs. Mr. Chang

473H. Child Health Policy. Lecture, three hours; discussion, one hour. Prerequisites: courses 130 or equivalent, 171A, 172, 473D, and consent of instructor. Analysis of the development and characteristics of child health programs and policies; issues related to health services for children examined according to chronological development of child; relationship of health programs to programs of nutrition, day care, education, and welfare; strategies for achieving change and the politics of developing a child health policy. Ms. Roemer

474. Self-Care and Self-Help in Community Health. Lecture, two hours; discussion, two hours. Prerequisites: courses 112, 130, fieldwork internship, or equivalent, and consent of instructor. Review of background, principles, concepts, programs, and research concerning the emerging field of self-care in health. Mr. Katz

475. Planning and Development of Family Health Programs. Lecture, two hours; discussion, two hours. Prerequisites: courses 100A, 125 or 470A, 170, 270, or equivalent, and consent of instructor. Theory, guidelines, and team exercise for planning community health/family planning projects in the United States and in developing countries. Phases include community needs identification; goal setting; budget and work plan development; funding; staffing; evaluation design; data and cost analysis; and project presentation. Mr. Neumann

476D. Analysis of Family Health and Fertility Data. Lecture, three hours; laboratory, two hours; assignment, twelve hours. Prerequisites: courses 100B, 125 or 181, 217, or equivalent, and consent of instructor. Analysis and interpretation of large-scale data sets, case studies, and experimental data in the area of applied family health and fertility. Computer is used as a tool in the management and analysis of the data necessary for interpreting and preparing research articles. Ms. Bourque

477. Assessment of Family Nutrition. Prerequisite: course 270. Assessment of nutritional status of families in developing countries, with special reference to limited resources, terrain, and cross-cultural considerations, stressing anthropometric methods and techniques. Mr. Jelliffe, Ms. Neumann

476. Anthropometric Nutritional Assessment (½ course). Prerequisites: course 270 or 477 or equivalent and consent of instructor. Practicum in anthropometry illustrating how it is used in nutritional assessment. Data presentation and interpretation will be covered. There will be didactic sessions, readings, demonstrations, and practical experience in clinical anthropometric techniques. Ms. Neumann

478E. Cytogenetics Practicum (¼ course). Prerequisites: courses 100A, 112, 170A, 256, and consent of instructor. Explanation and applied experiences in cytogenetic laboratory procedures, including culturing, harvesting, microscopy, photography, karyotyping, and interpretation of results. Mr. Alfi

479. Nutrition Programs and Policies for Families in the Third World. Lecture, two hours; discussion, two hours. Prerequisites: course 472A or equivalent and consent of instructor. Programs and policies to improve the nutrition of families in Third World countries are considered, with special reference to mothers and young children. Ms. Jelliffe

479D. Nutrition Education and Training: Third World Considerations (½ course). Lecture, one hour; student participation, one hour. Prerequisite: course 472A or equivalent and consent of instructor. Problems and priorities in nutrition education and training for families and health workers in Third World countries are reviewed, including new concepts in primary health care services, mass media, communications, and governmental and international interventions. Ms. Jelliffe

480. Health Education in Clinical Settings. Lecture, two hours; discussion, two hours. Prerequisites: courses 130, 183, 280, 282, and consent of instructor. Analysis of the role, methods, and techniques of health education pertaining to hospitals, clinics, and patient education. Observation and discussion of clinical activities in the medical center in relation to the process of health education. Ms. Richards

481. Administrative Relationships in Health Education. Lecture, two hours; discussion, two hours. Prerequisites: courses 130, 183, 280, and consent of instructor. Study of administration 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 (1 or 2 courses). Discussion, two hours; field, six or eighteen hours. Prerequisites: courses 182, 280, and consent of instructor. Study of community and group-felt needs as reflected in behavior. Analysis of data for understanding, planning, implementing, and evaluating need-directed health education and medical care programs. Ms. Richards

483. Social Interventions for Health Promotion and Evaluation. Lecture, two hours; discussion, one hour; seminar, one hour. Prerequisites: courses 182, 183, 280, or equivalent, and consent of instructor. Selected social intervention strategies for health promotion and health education programs. Emphasis on theories, working assumptions, methodologies, and impacts of selected strategies within the contexts of planned change in health related behaviors. Mr. Kar

484. Introduction to Program Evaluation. Lecture, two hours; discussion, two hours. Prerequisites: course 100A, three courses in social science, or equivalent, and consent of instructor. An introduction to the principles of program evaluation as they are applied to public health programs in the community. Mr. Berkanovic

485. Benefit-Cost Evaluation of Health Programs. Lecture, two hours; discussion, two hours. Prerequisites: courses 100A, 112, Economics 102, or equivalent, and consent of instructor. Cost-benefit and cost-effectiveness principles and techniques employed to evaluate public health programs and projects. Mr. Rada

486. Death, Suicide, and Homicide: A Public Health Perspective. Lecture, three hours; field trips, outside readings, and reports, one hour. Prerequisites: courses 100A or 103, 112, 182, 183, or equivalent, and 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. Health Applications of Community Organization. Seminar, three hours; fieldwork, four hours. Prerequisites: courses 182, 183, 287, at least one other public health course, or equivalent, and consent of instructor. Application of community organization methods to health problems and health education programs, including community-based needs assessment, planning and developing community-based projects, and evaluation. Emphasis is on organizational and process skills; class fieldwork project. Mr. Brown

490. Professional Writing for Public Health (½ course). Prerequisite: consent of instructor. Practice in writing reports, grant proposals, abstracts, and article-length research papers. Analyzing rhetorical and stylistic features of essays in various professional journals will help participants improve both their prose style and their editorial abilities. May not be applied toward any degree requirements. S/U grading. Mr. Bjork

495. Teacher Preparation in Public Health (½ course). Prerequisites: eighteen units of cognate courses in area of specialization and 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 (½ to 2 courses). Prerequisite: consent of UCLA graduate adviser and Graduate Dean and host campus instructor, department Chair, and Graduate Dean. The course is used to record enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. No more than eight units may be applied toward the master's degree minimum total course requirement; may not be applied toward the minimum graduate course requirement. S/U grading.

596. Directed Individual Study or Research (½ to 2 courses). 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.

597. Preparation for Master's Comprehensive or Doctoral Qualifying Examinations (½ to 2 courses). Prerequisites: graduate standing, consent of instructor. May not be applied toward any degree requirements. May be repeated for credit. S/U grading.

598. Master's Thesis Research (½ to 2 courses). 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.

599. Doctoral Dissertation Research (½ to 2 courses). Prerequisite: consent of instructor. May not be applied toward any degree requirements. May be repeated for credit. S/U grading.

Environmental Science and Engineering (Interdepartmental)

3677 Geology, 825-7675

Professors

Orson L. Anderson, Ph.D. *(Geophysics)*
Malcolm S. Gordon, Ph.D. *(Biology)*
William E. Kastenberg, Ph.D. *(Engineering and Applied Science)*
Robert A. Mah, Ph.D. *(Public Health)*
Clemens A. Nelson, Ph.D. *(Earth and Space Science)*
Richard L. Perrine, Ph.D. *(Engineering and Applied Science)*
Morton G. Wurtele, Ph.D. *(Atmospheric Sciences), Chair*

Associate Professors

Climis A. Davos, Ph.D. *(Public Health)*
Mohommad G. Mustafa, Ph.D. *(Public Health and Medicine)*
Michael K. Stenstrom, Ph.D. *(Engineering and Applied Science)*
Jane L. Valentine, Ph.D. *(Public Health)*
Jeffrey I. Zink, Ph.D. *(Chemistry)*

Professor

Leona M. Libby, Ph.D., *Adjunct*

Assistant Professors

William Dritschilo, Ph.D., *Adjunct*
Laura M. Lake, Ph.D., *Adjunct*
Bart B. Sokolow, D.Env., *Adjunct*

Lecturers

Robert G. Lindberg, Ph.D.
Paul M. Merifield, Ph.D. *(Environmental Geology)*

Scope and Objectives

Enlightened management of the environment is necessary to maintain a suitable quality of life. Such management requires scientists trained in a multiplicity of environmental disciplines. These interdisciplinary, interactive skills are developed through the UCLA graduate program in environmental science and engineering, leading to the Doctor of Environmental Science and Engineering (D.Env.) degree.

The goal of the program is to prepare professional environmental analysts to deal with the complexities of various courses of action on the environment and resources; to develop recommendations for sound environmental policies; and to devise means to implement policies adopted.

The present focus of the program, that of interdisciplinary training in the environmental sciences and its application, is a successful one. Graduates have been employed in technical assessment and management positions with governmental agencies, consulting firms, and industrial firms concerned with environment-related projects.

No undergraduate major is offered; however, studies can be arranged along several routes. Students with majors in the natural sciences, ecosystems/geography, 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 largely from the College of Letters and 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 and must be acceptable to the interdepartmental committee. You must hold a bachelor's and master's degree in engineering, public health, or one of the natural sciences to be formally admitted to the program. Students with a bachelor's degree may be informally affiliated with the program while earning a master's degree in one of the participating departments and are encouraged to participate in the colloquia.

Three letters of recommendation are required for admission. Subject to available funds, the program offers fellowships to eligible first-year students. Prospective students may write for descriptive brochures to the School of Public Health, 16-071 Public Health, UCLA, Los Angeles, CA 90024.

Major Fields or Subdisciplines

Specialties within the program include, but are not limited to, air quality, water resources, geological and solid earth problems including resource conservation, problems associated with energy production, and the biological impact of man's activities. Also, you may slant your work toward greater emphasis either on the science and engineering side or on the science policy side of your specialty.

Course Requirements

A minimum of nine courses after admission to the program, and usually more than nine, are required. You will be guided in the selection of the course program by your program committee. Courses taken outside your own disciplinary area will often be upper division undergraduate courses. Lower division courses may also be required but cannot be applied toward the minimum nine-course requirement. Individual reading or study courses may be taken under the guidance of a qualified faculty member.

You must pass a program of required breadth courses in four of the five following general areas (excluding your specialty area):

Biology: Five courses, including environmental biology, microbiology, and public health.

Chemistry: Five courses, including organic and environmental chemistry.

Earth Sciences: Four courses, including geology and meteorology.

Engineering and Mathematics: Seven courses, including calculus (one full year), energy and environmental engineering, and statistics.

Social Sciences: Five approved courses from architecture and urban planning, economics, law, management, and political science.

Courses taken during undergraduate or master's work may be applied toward this requirement with approval of the interdepartmental committee or graduate adviser. Upper division or graduate courses taken in this program will be applied toward the nine required courses. All breadth courses must be taken for a letter grade.

While completing breadth requirements, full-time students will normally enroll in 18 units per quarter, including Environmental Science and Engineering 411 which is required each quarter.

Courses may be substituted with proper approvals. In general, courses to be substituted must fall within the same general area.

When the breadth requirements are near completion, you will enroll for three successive quarters in courses 400A, 400B, 400C (the problems course — eight units per quarter).

You may also take several environmental workshops concurrent with the environmental problems course as your committee and the faculty member in charge of the course may require.

Qualifying Examinations

Beginning in your first quarter in the program, you must pass four out of eight two-hour cumulative examinations, which are offered four times a year. You must attempt each examination offered after you begin, or it is counted as a fail. Thus, you have a maximum of two years to complete the requirement. The examinations are designed to test awareness of the current literature of environmental science and engineering.

When you have completed all other course requirements and are in the final quarter of the problems course, a doctoral committee will be 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. Upon 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 will be 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 will be by your doctoral committee.

Final Report and Oral Examination

A dissertation is not required. However, upon returning to UCLA following the internship, you must participate for a final quarter in the problems course and prepare a complete written report on the internship program. The report must demonstrate that you have effectively applied to your study, program, or project the knowledge, concepts, and principles acquired during your academic preparation. If the report is satisfactory as judged by your committee, you give one or more seminars in an environmental colloquium. 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.).

Currently, the final oral examination is routinely required in this program. The examination may be held before you have prepared the final report, but passing the examination does not imply approval of the final report.

Graduate Courses

400A. Environmental Science and Engineering Problems Course (2 courses). Prerequisite: consent of instructor and program Chair. Primarily intended for students enrolled in the environmental science and engineering doctoral program. Multidisciplinary technical and socioeconomic analysis and prognosis of significant current environmental problems. In Progress grading (credit to be given only upon completion of course 400C).

400B. Environmental Science and Engineering Problems Course (2 courses). 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 upon completion of course 400C).

400C. Environmental Science and Engineering Problems Course (2 courses). Prerequisites: successful completion of course 400B, 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 upon completion of course 400C).

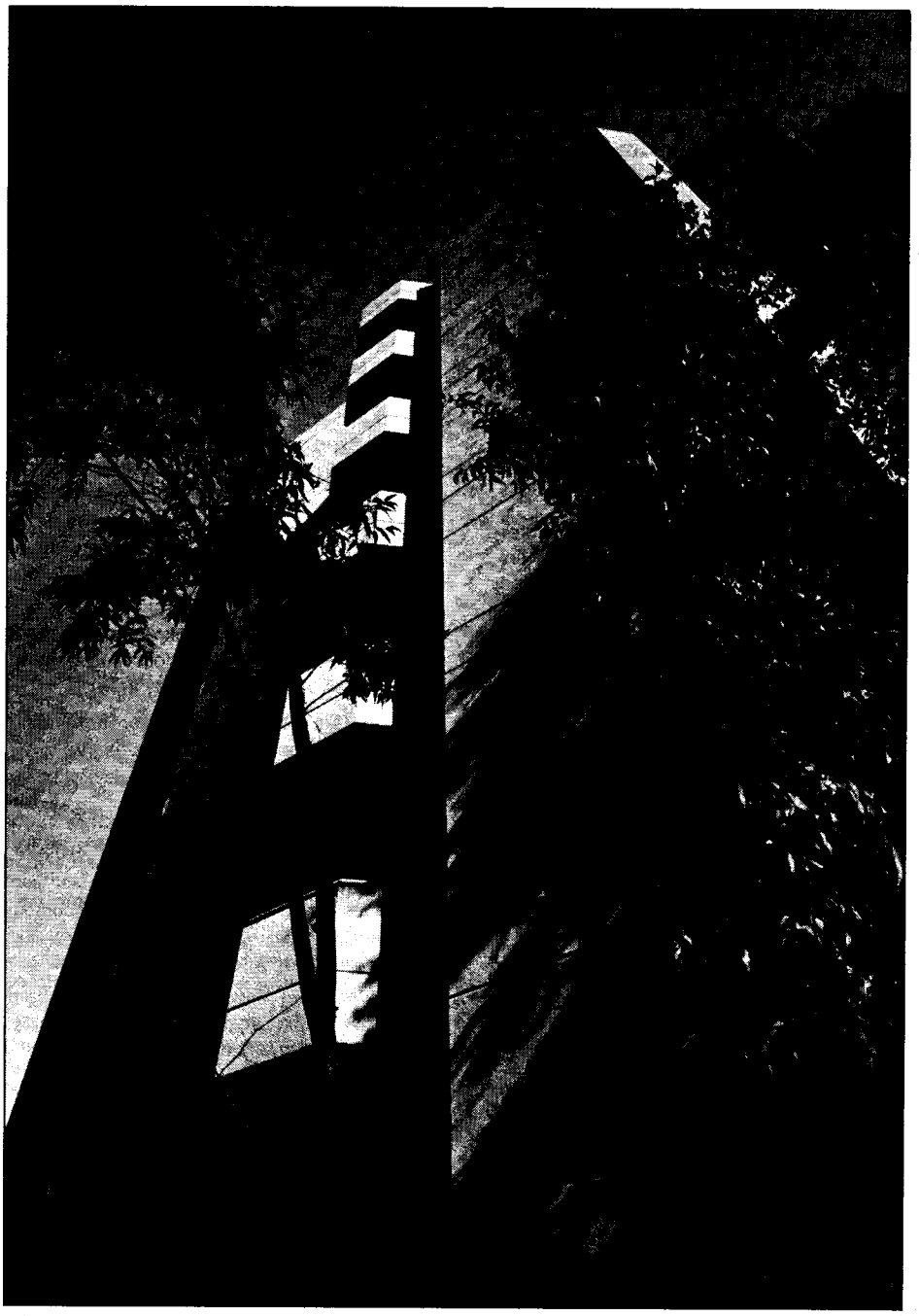
400D. Environmental Science and Engineering Problems Course (2 courses). Prerequisites: successful completion of course 400C and of an internship approved by the Environmental Science and Engineering Interdepartmental Committee. Multidisciplinary technical and socioeconomic analysis and prognosis of significant current environmental problems.

410. Environmental Science and Engineering Workshop (½ course). 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 (½ course). 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 (½ to 2 courses). Prerequisite: consent of UCLA graduate adviser, program Chair, and Graduate Dean and host campus instructor, department Chair, and Graduate Dean. The course is used to record the enrollment of UCLA students in courses taken under cooperative arrangements with neighboring institutions. S/U grading.

596. Directed Individual or Tutorial Studies (½ to 2 courses). Prerequisite: consent of instructor and program Chair. Supervised investigation of advanced environmental problems. S/U grading.



UCLA's Molecular Biology Building

Appendix

Nondiscrimination

The University of California, in compliance with Titles VI and VII of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972 (45 CFR 86), and Sections 503 and 504 of the Rehabilitation Act of 1973, does not discriminate on the basis of race, color, national origin, religion, sex, or handicap in any of its policies, procedures, or practices; nor does the University, in compliance with the Age Discrimination in Employment Act of 1967 and Section 402 of the Vietnam Era Veterans Readjustment Act of 1974, discriminate against any employees or applicants for employment on the basis of their age or because they are disabled veterans or veterans of the Vietnam era. This nondiscrimination policy covers admission, access, and treatment in University programs and activities, and application for and treatment in University employment.

In conformance with University policy and pursuant to Executive Orders 11246 and 11375, Section 503 of the Rehabilitation Act of 1973, and Section 402 of the Vietnam Era Veterans Readjustment Act of 1974, the University of California is an affirmative action/equal opportunity employer.

Inquiries regarding the University's equal opportunity policies may be directed to the Campus Counsel, 2241 Murphy Hall, UCLA, or the Director of the Office for Civil Rights, United States Department of Education.

Students may complain of any action which they believe discriminates against them on the ground of race, color, national origin, religion, sex, or handicap and may contact the Dean of Students Office, 2224 Murphy Hall, for further information and procedures.

Residence for Tuition Purposes

Students who have not been residents of California for more than one year immediately prior to the residence determination date for each term in which they propose to attend the University are charged, along with other fees, a nonresident tuition fee. The residence determination date is the day instruction begins at the last of the University of California campuses to open for the quarter, and for schools on the semester system, the day instruction begins for the semester.

Law Governing Residence

The rules regarding the establishment of legal residence for tuition purposes at the University of California are governed by the California Education Code and by Standing Orders of The Regents of the University of California. Under these rules residence for tuition purposes can be established by adult citizens or by certain classes of aliens. There are also particular rules applicable to the residence classification of minors (under 18) in that such residence is generally regarded as being derived from the parent or parents with whom the minor last resided.

Who Is a Resident?

In order to be classified a resident for tuition purposes, an individual must have established his or her residence in California for more than one year immediately preceding the residence determination date for the term during which he or she proposes to attend the University and relinquished any prior residence. An individual must couple physical presence within this state for one year with objective evidence that such presence is consistent with intent to make California his or her permanent home and, if these steps are delayed, the one-year durational period will be extended until both presence and intent have been demonstrated for one full year. Indeed, physical presence within the state solely for educational purposes does not constitute the establishment of California residence under state law, regardless of the length of stay. A woman's residence shall not be derivative from that of her husband or vice versa.

Establishing the Requisite Intent to Become a California Resident

Relevant evidence which can be relied upon to demonstrate one's intent to make California the permanent residence include 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 nondriver, a California identification card; obtaining California vehicle registration; paying California income taxes as a resident, including income earned outside California from the

Salary and Employment Information, University of California

FIELD OF STUDY	DEGREE LEVEL OF GRADUATES			PROBABLE OR DEFINITE JOB COMMITMENT[2]
	BACHELOR'S	MASTER'S	DOCTORATE	
	AVERAGE MONTHLY SALARY[1]			
Engineering	$1,667-2,675	$1,943-2,552	$2,582-3,392	85.9%
Humanities	900-1,750	1,125-2,100	—	75.6
Life Science	916-1,955	—	—	73.1
Management	1,084-1,850	1,600-2,750	—	89.8
Physical Science	1,350-2,425	1,280-2,611	1,600-3,375	81.1
Social Science	916-1,675	1,085-2,075	—	75.3
Medical[3]	—	—	1,423	100.0
Dental[3]	—	—	2,433	81.3

[1]Source: (Except for Medical and Dental — see footnote 3.) A national survey of a representative group of colleges conducted by the College Placement Council, representing the 80 percent range of offers for 1981-82 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.

[2]Source: *The Job Market for UCLA's 1982 Graduates.* Percentages are based only upon those students who planned to work immediately after graduation.

[3]Source: *The Job Market for UCLA's 1981 Graduates.* Percentages are based only upon those students who planned to work immediately after graduation. Medical and dental salaries are shown as means rather than ranges. The medical mean is derived from a range of resident salaries.

date residence is established; establishing an abode where one's permanent belongings are kept within California; licensing for professional practice in California; and the absence of this evidence in other states during any period for which residence in California is asserted. Documentary evidence may be required. All relevant evidence will be considered in the classification determination.

Adult Aliens

An adult alien student is entitled to resident classification if the student has been lawfully admitted to the United States 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 United States under the terms of visa classifications A, E, G, I, or K, who can demonstrate California residence for more than one year prior to the term while holding such visa, may be entitled to resident classification. Inquiries should be directed to the Residence Deputy.

General Rules Applying to Minors

The residence of the parent with whom an unmarried minor (under age 18) child lives is the residence of the unmarried minor child. The residence of an unmarried minor who has a parent living cannot be changed by his or her own act, by the appointment of a legal guardian, or by relinquishing a parent's right of control. When the minor lives with neither parent, residence is that of the parent with whom the student lived last. The minor may establish residence when both parents are deceased and a legal guardian has not been appointed. Where the residence of the minor is derived, the California residence of the parent from whom it is derived must satisfy the one-year durational requirement.

Specific Rules Applying to Minors

(1) **Minor Aliens** — A student who is a minor alien shall be entitled to resident classification if the student and the parent have been lawfully admitted to the United States for permanent residence in accordance with all applicable laws of the U.S., provided that the parent has had residence in California for more than one year after admission to permanent residence prior to the residence determination date for the term applicable.

(2) **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.

(3) **Parent of Minor Moves from California** — A student who remains in the state after his or her parent, who was domiciled in California for at least one year immediately prior to leaving and has, during the student's minority and within one year immediately prior to the residence determination date, established residence elsewhere, shall be entitled to resident classification. This exception continues until the student has attained the age of majority and has resided in the state the minimum time necessary to become a resident so long as, once enrolled, he or she maintains continuous attendance at an institution.

(4) **Self-Support** — Nonresident students 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.

(5) **Two-Year Care and Control** — A student shall be entitled to resident classification if immediately prior to the residence determination date, he or she has 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 exempted 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 eductional 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** — 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 on the Academic Senate shall be secured each term before this waiver is granted.

(4) **Child of University Employee** — The unmarried, dependent child under 21 of a full-time University employee whose assignment is outside California (e.g., Los Alamos Scientific Laboratory) and who has been employed by the University for more than one year may be entitled to a waiver of the nonresident fee. The parent's employment status with the University shall be ascertained each term that the student requests the waiver.

(5) **Children of Deceased Public Law Enforcement or Fire Suppression Employees** — Children of deceased public law enforcement or fire suppression employees who were California residents and who were killed in the course of fire suppression duties or law enforcement duties may be entitled to an exemption of the nonresident fees.

Maintaining Residence During a Temporary Absence

A student's temporary absence from the state for business or educational purposes will not necessarily constitute loss of California residence unless the student has acted inconsistently with the claim of continued California residence during his or her absence. The burden is on the student to show retention of California residence during an absence from the state. Steps a student (or parent of a minor student) should take to retain California resident status for tuition purposes include:

(1) Continue to use a California permanent address in all records — educational, employment, etc.

(2) Satisfy California resident income tax obligations. Individuals claiming permanent California residence are liable for payment of income taxes on their total income from the date they establish California residence. This includes income earned in another state or country.

(3) Retain California voter's registration, voting by absentee ballot.

(4) Maintain California driver's license and vehicle registration. If it is necessary to change driver's license and/or vehicle registration while temporarily residing in another state, these must be changed back to California within 10 days for the driver's license and within

one year or when registration expires (whichever comes first) for vehicle registration.

Reclassification Petitions

Students MUST PETITION IN PERSON at the Registrar's Office for a change of classification from nonresident to resident status. All changes of status must be initiated prior to the late registration period for the term of attendance for which the student seeks reclassification.

In addition to the criteria listed above, a student seeking reclassification must be financially independent of parents domiciled outside of California. Graduate students who are teaching assistants, research assistants, or teaching associates employed on a 0.49 or more time basis are exempt from the financial independence requirement. For detailed information regarding classification, 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 (825-3447) or to the Legal Analyst-Residence Matters, 590 University Hall, 2200 University Avenue, Berkeley, CA 94720. NO OTHER UNIVERSITY PERSONNEL ARE AUTHORIZED TO SUPPLY INFORMATION RELATIVE TO RESIDENCE REQUIREMENTS FOR TUITION PURPOSES. The student is cautioned that this summation is NOT a complete explanation of the law regarding residence. A copy of the regulations adopted by the Regents of the University of California is available for inspection in the Registrar's Office. 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 120 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 upon the course description as approved by the appropriate course committee.

The final grade in the course is based upon the instructor's evaluation of the student's achievement in the course. When on an examination or other work submitted by a student, the student is suspected of having engaged in plagiarism or otherwise having cheated, the suspected infraction is to be reported to the appropriate administrative officer of the University for consideration of disciplinary proceedings against the student. Until such proceedings, if any, have been completed, the grade DR (Deferred Report) is assigned for that course. If in such disciplinary proceedings, it is determined that the student did engage in plagiarism or otherwise cheat, the administrative officer, in addition to imposing discipline, reports back to the instructor of the course involved, the nature of the plagiarism or cheating. In light of that report, the instructor may replace the grade DR with a final grade that reflects an evaluation of that which may fairly be designated as the student's own achievement in the course as distinguished from any achievement that resulted from plagiarism or cheating.

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 provost of the college or school, the Vice Chancellor — Faculty Relations, and the Ombudsman, 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 Academic Senate Chair. Within a period of two weeks after notification, guided by the Committee on Committees, the Academic Senate Chair shall establish an ad hoc committee to determine whether the grade shall be changed. The ad hoc committee shall consist of at least three members, with at least one member a representative of the department involved. The ad hoc committee will obtain whatever records are available and use these records to make a final decision concerning the grade. If the records are not adequate, then the committee may assign a grade of Pass, or allow the student to repeat the course without penalty. The ad hoc committee will report to the Academic Senate Chair, who shall report the change of grade to the Registrar. In order to protect the student, the grade shall be changed, if warranted within four weeks following the formation of the ad hoc committee.

Correction of Grades

All grades, except DR, I, and IP, are final when filed by an instructor in the end-of-term course report. However, the Registrar is authorized to change a final grade (1) upon written request of an instructor, provided that a clerical or procedural error is the reason for the change or (2) upon written request of the Chair of the division in cases where it has been determined by the Committee on Privilege and Tenure that an instructor has assigned a grade on any basis other than academic grounds. No change of grade may be made on the basis of reexamination, or with the exception of the I and IP grades, the completion of additional work. Any grade change request made more than one year after the original filing must be validated for authenticity of the instructor's signature by the department Chair. Any grade change request made by an instructor who has left the University must be countersigned by the department Chair.

Undergraduate Final Examinations

No student shall be excused from assigned final examinations except as provided below.

The instructor in charge of an undergraduate course shall be responsible for assigning the final grade in the course. The final grade shall reflect the student's achievement in the course and shall be based upon adequate evaluation of that achievement. The instructor's methods of evaluation must be announced at the beginning of the course. The methods may include a final written examination, a term paper, a final

oral examination, a take-home examination, or other evaluation device. Evaluation methods must be of reasonable duration and difficulty and must be in accord with applicable departmental policies. Final written examinations shall not exceed three hours' duration and shall be given only at the times and places established by the department Chair and the Registrar.

At the end of the term in which a student is expected to be graduated, a student's major department may examine him or her in the field of the major, may excuse the student from final examinations in courses offered by the department during that term, and with the approval of the appropriate Committee on Courses, assign a credit value to such general examination.

An instructor shall, if he or she wishes, release to individual students their original final examinations (or copies). This may be done by any method which insures the students' right to privacy. Otherwise, the instructor shall retain final examination materials, or a copy thereof, until the end of the next succeeding regular quarter of instruction, during which period students shall have access to their examinations.

Student Conduct

All UCLA students assume an obligation to act in a manner compatible with an educational institution. Guidelines for student conduct are contained in the *University of California Policies Applying to Campus Activities, Organizations, and Students* (Parts A and B), and *UCLA Activity Guidelines.* Copies of these booklets are available in the Dean of Students Office, 2224 Murphy Hall, or the Organizational Relations Office, 161 Kerckhoff Hall.

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 Health, Education and Welfare 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 Student Data Card in the Registration Packet, 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 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 Directory* may be inspected in the office of the Records Management Coordinator, 2256 Murphy Hall. Information concerning these matters and students' hearing rights is also available here.

Endowed Chairs

Although UCLA is a public institution, private gifts are increasingly important in maintaining the quality of its teaching, research, and community service. Among the principal forms of private support are endowed chairs, which support the academic activities of distinguished members of the faculty.

At present, UCLA has 52 endowed chairs approved by the Regents of the University of California. They are as follows:

College of Letters and Science

Narekatsi Chair in Armenian Studies
Presidential Chair
The "1939" Club Chair
UCLA Alumni and Friends of Japanese Ancestry Chair in Japanese American Studies
Willard F. Libby Chair in Physical Chemistry
Chancellor's Associates Chair
Ralph Bunche Chair in International Studies
Flint Professorship of Philosophy
Saul Winstein Chair in Organic Chemistry

College of Fine Arts

UCLA Art Council Chair in Art
Edward W. Carter Chair in Netherlandish Art

School of Engineering and Applied Science

Crump Chair in Medical Engineering
Hughes Aircraft UCLA Alumni Chair in Manufacturing Engineering
Ralph M. Parsons Chair in Chemical Engineering

Graduate School of Education

Allan M. Cartter Chair in Higher Education
George F. Kneller Chair in Education and Philosophy

School of Law

Connell Chair in Law
Gleeson L. Payne Chair in Insurance Law
Security Pacific Bank Chair
Chair in Entertainment Law

Graduate School of Management

Allstate Chair in Insurance and Finance
Arthur Young Chair in Accounting
Harry and Elsa Kunin Chair of Business and Society
IBM Chair in Computers and Information Systems
Irwin L. Hearsh Chair in Money and Banking
California Chair in Real Estate and Land Economics
Times Mirror Chair in Management Strategy and Policy
Warren C. Cordner Chair in Money and Financial Markets
William E. Leonhard Chair in Management
Edward W. Carter Chair in Business Administration
Chauncey Medberry, III Chair in Management

School of Medicine

Max Factor Family Foundation Chair in Nephrology
Castera Chair in Cardiology
Bowyer Professorship of Medical Oncology
Streisand Chair in Cardiology
Leon J. Tiber, M.D. and David S. Alpert, M.D. Chair in Medicine
Edward W. Carter Chair in Internal Medicine
Sprague Chair in Molecular Oncology
Augustus S. Rose Chair in Neurology
Wasserman Chair in Ophthalmology
Dolly Green Chair in Ophthalmology
Jules Stein Chair in Ophthalmology
Charles Kenneth Feldman Chair in Ophthalmology
James H. Nicholson Chair in Pediatric Cardiology
Eleanor I. Leslie Chair in Neuroscience
Joseph Campbell Chair in Child Psychiatry
Thomas P. and Katherine K. Pike Chair in Alcohol Studies
Della Martin Chair in Psychiatry
Judson Braun Chair in Biological Psychiatry
Louis D. Beaumont Chair in Surgery
Jennifer Jones Simon Chair in Biophysics

School of Public Health

Fred H. Bixby Chair in Population Policy

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Lieutenant Governor of California
Leo T. McCarthy

Speaker of the Assembly
Willie L. Brown, Jr.

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President of the Alumni Association of the University of California +
James N. Thayer

Vice President of the Alumni Association of the University of California +
Douglas A. Schmidt

President of the University
David P. Gardner

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Glenn Campbell (1984)
William French Smith (1986)
Robert O. Reynolds (1986)
Dean A. Watkins (1984)
Joseph A. Moore (1990)
John H. Lawrence, M.D. (1988)
William A. Wilson (1988)
Vilma S. Martinez (1990)
John F. Henning (1989)
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Yori Wada (1992)
Frank W. Clark, Jr. (1988)
David Geffen (1990)
Willis W. Harman (1990)
Yvonne Brathwaite Burke (1993)
Robert N. Noyce (1992)
Jeremiah F. Hallisey (1993)
Sheldon W. Andelson (1994)
Harold M. Williams (1994)
Richard E. Anderson (1984) +

Faculty Representatives to the Board of Regents
Robert E. Connick
Ralph H. Turner

+ Terms of Regents appointed by the Governor expire February 28 of the year named in parentheses, with names arranged in order of original accession to the Board. The Student Regent (Richard E. Anderson) and Alumni Regents serve a one-year term beginning July 1 and ending June 30 of the year listed.

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Vice President of the University
To be named

Academic Vice President
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Vice President—Academic and Staff Personnel Relations
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Vice President—Agriculture and University Services
James B. Kendrick, Jr.

Assistant President—Coordination and Review
To be named

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Charles J. Hitch

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Clark Kerr

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Angus E. Taylor

Vice President, Emeritus, and Secretary and Treasurer of The Regents, Emeritus
Robert M. Underhill

Treasurer of The Regents, Emeritus
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Ira Michael Heyman

Chancellor at Davis
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Chancellor at Irvine
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Chancellor at Los Angeles
Charles E. Young

Chancellor at Riverside
Tomas Rivera

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Chancellor at Santa Barbara
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Josephine Miles, *Emeritus University Professor,* Berkeley, Department of English

Julian S. Schwinger, *University Professor,* Los Angeles, Department of Physics

Glenn Seaborg, *Emeritus University Professor,* Berkeley, Lawrence Berkeley Laboratory

Neil Smeiser, *University Professor,* Berkeley, Department of Sociology

Edward Teller, *Emeritus University Professor,* Livermore, Lawrence Livermore Laboratory

Charles Townes, *University Professor,* Berkeley, Department of Physics

Sherwood L. Washburn, *Emeritus University Professor,* Berkeley, Department of Anthropology

John R. Whinnery, *University Professor,* Berkeley, Department of Electrical Engineering and Computer Sciences

Lynn White, Jr., *Emeritus University Professor,* Los Angeles, Department of History

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Vice Chancellor—Faculty Relations
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Vice Chancellor—Graduate Programs and Dean of Graduate Division
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Vice Chancellor—Research Programs
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Vice Chancellor—Student Affairs
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Deans of UCLA Colleges and Schools

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School of Dentistry
James R. Hooley, D.D.S.

Graduate School of Education
To be named

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College of Fine Arts
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School of Law
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Division of Social Sciences
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Division of Honors
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Graduate School of Management
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School of Medicine
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School of Nursing
Mary E. Reres, R.N., M.P.N., Ed.D.

School of Public Health
Roger Detels, M.D., M.S.

School of Social Welfare
To be named

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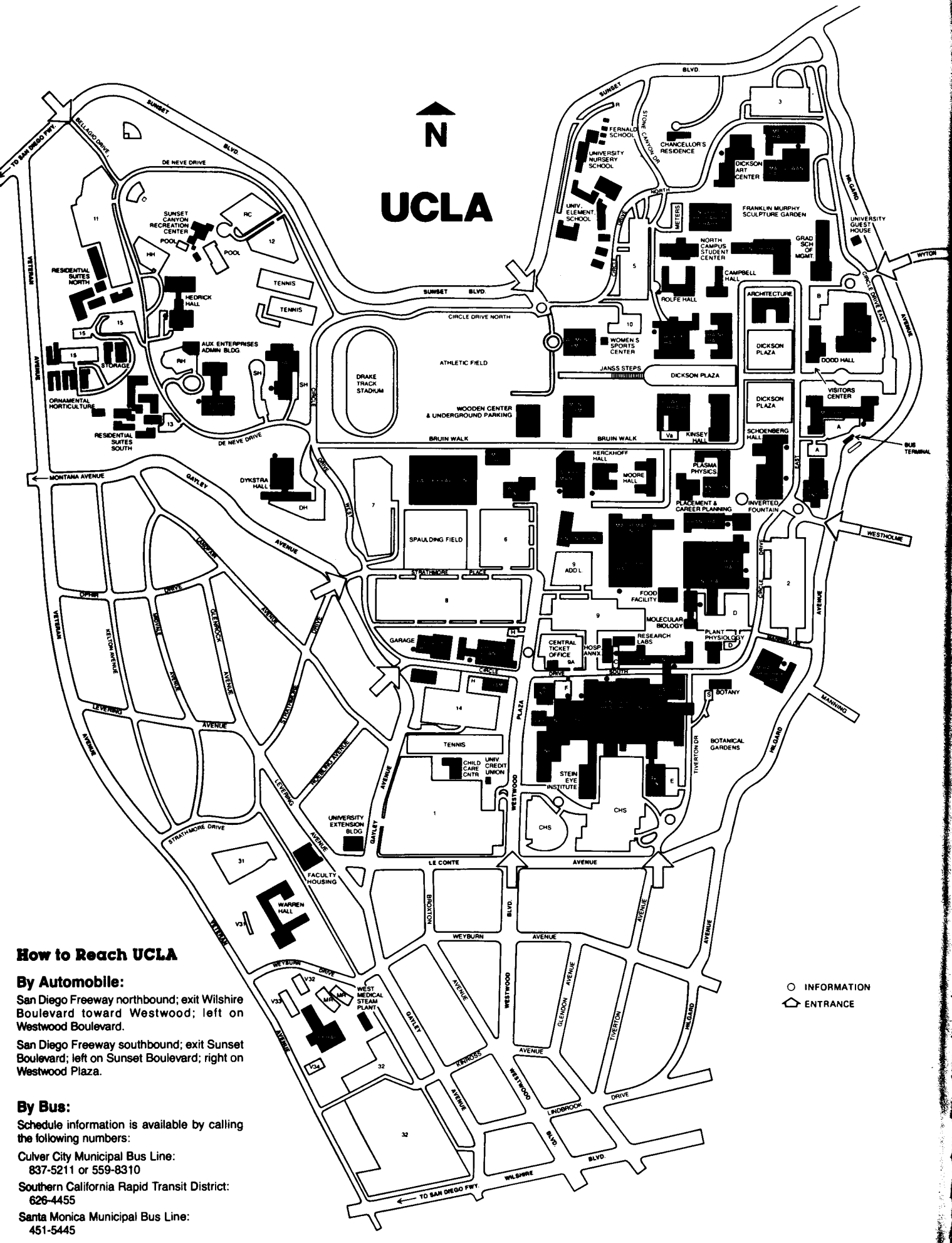

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Parking Service	280 GS Structure 8	825-9871
Registrar's Office	1134 Murphy Hall	825-1091, 825-3801
Student Health Service	A2-130 Center for Health Sciences	825-4073
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Summer Sessions	1254 Murphy Hall	825-8355
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